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ABSTRACT

This report presents information about graduate education at eight state-funded institutions in Colorado: the University of Northern Colorado, the Colorado School of Mines, Colorado State University, the University of Southern Colorado, Adams State College, the University of Colorado (Boulder), the University of Colorado (Colorado Springs), and the University of Colorado (Denver). The report notes that: (1) graduate education is a small proportion of the educational effort at most of these institutions; (2) costs per student are lowest at institutions offering no doctoral degrees, with educational costs primarily driven by faculty time and compensation; (3) most in-state graduate students pay about 30 percent of costs, while nonresidents pay more than 100 percent; (4) cost differences between graduate and undergraduate courses exceed the difference in tuition rates; and (5) state support for these institutions covers about 70 percent of costs for undergraduate and graduate resident students. Tables and data provide detailed institutional profiles and cost and tuition revenue summaries. Appended are 20 additional tables presenting detailed data on costs and revenues, methodology, graduate degree programs, and graduate student financial support. (CH)

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COLORADO COMMISSION ON

**HIGHER
 EDUCATION**

ACCESS TO HIGH-QUALITY, AFFORDABLE EDUCATION FOR ALL COLORADANS

GRADUATE EDUCATION REPORT
OCTOBER 1996

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EXECUTIVE SUMMARY

On May 8, 1996, the Joint Budget Committee asked the Colorado Commission on Higher Education for "...a listing of all the graduate programs in the state, showing the fund source for each program, including tuition, General Fund, and other funds used to subsidize graduate education." This report, the Commission's response to that request, presents information about graduate education at eight state-funded institutions. Since the Joint Budget Committee also requested information regarding higher education health care programs, information for the University of Colorado Health Sciences Center and for the Colorado State University School of Professional Veterinary Medicine is contained in a separate report.

Highlights of this report include:

- Graduate education is a small proportion of the educational effort at most Colorado public higher education institutions offering graduate programs.
- Graduate education costs per student are lowest at institutions offering no doctoral degrees, and increase with the number and complexity of degree programs offered. Educational costs are primarily driven by faculty time and compensation.
- Most in-state graduate students pay about 30 percent of costs, while nonresident students pay more than 100 percent of costs.
- For in-state students, Colorado tuition and mandatory fee charges are close to the national average. Colorado's charges for nonresidents exceed the national average.
- State support for the institutions included in this report covers about 70 percent of costs for undergraduate and graduate resident students, and does not subsidize nonresident students at any level.
- State-funded financial aid for graduate students totals \$2.1 million, or 4.6 percent of the state's financial aid appropriation.

During the time that this cost report was in preparation, the Colorado Commission for Achievement in Education (CCAIE) was studying various aspects of Colorado graduate education. While this report does not attempt to duplicate the work of that Commission, it does refer to some of the material submitted to CCAIE by Colorado institutions.

OVERVIEW OF GRADUATE EDUCATION

Graduate education in most of Colorado's public colleges and universities represents a relatively small proportion of the overall higher education enterprise. Excepting the Health Sciences Center, only eight of Colorado's 28 public colleges and universities offer graduate education. Graduate students comprise less than 14 percent of the student population of about 71,000 full-time equivalent students (SFTE) in these institutions. Yet, there is significant diversity and breadth in graduate education degree programs offered. Table 1 on page 5 profiles the eight institutions by types and numbers of graduate degree programs.

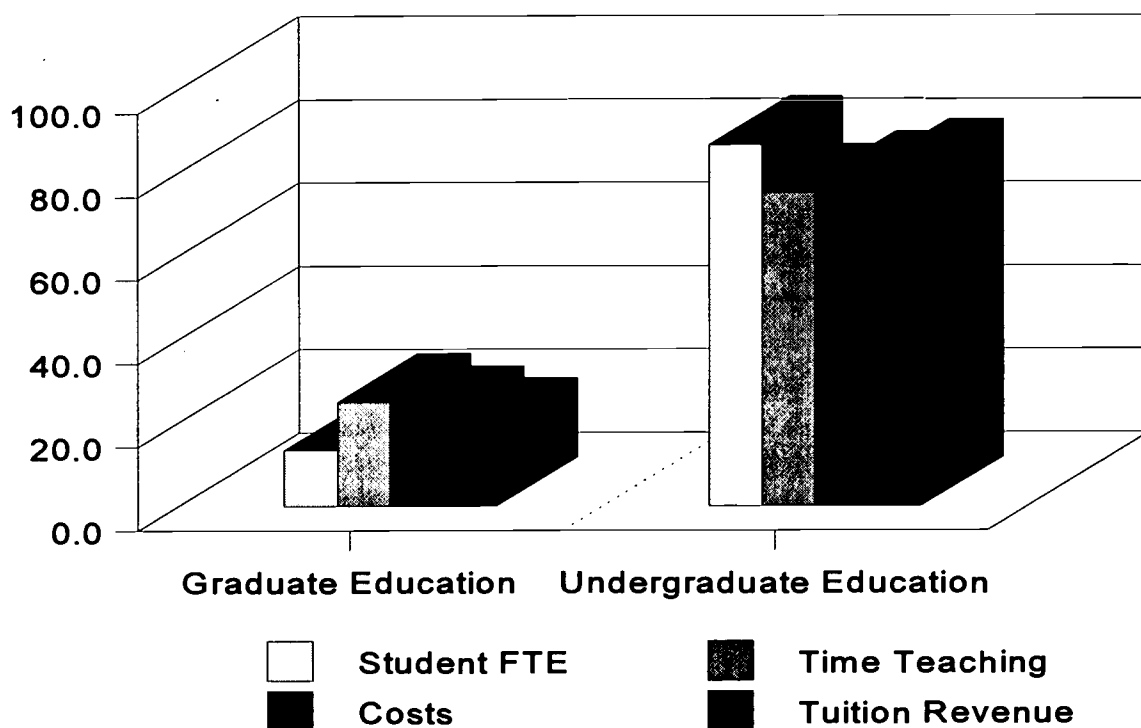
Costs of graduate education programs vary significantly. Appendix A contains tables displaying cost and tuition information for

Colorado's institutions that provide graduate programs. Appendix B explains the methodology used to derive the cost and revenue information for the individual institutions and graduate fields of study. Appendix C shows graduate degrees granted by level and discipline over a number of years, as well as a complete list of graduate degree programs offered by Colorado's public higher education system. Appendix D contains information regarding financial support of graduate students. Several institutions prepared profiles of selected academic departments to illustrate the delivery of educational programs. These profiles were submitted to the Joint Budget Committee and are available at the Commission Office.

COST AND TUITION REVENUE SUMMARY

Graph 1 below summarizes enrollment, instruction, cost and tuition information for the eight institutions examined in this report.

Graph 1 Proportion of Students, Teaching Time, Costs, and Tuition Revenues for Eight Colorado Higher Education Institutions Offering Graduate Programs



PROFILES OF INSTITUTIONS OFFERING GRADUATE PROGRAMS

Eight of the public higher education institutions in Colorado that offer graduate programs are included in this report. The University of Colorado Health Sciences Center and the Colorado State University School of Professional Veterinary Medicine are covered in a separate report.

Table 1

Institution	Degree Programs ¹					% Graduate SFTE	% Doctoral SFTE
	A	B	M	FP	D		
University of Northern Colorado		39	43		20	12.4%	22.4%
Colorado School of Mines		15	23		16	18.8%	31.3%
Colorado State University		73	60		39	10.2%	25.8%
University of Southern Colorado		29	3			2.3%	0.0%
Adams State College	2	18	6			9.2%	0.0%
University of Colorado - Boulder		59	47	1	39	12.2%	35.7%
University of Colorado - Colorado Springs		21	14		1 ²	14.7%	1.3%
University of Colorado - Denver		29	43		3	31.9%	4.3%
All Graduate Institutions	All Degrees - 643					13.4%	21.1%

¹ Key: A - Associate; B - Bachelor; M - Master; FP - First Professional; D - Doctoral

² Offered through University of Colorado - Boulder through a cooperative agreement.

Costs

Fiscal year 1994-95 per graduate SFTE costs at the eight institutions included in this report averaged \$12,353, compared with \$6,811 for each undergraduate SFTE. Graduate education costs are lowest at the institutions offering masters degrees only; somewhat higher for doctoral institutions; and highest for the three research universities. Among the major fields of graduate study, costs were lowest for education programs and highest for arts and humanities, natural sciences, and engineering programs. For detail, see Tables A-1 and A-2 in Appendix A.

Full-Time Tuition Rates

Graduate tuition rates vary significantly among the eight institutions. In-state graduate tuition ranges from \$1,644 to \$4,182 per year, while nonresident graduate tuition ranges from \$5,774 to \$13,536. At all but two institutions, graduate tuition rates are higher than undergraduate tuition rates. All of the institutions charge higher tuition rates to nonresidents than to in-state students. For detail, see Table A-3 in Appendix A. Table A-4 shows information for all 50 states which allows two conclusions. First, most states charge their graduate students more relative to their undergraduate students than Colorado does. Colorado tuition rates, however, (especially for nonresident students) exceed those of most other states.

The average full-time in-state graduate tuition rate covered 33 percent of costs in FY 1994-95, while the average full-time nonresident graduate tuition rate covered 119 percent of costs. For undergraduates at these eight institutions, the in-state tuition rate covered 32 percent and the nonresident tuition rate covered 130 percent of costs. For detail, see Tables A-5 through A-8 in Appendix A.

Tuition Revenue

Tuition rates for part-time graduate students vary by institution. While this report did not examine the relationship between part-time student tuition rates and costs, it did consider the impact of part-time students on overall FY 1994-95 tuition revenues.

Tuition revenues from in-state graduate students covered 30 percent of costs, while tuition revenues from nonresident graduate students covered 104 percent of costs. In-state undergraduate tuition revenue covered 33 percent of costs, while nonresident undergraduate tuition revenue covered 143 percent of costs. For detail, see Table A-9 in Appendix A.

CONCLUSIONS

The information gathered for this report leads to the following conclusions:

- Graduate education, measured in a variety of ways, comprises a small proportion of the educational effort at most Colorado public higher education institutions offering graduate programs. As Graph 1 illustrates, graduate education accounts for only 13 percent of SFTE, 25 percent of faculty teaching time, 22 percent of cost, and 19 percent of tuition revenue.
- Graduate education costs are lowest at institutions offering no doctoral degrees, and they increase with the number and complexity of degree programs offered. Graduate education instructional costs are primarily driven by faculty time and compensation. The highest costs are found at the three research institutions, which offer the largest number and proportion of doctoral degrees.
- Most in-state graduate students pay about 30 percent of costs, while nonresident students pay more than 100 percent of costs. The Boulder and Denver campuses of the University of Colorado have established a number of special tuition rates for selected higher cost programs. The information generated for this report indicates that special tuition rates may be appropriate for additional fields of study at CU-Boulder and at other state institutions.
- The cost difference between graduate and undergraduate courses exceeds the difference in tuition rates charged.
- State support for the institutions included in this report covers about 70 percent of costs for undergraduate and graduate resident students, and does not subsidize nonresident students at any level. This result is consistent with expectations and state policy.

APPENDIX A: COST AND REVENUE DATA

Data Tables:

Table A-1: FY 1994-95 Cost per Graduate SFTE

Table A-2: FY 1994-95 Cost per Undergraduate SFTE

Table A-3: FY 1994-95 Full-time Tuition Rates

Table A-4: FY 1994-95 Tuition and Required Fees at 4-Year Public Institutions by State

Table A-5: FY 1994-95 Full-time Tuition Rate as % of Costs - In-State Graduate Students

Table A-6: FY 1994-95 Full-time Tuition Rate as % of Costs - Nonresident Graduate Students

Table A-7: FY 1994-95 Full-time Tuition Rate as % of Costs - In-State Undergraduate Students

Table A-8: FY 1994-95 Full-time Tuition Rate as % of Costs - Nonresident Undergraduate Students

Table A-9: FY 1994-95 Tuition Revenue as % of Costs

Cost per Graduate Student FTE

The costs shown in this table represent the total FY 1994-95 per SFTE costs in each institution of delivering *graduate courses* in the nine fields of study and overall.

Colorado bases the definition of SFTE for both graduate and undergraduate SFTE on 30 credit hours per year. Most graduate students, even those studying full-time and paying full-time tuition rates, take fewer than 30 credit hours per year.

Table A-1 also shows the proportion of SFTE at each institution that is pursuing a doctoral degree. Doctoral students, as a

rule, require more faculty interaction than graduate students at the masters level, and than undergraduate students. This may explain why costs per student are highest at those institutions with the largest proportion of doctoral students.

Finally, Table A-1 indicates for each institution and overall the proportion of graduate SFTE that are classified as in-state students. Most graduate students coming from elsewhere can establish Colorado residency after one year.

Table A-1
FY 1994-95 Cost per Graduate SFTE (based on 30 credit hours per academic year)

Field of Study	UNC	CSM	CSU	USC	ASC	UCB	UCCS	UCD	Weighted Avg
Arts and Humanities	\$10,172		\$12,773			\$19,966		\$11,528	\$15,419
Natural Sciences	\$15,890	\$11,600	\$10,488	\$13,795		\$24,704	\$12,507	\$14,033	\$14,703
Social Sciences	\$8,009	\$11,455	\$10,936	\$7,357	\$6,217	\$23,688	\$9,067	\$11,727	\$13,401
Engineering		\$12,591	\$11,543			\$19,364	\$12,303	\$11,093	\$14,449
Law						\$11,728			\$11,728
Business		\$12,098	\$8,906	\$8,091		\$19,264	\$8,986	\$8,942	\$11,136
Education	\$8,517		\$6,473	\$8,261	\$5,384	\$14,228	\$7,368	\$9,040	\$8,809
Health Professions	\$7,149		\$11,426			\$15,169		\$7,880	\$9,671
Other	\$8,469		\$8,383		\$4,107	\$20,917		\$9,739	\$11,979
All Fields of Study	\$8,815	\$12,120	\$10,123	\$9,756	\$5,917	\$18,947	\$9,305	\$9,981	\$12,353
% Doctoral SFTE	22.4%	31.3%	25.8%	0.0%	0.0%	35.7%	1.3%	4.3%	21.1%
% In-State SFTE	83.6%	56.2%	66.4%	77.6%	85.5%	73.4%	92.7%	87.5%	77.0%

Cost per Undergraduate Student FTE

The costs shown in this table represent the total FY 1994-95 per SFTE costs in each institution of delivering *undergraduate courses* in the nine fields of study and overall.

For undergraduate students, the Colorado definition of SFTE as taking 30 credit hours per year is a more realistic measure than for graduate students. However, many undergraduate students studying full-time and paying full-time tuition rates take a slightly lower course load.

The information for undergraduate costs shows less variability between fields of study and between institutions than is the case for graduate costs.

Table A-2 indicates for each institution and overall the proportion of undergraduate SFTE that are classified as in-state students. Because of their younger age, it is more difficult for undergraduates not originally from Colorado to establish Colorado resident status.

Table A-2
FY 1994-95 Cost per Undergraduate SFTTE (based on 30 credit hours per academic year)

Field of Study	UNC	CSM	CSU	USC	ASC	UCB	UCCS	UCD	Weighted Avg
Arts and Humanities	\$6,143	\$9,353	\$6,541	\$5,709	\$5,356	\$8,388	\$5,762	\$7,831	\$7,088
Natural Sciences	\$5,499	\$8,770	\$6,301	\$4,823	\$5,671	\$7,193	\$5,442	\$6,928	\$6,519
Social Sciences	\$4,843	\$8,927	\$6,191	\$4,864	\$4,420	\$6,695	\$5,087	\$6,912	\$6,036
Engineering	\$6,019	\$10,100	\$9,692	\$8,012	\$5,180	\$8,848	\$7,188	\$8,517	\$9,039
Business	\$6,454	\$11,072	\$6,416	\$5,836	\$5,513	\$7,983	\$7,202	\$7,296	\$6,963
Education	\$6,010		\$6,050	\$5,333	\$6,182	\$6,475	\$6,701		\$6,076
Health Professions	\$5,863		\$8,379	\$3,053		\$8,153			\$6,735
Other	\$5,306	\$9,802	\$6,477	\$3,053	\$5,089	\$8,379	\$6,829	\$7,708	\$7,070
All Fields of Study	\$5,640	\$9,503	\$6,650	\$5,354	\$5,257	\$7,615	\$5,876	\$7,396	\$6,811
% In-State SFTTE	89.8%	68.6%	77.3%	88.8%	80.2%	67.9%	94.2%	94.5%	78.8%



Full-time Tuition Rates

The tuition rates in this table represent academic year full-time charges. The definition of “full-time” resides with each institutions. Also, each institution has established part-time tuition rates for students taking less than a full course load. At most institutions, the full-time definition and part-time tuition schedules are different for graduate students than for undergraduate students.

Two institution (UCB and UCD) have established differential tuition rates for both undergraduate and graduate students for selected programs. These are shown on the second page of this table.

Two institutions (CSM and USC) do not charge graduate students higher tuition rates than they charge undergraduate students.

**Table A-3
FY 1994-95 Full-Time Tuition Rates**

STUDENT CATEGORY	UNC	CSM	CSU	USC	ASC	UCB	UCCS	UCD
<i>In-State Students</i>								
Undergraduates	\$1,829	\$4,182	\$2,124	\$1,644	\$1,386	\$2,216	\$2,026	\$1,828
Graduates	\$2,163	\$4,182	\$2,446	\$1,644	\$1,672	\$2,944	\$2,510	\$2,780
<i>Nonresident Students</i>								
Undergraduates	\$7,731	\$12,390	\$8,412	\$7,100	\$4,816	\$12,780	\$7,734	\$9,244
Graduates	\$8,228	\$12,390	\$8,776	\$7,100	\$5,774	\$12,582	\$8,716	\$10,268

General Rates

**FY 1994-95 Full-Time Tuition Rates
(continued)**

STUDENT CATEGORY		UCB	UCD
<i>In-State Students</i>			
Undergraduates			
Business		\$2,602	\$2,126
Engineering		\$2,672	\$2,126
Journalism, Music		\$2,264	
Professional			\$1,828
Graduates			
Business		\$3,338	\$3,486
Business (MBA)		\$3,490	
Engineering		\$3,392	\$3,276
Law		\$3,802	
Professional			\$2,966
Public Administration			\$3,276
<i>Special Rates</i>			
<i>Nonresident Students</i>			
Undergraduates			
Business		\$13,320	\$9,620
Engineering		\$13,374	\$9,620
Journalism, Music		\$12,924	
Professional			\$9,244
Graduates			
Business		\$12,780	\$11,134
Business (MBA)		\$13,014	
Engineering		\$12,834	\$10,930
Law		\$13,536	
Professional			\$10,930
Public Administration			\$10,930

Tuition and Fees at Four-year Institutions

This information is taken from a National Center for Education Statistics (NCES) publication and shows tuition and required fees at four-year public institutions for each of the 50 states.

For in-state students, Colorado tuition and mandatory fee charges are close to the national average. For nonresidents, Colorado's charges exceed the national average.

The four right-hand columns are calculations made by CCHE staff based on the NCES data. These columns indicate the

relationship between nonresident and in-state charges for both undergraduate and graduate students, and the relationship between graduate and undergraduate charges for both in-state and nonresident students.

All states charge their nonresident students more than in-state students, both at the undergraduate and graduate levels. A few states, however, charge their in-state graduate students less than their in-state undergraduates. Finally, a majority of states (26) charge their nonresident graduate students less than their nonresident undergraduate students.

Table A-4

Tuition and Required Fees at Four-Year Public Institutions³

State	Tuition and Required Fees						Comparison			
	Undergraduate		Graduate		Undergraduate	Graduate	Resident	Non-Resident	Graduate to Undergraduate	Non-Resident
	In-State	Out-of-State	In-State	Out-of-State	Nonresident to Resident	Nonresident to Resident	Graduate to Undergraduate	Graduate to Undergraduate	Graduate to Undergraduate	
Alabama	2,027	3,880	1,999	3,845	191.42%	192.35%	98.62%	99.10%	99.10%	
Alaska	2,041	5,524	2,710	5,122	270.65%	189.00%	132.78%	92.72%	92.72%	
Arizona	1,894	7,312	1,894	7,274	386.06%	384.05%	100.00%	99.48%	99.48%	
Arkansas	1,884	3,992	2,368	4,658	211.89%	196.71%	125.69%	116.68%	116.68%	
California	2,607	10,031	2,578	9,577	384.77%	371.49%	98.89%	95.47%	95.47%	
Colorado	2,651	8,303	2,856	8,454	313.20%	296.01%	107.73%	101.82%	101.82%	
Connecticut	3,460	8,969	3,944	9,374	259.22%	237.68%	113.99%	104.52%	104.52%	
Delaware	3,116	7,931	3,452	7,917	254.53%	229.35%	110.78%	99.82%	99.82%	
Florida	1,756	6,621	2,969	8,353	377.05%	281.34%	169.08%	126.16%	126.16%	
Georgia	1,848	4,976	1,815	4,845	269.26%	266.94%	98.21%	97.37%	97.37%	
Hawaii	1,266	3,852	1,724	5,129	304.27%	297.51%	136.18%	133.15%	133.15%	
Idaho	1,544	5,462	2,046	6,034	353.76%	294.92%	132.51%	110.47%	110.47%	
Illinois	2,825	7,098	2,836	7,138	251.26%	251.69%	100.39%	100.56%	100.56%	
Indiana	2,637	6,988	2,669	6,502	265.00%	243.61%	101.21%	93.05%	93.05%	
Iowa	2,460	7,435	2,868	7,822	302.24%	272.73%	116.59%	105.21%	105.21%	
Kansas	1,955	6,216	2,359	6,158	317.95%	261.04%	120.66%	99.07%	99.07%	
Kentucky	1,976	5,436	2,151	5,961	275.10%	277.13%	108.86%	109.66%	109.66%	
Louisiana	2,218	4,719	2,154	4,477	212.76%	207.85%	97.11%	94.87%	94.87%	
Maine	3,182	7,404	4,866	8,124	232.68%	166.95%	152.92%	109.72%	109.72%	
Maryland	3,304	6,704	3,517	5,244	202.91%	149.10%	106.45%	78.22%	78.22%	
Massachusetts	3,502	7,949	3,877	6,718	226.98%	173.28%	110.71%	84.51%	84.51%	
Michigan	3,459	8,397	3,722	7,723	242.76%	207.50%	107.60%	91.97%	91.97%	
Minnesota	2,821	6,577	3,568	5,542	233.14%	155.33%	126.48%	84.26%	84.26%	
Mississippi	2,360	4,663	2,388	4,692	197.58%	196.48%	101.19%	100.62%	100.62%	
Missouri	2,622	5,844	3,042	7,117	222.88%	233.96%	116.02%	121.78%	121.78%	
Montana	2,077	5,872	1,906	4,754	282.72%	249.42%	91.77%	80.96%	80.96%	

Tuition and Required Fees at Four-Year Public Institutions (continued)³

State	Tuition and Required Fees						Comparison							
	Undergraduate			Graduate			Undergraduate		Graduate		Resident		Non-Resident	
	In-State	Out-of-State	In-State	Out-of-State	In-State	Out-of-State	Nonresident to Resident	Graduate to Undergraduate	Nonresident to Resident	Graduate to Undergraduate	Graduate to Undergraduate	Graduate to Undergraduate	Graduate to Undergraduate	
Nebraska	1,928	3,986	1,967	4,084			206.74%	207.63%			102.02%	102.46%		
Nevada	1,566	6,316	1,458	6,208			403.32%	425.79%			93.10%	98.29%		
New Hampshire	3,499	8,617	3,786	6,840			246.27%	180.67%			108.20%	79.38%		
New Jersey	3,675	5,806	5,050	6,891			157.99%	136.46%			137.41%	118.69%		
New Mexico	1,690	6,001	1,743	5,921			355.09%	339.70%			103.14%	98.67%		
New York	3,074	6,647	4,372	7,225			216.23%	165.26%			142.23%	108.70%		
North Carolina	1,467	8,016	1,489	8,155			546.42%	547.68%			101.50%	101.73%		
North Dakota	2,061	5,134	2,345	5,899			249.10%	251.56%			113.78%	114.90%		
Ohio	3,139	7,428	4,298	8,962			236.64%	208.52%			136.92%	120.65%		
Oklahoma	1,583	4,042	1,601	4,034			255.34%	251.97%			101.14%	99.80%		
Oregon	3,137	8,301	4,736	7,544			264.62%	159.29%			150.97%	90.88%		
Pennsylvania	4,540	8,420	4,430	7,871			185.46%	177.67%			97.58%	93.48%		
Rhode Island	3,540	9,365	3,485	7,006			264.55%	201.03%			98.45%	74.81%		
South Carolina	2,948	6,570	2,980	4,996			222.86%	167.65%			101.09%	76.04%		
South Dakota	2,646	4,210	2,306	3,930			159.11%	170.42%			87.15%	93.35%		
Tennessee	1,926	5,991	2,439	6,503			311.06%	266.63%			126.64%	108.55%		
Texas	1,517	5,576	1,310	4,117			367.57%	314.27%			86.35%	73.83%		
Utah	1,851	5,745	1,796	5,637			310.37%	313.86%			97.03%	98.12%		
Vermont	4,691	9,961	4,103	9,145			212.34%	222.89%			87.47%	91.81%		
Virginia	3,723	9,251	3,873	9,289			248.48%	239.84%			104.03%	100.41%		
Washington	2,635	8,140	4,137	11,239			308.92%	271.67%			157.00%	138.07%		
West Virginia	1,892	4,649	2,060	5,765			245.72%	279.85%			108.88%	124.01%		
Wisconsin	2,365	7,368	3,007	9,054			311.54%	301.10%			127.15%	122.88%		
Wyoming	1,908	5,988	2,316	6,384			313.84%	275.65%			121.38%	106.61%		
Average	\$2,530	\$6,594	\$2,867	\$6,625			272.83%	247.21%			113.46%	101.35%		

³ Source: 1994-95 Basic Student Charges at Postsecondary Institutions, National Center for Education Statistics.

Graduate Tuition as a Percentage of Cost

The information in these tables focuses on in-state and nonresident graduate students paying full-time tuition rates. The percentages shown indicate the proportion of costs attributable to full-time graduate students covered by the tuition rate provided in Table A-3.

Because graduate students paying full-time tuition take fewer than the 30 credit hours that the per SFTE costs in Table A-1 are

based on, the calculations made for Tables A-5 and A-6 adjust those costs down to reflect actual credit loads of full-time graduate students. Footnote four shows the average full-time graduate student credit load by institution.

Where applicable, these calculations take differential tuition rates into account.

Table A-5
FY 1994-95 Full-time Tuition Rate as % of Costs - In-State Graduate Students

Field of Study	UNC	CSM	CSU	USC	ASC	UCB	UCCS	UCD	Simple Avg
Arts and Humanities	29.0%		26.1%			27.6%		30.1%	28.2%
Natural Sciences	18.6%	45.1%	31.8%	14.9%		22.3%	25.1%	24.8%	26.1%
Social Sciences	36.8%	45.6%	30.5%	27.9%	33.6%	23.3%	34.6%	29.6%	32.8%
Engineering		41.5%	28.9%			32.8%	25.5%	37.5%	33.3%
Law						32.4%			32.4%
Business		43.2%	37.5%	25.4%		25.9%	34.9%	49.5%	36.1%
Education	34.6%		51.5%		38.8%	38.8%	42.6%	38.4%	40.8%
Health Professions	41.3%		29.2%			36.4%		44.1%	37.7%
Other	34.8%		39.8%		50.9%	26.4%		35.7%	37.5%
All Fields of Study	33.5%	43.1%	32.9%	21.1%	35.3%	28.2%	33.7%	34.8%	32.8%
% In-State SFTE	83.6%	56.2%	66.4%	77.6%	85.5%	73.4%	92.7%	87.5%	77.0% ⁴

⁴ Weighted average.

Table A-6
FY 1994-95 Full-time Tuition Rate as % of Costs - Nonresident Graduate Students⁵

Field of Study	UNC	CSM	CSU	USC	ASC	UCB	UCCS	UCD	Simple Avg
Arts and Humanities	110.3%		93.7%			118.2%		111.3%	108.4%
Natural Sciences	70.6%	133.5%	114.1%	64.3%		95.5%	87.1%	91.5%	93.8%
Social Sciences	140.1%	135.2%	109.4%	120.6%	116.1%	99.6%	120.2%	109.5%	118.8%
Engineering		123.0%	103.7%			125.3%	88.6%	123.7%	112.9%
Law						116.3%			116.3%
Business		128.0%	134.4%	109.7%		97.3%	121.2%	156.4%	124.5%
Education	131.7%		184.9%	107.4%	134.1%	165.8%	147.9%	142.0%	144.8%
Health Professions	157.0%		104.7%			155.5%		162.9%	145.0%
Other	132.5%		142.8%		175.7%	112.8%		131.8%	139.1%
All Fields of Study	127.3%	127.8%	118.2%	91.0%	122.0%	120.6%	117.1%	128.6%	119.1%
% Nonresident SFTE	16.4%	43.8%	33.6%	22.4%	14.5%	26.6%	7.3%	12.5%	23.0% ⁶

⁵ Tables A-5 and A-6 are based on the following average credit hours per year taken by graduate students who pay full-time tuition rates: UNC-22, CSM-30, CSU-22, UCS-24, ASC-24, UCB-16, UCCS-24, UCD-24. UCB charges differential tuition and average credit hours as follows: Law-30, Business-21, Engineering-16.

⁶ Weighted average.

Undergraduate Tuition as a Percentage of Costs

These tables focus on in-state and nonresident undergraduate students paying full-time tuition rates. The percentages shown indicate the proportion of costs attributable to full-time undergraduate students covered by the tuition rate provided in Table A-3.

Undergraduate students paying full-time tuition take about 30 credit hours per year. For this reason, the calculation for these two tables did not adjust the cost information found in Table A-2 to derive the proportion of costs covered by tuition charges.

Table A-7
FY 1994-95 Full-time Tuition Rate as % of Costs - In-State Undergraduate Students

Field of Study	UNC	CSM	CSU	USC	ASC	UCB	UCCS	UCD	Simple Avg
Arts and Humanities	29.8%	44.7%	32.5%	28.8%	25.9%	26.4%	35.2%	23.3%	30.8%
Natural Sciences	33.3%	47.7%	33.7%	34.1%	24.4%	30.8%	37.2%	26.4%	33.4%
Social Sciences	37.8%	46.8%	34.3%	33.8%	31.4%	33.1%	39.8%	26.4%	35.4%
Engineering	30.4%	41.4%	21.9%	20.5%	26.8%	31.4%	28.2%	25.6%	28.3%
Law									
Business	28.3%	37.8%	33.1%	28.2%	25.1%	33.9%	28.1%	29.9%	30.6%
Education	30.4%		35.1%	30.8%	22.4%	34.2%	30.2%		30.5%
Health Professions	31.2%		25.3%			27.2%			27.9%
Other	34.5%	42.7%	32.8%		27.2%	26.4%	29.7%	23.7%	31.0%
All Fields of Study	32.4%	44.0%	31.9%	30.7%	26.4%	29.1%	34.5%	24.7%	31.7%
% In-State SFTE	89.8%	68.6%	77.3%	88.8%	80.2%	67.9%	94.2%	94.5%	78.8% ⁷

⁷ Weighted average.

Table A-8
FY 1994-95 Full-time Tuition Rate as % of Costs - Nonresident Undergraduate Students

Field of Study	UNC	CSM	CSU	USC	ASC	UCB	UCCS	UCD	Simple Avg
Arts and Humanities	125.9%	132.5%	128.6%	124.4%	89.9%	152.4%	134.2%	118.0%	125.7%
Natural Sciences	140.6%	141.3%	133.5%	147.2%	84.9%	177.7%	142.1%	133.4%	137.6%
Social Sciences	159.6%	138.8%	135.9%	146.0%	109.0%	190.9%	152.0%	133.7%	145.7%
Engineering	128.4%	122.7%	86.8%	88.6%	93.0%	152.4%	107.6%	113.6%	111.6%
Law									
Business	119.8%	111.9%	131.1%	121.7%	87.3%	168.2%	107.4%	132.6%	122.5%
Education	128.6%		139.0%	133.1%	77.9%	197.4%	115.4%		131.9%
Health Professions	131.9%		100.4%			156.8%			129.7%
Other	145.7%	126.4%	129.9%		94.6%	152.5%	113.3%	119.9%	126.0%
All Fields of Study	137.1%	130.4%	126.5%	132.6%	91.6%	167.8%	131.6%	125.0%	130.3%
% Nonresident SFTE	10.2%	31.4%	22.7%	11.2%	19.8%	32.1%	5.8%	5.5%	21.2% ⁸

⁸ Weighted average.

Tuition Revenue as a Percentage of Costs

The calculation for this table is based on overall tuition revenue derived from the indicated subsets of each institution's student population. This revenue amount is then compared to the overall costs of providing undergraduate and graduate courses at each of the institutions. The revenue information is not available by field of study, so this comparison is provided by institution and by student subgroup.

The information shown here is another look at what portion of costs students cover with tuition payments. Looking at overall revenue by student group includes the many part-time students taking undergraduate and graduate

courses. The tuition rate comparisons in Tables A-5 through A-8 focused only on full-time students.

The right-hand column indicates that tuition revenues from undergraduate and graduate in-state students cover about 30 percent of costs. For nonresidents, revenues exceed costs significantly for undergraduates, and exceed costs by four percent for graduate students.

At Adams State College, nonresident students are charged in-state tuition rates during the summer session.

Table A-9
FY 1994-95 Tuition Revenues as % of Costs

Student Category	UNC	CSM	CSU	USC	ASC	UCB	UCCS	UCD	All Institutions
Undergraduates	<i>In-State Students</i>								
	33.8%	39.3%	33.0%	32.3%	26.8%	32.8%	40.0%	24.7%	32.7%
Graduates	<i>Nonresident Students</i>								
	37.1%	37.1%	33.4%	34.9%	41.6%	24.8%	41.4%	27.9%	29.7%
Undergraduates	114.2%	113.7%	119.7%	105.6%	57.5%	170.0%	126.4%	125.0%	142.5%
	156.6%	109.0%	111.7%	116.0%	56.5%	92.1%	131.7%	102.9%	104.1%
All Students	44.7%	64.0%	53.7%	41.0%	34.0%	68.0%	45.6%	33.0%	55.0%

APPENDIX B: METHODOLOGY

This report uses FY 1994-95 information, the most recent year for which actual expenditures, revenues and student and faculty effort by field of study were available when the data were gathered.

The information contained in this report comes from the following sources:

- Institutional Budget Documents - Format 40 for student and faculty FTE by field of study; cost formats for instruction, academic support, student services, institutional support, public service, state-supported research, and operation and maintenance of plant; Format 30 for tuition rates; Format 100 for tuition revenues; Format 411 for indirect cost revenues, which were proportionately excluded from the cost calculations.
- Governing Boards - faculty compensation by field of study; selected academic profiles; average course load for graduate students paying full-time tuition rates; materials submitted to Colorado Commission for Achievement in Education.
- CCHE - resident versus nonresident student FTE for graduate and undergraduate students; historic tables of degrees granted; degrees awarded per

1,000 population; degree programs offered; faculty workload study for time teaching undergraduate and graduate students.

- U.S. Department of Education, Office of Educational Research and Improvement - grouping of disciplines into fields of study.

Colorado higher education institutions follow the NACUBO (National Association of College and University Business Officers) format for budgeting and accounting purposes. This format allocates costs by major activity, rather than by individual degree program or student level. While individual institutions allocate budgets to departments which offer degree programs, the Joint Budget Committee request for a comprehensive list of programs and costs within the indicated time frame mandated a simplified, common approach to gathering the needed information.

Here are the major assumptions made in preparing the cost information for this report:

- Disciplines in which degree programs are offered were grouped into nine major fields of study; this approach made costs comparable across institutions and made

calculations manageable within the broad scope and short time frame of the report. The fields of study are outlined in Table B-1.

- The cost of educating students is driven primarily by faculty time both for classroom teaching and one-on-one advising. Faculty time required to teach students at the various levels and in different disciplines varies significantly. The NACUBO Format 40, which is prepared annually and included in each institution's budget request document, contains student and faculty FTE and ratios by major discipline. This information, combined with faculty compensation levels by field of study, was used to differentiate the costs of direct instruction between institutions and fields of study.
- The Format 40 information is based on students taking and faculty teaching courses. This report assumes that, especially for graduate education, courses taken correspond closely with the student's degree program.
- Other costs related to instruction and institutional administration and campus upkeep were applied on a per student ratio by institution.

Finally, a key definition needs to be highlighted and explained. In Colorado, both graduate students and undergraduates are defined, for purposes of counting full-time equivalents (SFTE), as students taking 30 credit hours per academic year. This definition works well for students at the

undergraduate level. But, for graduate students, the average full-time student is more likely to be taking 24 or fewer credit hours at the masters level, and 18 or fewer hours at the doctoral level. The cost information in this report (Tables A-1 and A-2 in Appendix A) is based on the SFTE definition. However, in relating graduate student full-time tuition to costs (Tables A-5 and A-6 in Appendix A), an adjustment was made to reflect the average number of credit hours taken by graduate students who are paying the full-time tuition rate.

Table B-1
Fields of Study Used for JBC Graduate Cost Report⁹

Field of Study	Disciplines Included	
Arts and Humanities	Liberal Arts Religion Art Visual and Performing Arts	Philosophy English Music
Natural Sciences	Mathematics Physical Sciences	Life Sciences Agricultural Science
Social Sciences	Psychology History Social Work Other Social Sciences	Economics Political Science Public Administration
Engineering	Engineering Computer Science	Architecture Engineering Technology
Law	Law	Legal Assisting
Business	Accounting Marketing Communications Other Business	Finance Journalism Agricultural Business
Education	Secondary Education Other Education	Physical Education
Health Professions¹⁰	Medicine Optometry Nursing Veterinary Science	Dentistry Pharmacy Chiropractic Other Health Professions
Other	Home Economics Library Science Ethnic Studies	Foreign Languages Parks/Recreation Other Occupational

⁹ Source: Adapted from U.S. Department of Education, Office of Educational Research and Improvement.

¹⁰ Programs offered at the University of Colorado Health Sciences Center and the Colorado State University School of Professional Veterinary Medicine are excluded from this report; they are included in a separate October 15, 1996 report to the Joint Budget Committee on health professions programs.

APPENDIX C: GRADUATE DEGREE PROGRAMS

Data Tables:

- Table C-1: Masters Degrees Conferred by Colorado Public Higher Education Institutions, FY 1985-86 to FY 1994-95
- Table C-2: First Professional and Doctoral Degrees Conferred by Colorado Public Higher Education Institutions, FY 1985-86 to FY 1994-95
- Table C-3: Degrees Conferred by Colorado Public Higher Education Institutions per 1,000 population by Degree Level, FY 1985-86 to FY 1994-95
- Table C-4: List of Graduate Degrees Offered by Colorado Public Higher Education Institutions, FY 1995-96

**Table C-1
Masters Degrees Conferred by Colorado Public Higher Education Institutions
by Selected Levels and Discipline**

CIP Area	Field Title	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95
1	Agribusiness/Agriculture	7	7	8	5	12	15	11	6	8	14
2	Agricultural Sciences	39	39	53	33	29	53	29	36	30	39
3	Natural Resources	37	28	37	32	36	23	43	47	36	44
4	Architecture and Design	100	106	132	97	99	110	94	115	131	116
9	Communications	50	50	38	48	65	72	54	72	81	88
11	Computer and Information Science	57	59	75	72	97	115	131	126	150	128
13	Education	910	976	1,014	1,294	1,240	1,059	1,109	1,088	1,157	1,065
14	Engineering	353	394	412	465	482	498	474	563	630	593
16	Foreign Languages	28	15	20	34	50	37	46	48	58	59
19	Home Economics	32	38	43	45	46	34	45	38	50	47
23	Letters	53	61	37	67	73	92	97	86	118	101
24	Liberal/General Studies	4	2	6	5	14	7	7	6	8	12
25	Library Sciences	6	20	15	12	10	10	10	12	7	19
26	Life Sciences	87	50	77	76	71	83	111	116	94	79
27	Mathematics	32	48	51	55	69	78	63	65	67	75
30	Interdisciplinary Studies	36	32	36	27	38	25	35	26	35	59
31	Parks and Recreation	46	36	34	27	32	39	48	36	46	38
38	Philosophy and Religion	6	13	16	13	8	6	11	28	22	21
40	Physical Sciences	143	102	135	115	120	114	117	125	132	127
42	Psychology	63	103	91	109	137	153	159	209	161	196
43	Protective Services	3	11	5	5	5	12	16	11	17	14
44	Public Affairs	56	94	94	87	80	106	134	105	106	128
45	Social Sciences	134	119	156	169	177	172	154	178	182	236
50	Visual and Performing Arts	83	78	60	88	78	80	81	85	101	118
51	Health Sciences	198	223	281	207	228	226	301	397	375	318
52	Business and Management	518	559	592	610	590	693	877	947	809	760
	Summary	3,081	3,263	3,518	3,797	3,886	3,912	4,257	4,571	4,611	4,494

Table C-2

Degrees Conferred by Colorado Public Higher Education Institutions by Selected Levels and Discipline

CIP Area	Field Title	FY 86 FY 87 FY 88 FY 89 FY 90 FY 91 FY 92 FY 93 FY 94 FY 95										
		<i>First Professional</i>										
22	Law	151	143	160	146	136	145	151	166	151	160	
51	Health Sciences	282	297	290	271	283	280	290	278	287	304	
	Summary	433	440	450	417	419	425	441	444	438	464	
		<i>Doctoral</i>										
1	Agribusiness/Agriculture	3	1	2	3	4	4	1	4	5	4	
2	Agricultural Sciences	21	11	19	17	20	14	20	14	14	22	
3	Natural Resources	8	8	7	9	9	13	11	7	1	11	
9	Communications	7	4	1	1	0	1	0	2	4	0	
11	Computer and Information Science	4	7	2	2	8	10	15	16	20	17	
13	Education	80	110	101	93	72	73	72	75	81	81	
14	Engineering	63	85	84	95	105	120	95	161	139	146	
16	Foreign Languages	2	8	5	3	10	4	5	9	6	6	
19	Home Economics	1	2	4	4	3	2	6	5	1	3	
23	Letters	4	4	5	5	5	8	7	8	11	10	
26	Life Sciences	60	64	66	54	46	64	64	67	61	82	
27	Mathematics	10	11	17	14	14	18	16	25	31	22	
30	Interdisciplinary Studies	10	16	9	7	11	7	4	0	1	1	
31	Parks and Recreation	1	2	4	4	0	2	0	2	1	6	
38	Philosophy and Religion	2	3	3	4	3	0	1	2	3	7	
40	Physical Sciences	81	79	103	93	121	112	107	111	121	91	
42	Psychology	41	39	45	45	46	43	40	35	45	48	
44	Public Affairs	7	4	6	16	11	6	7	9	7	9	
45	Social Sciences	49	51	47	46	35	51	48	35	49	50	
50	Visual and Performing Arts	24	16	16	24	30	17	25	25	20	25	
51	Health Sciences	8	6	9	13	16	11	22	20	24	18	
52	Business and Management	11	9	10	9	10	12	11	15	11	7	
	Summary	497	540	565	561	579	592	577	647	656	666	

Table C-3
Number of Degrees Per 1,000 Colorado
Population

FY	Level of Degree						Estimated Population July 1
	Certificate	Associate	Bachelors	Masters	1st Prof.	Doctoral	
86	0.327	0.983	4.000	0.944	0.133	0.152	3,262,789
87	0.389	1.137	3.935	0.992	0.134	0.164	3,290,580
88	0.484	1.142	3.947	1.067	0.136	0.171	3,297,565
89	0.561	1.173	4.011	1.146	0.126	0.169	3,314,296
90	0.662	1.169	4.266	1.174	0.127	0.175	3,311,023
91	0.653	1.221	4.211	1.161	0.126	0.176	3,369,794
92	0.718	1.266	4.292	1.229	0.127	0.167	3,464,715
93	0.725	1.287	4.452	1.282	0.125	0.181	3,566,006
94	0.726	1.363	4.320	1.262	0.120	0.180	3,653,617
95	0.744	1.378	4.343	1.208	0.125	0.179	3,720,551

Table C-4

FY 1995-96 List of Graduate Degree Programs

Institution	Program Name	Degree Title
<i>University of Northern Colorado</i>	<i>Arts & Science</i>	
	Agency Counseling	MA
	Biological Education	PHD
	Biological Sciences	MA
	Chemical Education	PHD
	Chemistry	MA
	Communications	MA
	Counseling Psychology	PSYD
	Earth Sciences	MA
	Educational Mathematics	PHD
	English	MA
	Foreign Languages	MA
	Gerontology	MA
	Graduate Interdisciplinary Degree Program	MA/MS,EDS
	History	MA
	Mathematics	MA
	Music	MM, DA
	Psychology	MA
	Recreation	MA
	School Psychology	PHD
	Social Science	MA
	Visual Arts	MA
	<i>Education</i>	
	Applied Statistics & Research Methods	MS, PHD
College Student Personnel Administration	PHD	
Counselor Education	EDD	

FY 1995-96 List of Graduate Degree Programs (cont.)

Institution	Program Name	Degree Title
<i>University of Northern Colorado</i>	<i>Education Continued</i>	
	Educational Leadership	MA, EDS, EDD
	Educational Media	MA
	Educational Technology	MA, PHD
	Elementary Education	MA, EDD
	Elementary Education: Bilingual-Bicultural	MA
	Elementary Education: Early Childhood Education	MA, EDD
	Elementary School Counseling	MA
	Mathematics Education	MA
	Music Education	MME, DME
	Physical Education	MA, EDD
	Reading	MA, EDD
	School Psychology	EDS
	Science Education	MA
	Secondary/Postsecondary School Counseling	MA
	Special Education	MA, EDD
	Special Education: Mental Retardation	MA
	<i>Health</i>	
	Communication Disorders: Audiology	MA
	Communication Disorders: Speech Language Pathology	MA
	Human Rehabilitation	PHD
	Nursing	MS
	Public Health	MPH
	Rehabilitation Counseling	MA

FY 1995-96 List of Graduate Degree Programs (cont.)

Institution	Program Name	Degree Title
<i>Colorado School of Mines</i>	<i>Arts & Science</i>	
	Applied Chemistry	PHD
	Applied Physics	PHD
	Chemistry	MS
	Geochemistry	MS, PHD
	Geology	MS, PHD
	Geophysics	MS, PHD
	Mathematics & Computer Science	MS, PHD
	Mineral Economics	MS, PHD
	Physics	MS
	<i>Engineering</i>	
	Chemical & Petroleum Refining Engineer	ME
	Chemical & Petroleum Refining Engineering	MS, PHD
	Engineer of Mines	ME
	Engineering Systems	MS, ME, PHD
	Environmental Science & Engineering	MS, PHD
	Geological Engineer/Geology	ME
	Geological Engineering	MS, PHD
	Geophysical Engineer/Geophysics	ME
	Geophysical Engineering	MS, PHD
	Materials Science	MS, PHD
	Metallurgical & Materials Engineering	MS, ME, PHD
	Mine and Health Safety	MS
	Mining Engineering	MS, PHD
	Petroleum Engineer	ME
	Petroleum Engineering	MS, PHD

FY 1995-96 List of Graduate Degree Programs (cont.)

Institution	Program Name	Degree Title
<i>Colorado State University</i>	<i>Arts & Science</i>	
	Anatomy	MS, PHD
	Anthropology	MA
	Art	MFA
	Atmospheric Science	MS, PHD
	Biochemistry	MS, PHD
	Botany	MS, PHD
	Cell & Molecular Biology	MS, PHD
	Chemistry	MS, PHD
	Computer Science	MS, PHD
	Consumer & Family Studies	MHEC
	Creative Writing	MFA
	Design, Merchandising, & Consumer Sciences	MA/MS
	Earth Resources	PHD
	Ecology	MS, PHD
	Economics	MA, PHD
	English	MA, MA/MAT
	Entomology	MS, PHD
	Exercise & Sport Science	MS
	Food Science & Nutrition	MS, PHD
	Foreign Languages & Literatures	MA
	Geology	MS
	History	MA
Human Development & Family Studies	MS	
Mathematics	MS/MAT, PHD	
Microbiology	MS, PHD	

FY 1995-96 List of Graduate Degree Programs (cont.)

Institution	Program Name	Degree Title
<i>Colorado State University</i>	<i>Arts & Science Continued</i>	
	Music	MM
	Pathology	MS, PHD
	Philosophy	MA
	Physics	MS, PHD
	Physiology	MS, PHD
	Plant Pathology & Weed Science	MS, PHD
	Political Science	MA, PHD
	Psychology	MS, PHD
	Radiology & Radiation Biology	MS, PHD
	Recreation Resources	MS, PHD
	Social Work	MSW
	Sociology	MA, PHD
	Speech Communication	MA
	Statistics	MS, PHD
	Technical Communication	MS
	Watershed Sciences	MS
	Zoology	MS, PHD
	<i>Business</i>	
	Business Administration	MS/MBA
	<i>Education</i>	
	Industrial Sciences	MS
	Student Affairs in Higher Education	MS
	Vocational Education	MED, PHD
	<i>Engineering</i>	
	Agricultural Engineering	MS, PHD
	Chemical Engineering	MS, PHD
	Civil Engineering	MS, PHD
	Electrical Engineering	MS, PHD

FY 1995-96 List of Graduate Degree Programs (cont.)

Institution	Program Name	Degree Title
Colorado State University	<i>Engineering Continued</i>	
	Mechanical Engineering	MS, PHD
	<i>Health</i>	
	Clinical Sciences	MS, PHD
	Environmental Health	MS, PHD
	Occupational Therapy	MS
	Veterinary Medicine	DVM
	<i>Other</i>	
	Agricultural & Resource Economics	MS, PHD
	Agricultural Sciences	MAGR
	Agronomy	MS, PHD
	Animal Sciences	MS, PHD
	Fishery & Wildlife Biology	MS, PHD
	Forest Sciences	MS/MF, PHD
	Horticulture	MS, PHD
Range Science	MS, PHD	
University of Southern Colorado	<i>Arts & Science</i>	
	Applied Natural Science	MS
	<i>Business</i>	
	Business Administration	MBA
	<i>Engineering</i>	
	Systems Engineering	MSSE
Adams State College	<i>Arts & Science</i>	
	Art	MA
	Guidance & Counseling	MA
	<i>Education</i>	
	Elementary Education	MA
	Health, Physical Education & Recreation	MA

FY 1995-96 List of Graduate Degree Programs (cont.)

Institution	Program Name	Degree Title
<i>Adams State College</i>	<i>Education Continued</i>	
	Secondary Education	MA
	Special Education: Moderate Needs I	MA
<i>University of Colorado-Boulder</i>	<i>Arts & Science</i>	
	Anthropology	MA, PHD
	Applied Mathematics	MS
	Astro-Physics Planetary & Atmospheric Sciences	MS, PHD
	Basic Science	MBS
	Chemical Physics	PHD
	Chemistry	MS, PHD
	Chinese	MA
	Classics	MA, PHD
	Communication	MA, PHD
	Comparative Literature	MA, PHD
	Computer Science	MS, PHD
	Dance	MFA
	Economics	MA, PHD
	English	MA, PHD
	Environmental Population Organism Biology	PHD
	Environmental, Population, Organism Biology	MA, PHD
	Fine Arts	MA/MFA
	French	MA, PHD
	Geography	MA, PHD
	Geology	MS, PHD
	Geophysics	PHD
	German	MA
	History	MA, PHD
	Journalism	MA
	Kinesiology	MS

FY 1995-96 List of Graduate Degree Programs (cont.)

Institution	Program Name	Degree Title
University of Colorado- Boulder	<i>Arts & Science Continued</i>	
	Linguistics	MA, PHD
	Mathematical Physics	PHD
	Mathematics	MA, PHD
	Molecular, Cellular & Developmental Biology	MA, PHD
	Music	MMUS, PHD
	Musical Arts	DMARTS
	Philosophy	MA, PHD
	Physics	MS, PHD
	Political Science	MA, PHD
	Psychology	MA, PHD
	Religious Studies	MA
	Sociology	MA, PHD
	Spanish	MA, PHD
	Theatre	MA, PHD
	<i>Business</i>	
	Business Administration	MS/MBA, PHD
	<i>Education</i>	
	Education: Social Multicultural & Bilingual Foundation	MA, PHD
	Education: Educational/Psychological Studies	MA, PHD
	Education: Instructional and Curriculum	MA, PHD
	Education: Research and Evaluation Methodology	PHD
	Music Education	MMED
	<i>Engineering</i>	
	Aerospace Engineering Sciences	MS, PHD
	Chemical Engineering	MS, PHD
	Civil Engineering	MS, PHD
	Electrical Engineering	MS

FY 1995-96 List of Graduate Degree Programs (cont.)

Institution	Program Name	Degree Title
<i>University of Colorado-Boulder</i>	<i>Engineering Continued</i>	
	Engineering	ME
	Mechanical Engineering	MS, PHD
	Telecommunications	MS
	<i>Health</i>	
	Communication Disorders & Speech Science	MA, PHD
	<i>Law</i>	
	Law	JD
<i>University of Colorado-Colorado Springs</i>	<i>Arts & Science</i>	
	Applied Mathematics	MS
	Basic Science	MBS
	Communication	MA
	Computer Science	MS
	History	MA
	Physics	MS
	Psychology	MA
	Public Administration	MPA
	Sociology	MA
	<i>Business</i>	
	Business Administration	MBA
	<i>Education</i>	
	Curriculum & Instruction	MA
	Guidance & Human Services	MA
	Special Education	MA
	<i>Engineering</i>	
	Electrical Engineering	MS
	Engineering	ME

FY 1995-96 List of Graduate Degree Programs (cont.)

Institution	Program Name	Degree Title
<i>University of Colorado- Denver</i>	<i>Arts & Science</i>	
	Anthropology	MA
	Applied Mathematics	MS
	Architecture	MARCH
	Basic Science	MBS
	Biology	MA
	Chemistry	MS
	Communication and Theatre	MA
	Computer Science	MS
	Economics	MA
	English	MA
	Health & Behavioral Science	PHD
	History	MA
	Humanities	MH
	Information & Learning Technologies	MA
	Information Systems	MS
	Interior Design	MID
	Landscape Architecture	MLA
	Political Science	MA
	Psychology	MA
	Public Administration	MPA, PHD
	Social Sciences	MSS
Sociology	MA	
Technical Communications	MS	
Urban and Regional Planning	MURP	
Urban Design	MAUD	

FY 1995-96 List of Graduate Degree Programs (cont.)

Institution	Program Name	Degree Title
<i>University of Colorado- Denver</i>	<i>Business</i>	
	Accounting	MS
	Finance	MS
	International Business	MSIB
	Management and Organization	MS
	Marketing	MS
	<i>Education</i>	
	Administration, Supervision, Curriculum Development	MA, EDS
	Counseling Psychology, & Counselor Education	MA
	Curriculum and Instruction	MA
	Early Childhood Education	MA
	Educational Leadership & Innovation	PHD
	Educational Psychology	MA
	Special Education	MA
	<i>Engineering</i>	
	Civil Engineering	MS, PHD
	Electrical Engineering	MS
	Engineering	ME
	Mechanical Engineering	MS
	<i>Health</i>	
	Health Administration	MS
	<i>Other</i>	
	Criminal Justice	MCJ
	Environmental Sciences	MS

APPENDIX D: GRADUATE STUDENT FINANCIAL SUPPORT

Of the FY 1994-95 appropriation to the Colorado Commission on Higher Education for financial aid, a total of \$2,154,918 was allocated for graduate student grants and fellowships. This allocation represents 4.6% of the appropriation.

A 1996 study by the Education Resources Institute, Inc., Higher Education Information Center, titled "Graduating into Debt: The Burdens of Borrowing for Graduate & Professional Students," reports on the increasing reliance of graduate and professional students on student loans as the

cost of education rises faster than financial aid and other sources of support for graduate and professional students. The information for Colorado institutions in Appendix D indicates the extent to which these graduate students rely on loans.

Financing of graduate education was a topic at the August 7, 1996 meeting of the Colorado Commission for Achievement in Education. Shown here are summaries of what the institutions submitted in response to the Commission's question regarding financing of graduate education.

University of Northern Colorado

Award Type	Source(s) ¹¹						# of Awards	Amount (FY 1994-95)
	A	E	F	I	P	S		
Loan		✓		✓			1,419	\$4,781,435
Employment ¹²	✓		✓	✓			631	\$1,642,406
Tuition Assistance	✓				✓	✓	364	\$971,882
Scholarship	✓	✓			✓	✓	467	\$811,989
Stipend	✓				✓		144	\$242,050
Grant						✓	145	\$110,687

Colorado School of Mines

Award Type	# of Awards	Amount (FY 1995-96)
Graduate Fellowships	62	\$345,588
Research Assistantships	239	\$2,443,563
Teaching Assistantships	141	\$1,293,509
Graduate Assistantships	88	\$137,188
Loans	138	\$1,526,287

¹¹ Key: A - Auxiliary/Self-Funded; E - External; F - Federal; I - Institution; P - Sponsored; S - State

¹² Teaching and Graduate Assistants, Work Study, Hourly

Colorado State University

Type of Award	Sources ¹³			# of Awards	Amount (FY1995-96)
	F	S	U		
Student Loans	✓			2,750	\$8,019,885
Graduate Teaching Assistantships	✓	✓	✓	680	\$5,714,469
Graduate Research Assistantships	✓	✓	✓	520	\$6,648,309
Other Graduate Assistantships	✓	✓	✓	117	\$734,297
Hourly Employment	✓	✓	✓	1,237	\$5,240,928
Tuition Assistance	✓	✓	✓	N/A	\$5,683,624
Colorado Competitive Fellowships		✓		75	\$257,448
Stipends	✓	✓	✓	N/A	\$1,192,752
Grants		✓		94	\$57,638

¹³ Key: F - Federal; S - State; U - University

Summary of Graduate Student Financial Support at University of Colorado at Denver

School/College	Types of Awards and Amounts
University Total	All, \$1.47 million
Architecture and Planning	<p>\$49,448 Graduate Teaching Awards (scholarships) for 64 of 343 students. Privately funded scholarships also available.</p> <p>10 paid teaching assistants</p>
Business Administration	<p>No teaching assistants.</p> <p>About 5.5% of students receive research assistantships. 6% receive mostly privately funded scholarships. Some students receive tuition subsidies from their employers.</p> <p>\$169,312 institutional support total.</p>
Engineering and Applied Science	<p>\$35,000 tuition assistance funds total.</p> <p>20% of masters students receive some financial support. 80% of Ph.D. students receive some financial support.</p>
Liberal Arts and Sciences	<p>\$170,900 tuition awards</p> <p>238 teaching assistants</p>
Public Affairs	<p>\$16,166 tuition awards</p> <p>\$12,793 graduate assistantship awards</p> <p>Some privately funded scholarships</p> <p>10% of MPA students and 22% of doctoral students receive some financial support</p>
Education	<p>\$559,441 total available</p> <p>7% of masters students and 2% of doctoral students receive some financial support</p> <p>18-20 students per year are supported through graduate assistantships offering hourly salary for 10-21 hours of work per week, plus 6 credit hours of tuition paid for each semester.</p> <p>106 students are supported through federal training grants.</p> <p>Private scholarships are also available.</p> <p>Some students are offered reduced tuition.</p>

University of Colorado at Boulder

Type of Award	Source(s) ¹⁴					Amount (1995-96)
	F	O	R	S	U	
Fellowships	✓		✓	✓	✓	\$5,300,000
Loans	✓					\$21,100,000
Teaching Assistantships					✓	\$10,000,000
Research Assistantships	✓	✓				\$8,500,000
Tuition Remission ¹⁵					✓	\$5,400,000

University of Colorado at Boulder

Student Level/Program	% Receiving Non-Loan Financial Aid	% Receiving Either Non-Loan or Loan Financial Aid
<i>Masters Degree</i>		
Business	24%	53%
Law	55%	86%
Other	29%	54%
Masters Degree Total	33%	59%
Doctoral Degree Total	43%	55%

¹⁴ Key: F - Federal; O - Other Grant Funds; R - Private Funds; S - State; U - University

¹⁵ For teaching assistants and fellowship recipients.



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Office of Educational Research and Improvement (OERI)
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