FACULTY OUTPUT AND SALARY COSTS OF STATE-RELATED AND STATE-OWNED COLLEGES AND UNIVERSITIES

ANALYSIS OF 1981-82 DATA REPORTED UNDER 1981 APPROPRIATIONS ACTS AND PUBLIC SCHOOL CODE

Staff Report of the Joint State Government Commission of the General Assembly of the Commonwealth of Pennsylvania Harrisburg, Pennsylvania February 1983



State-related university

Branch of state-related university

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State-owned colleges or university

o Branch of state-owned colleges or university

State-Related Universities

Penn State (Centre) Allentown Campus (Lehigh) Altoona Campus (Blair) Beaver Campus (Beaver) Behrend College (Erie) Berks Campus (Berks) Capitol Campus (Dauphin) Delawaré Campus (Delaware) DuBois Campus (Clearfield) Fayette Campus (Fayette) Hazleton Campus (Luzerne) McKeesport Campus (Allegheny) Mont Alto (Franklin) New Kensington (Westmoreland) Ogontz Campus (Montgomery) Radnor Center for Graduate Studies (Delaware) Schuylkill Campus (Schuylkil) Shenango Valley Campus (Mercer) Penn State (Centre) (Cont.) University Center at Harrisburg (Dauphin) Wilkes-Barre Campus (Luzerne) Worthington Scranton Campus (Lackawanna) York Campus (York) Pittsburgh (Allegheny) Bradford Campus (McKean) Greensburg Campus (Westmoreland) Johnstown Campus (Cambria) Titusville Campus (Crawford) Temple (Philadelphia) Ambler Campus (Montgomery) University Center at Harrisburg (Dauphin) Lincoln (Chester)

State-owned Colleges and University

Bloomsburg (Columbia) California (Washington) Cheyney (Delaware) Clarion (Clarion) Venango Campus (Venango) East Stroudsburg (Monroe) Edinboro (Erie) Warren Campus (Warren) Indiana University (Indiana) Armstrong Campus (Armstrong) Punxsutawney Campus (Jefferson)

Kutztown (Berks) Lock Haven (Clinton) Mansfield (Tioga) Millersville (Lancaster) Shippensburg (Cumberland) Slippery Rock (Butler) West Chester (Chester) The staff of the Joint State Government Commission has prepared an analysis of instructional output and salary cost for the past ten years. The first report--released in 1974--analyzed data for 1972-73 submitted by the State-related universities under reporting requirements introduced into their appropriations acts by Senator Richard A. Snyder. The State-owned colleges and university have reported for six years--since 1976-77--under similar requirements initiated in the House of Representatives.

Over the years, measures of output and cost efficiency have been developed and refined and their significance analyzed. While initially the reports covered student credit-hour output, degrees and salary costs by school and level of instruction, data on the various major fields of study (HEGIS classifications) were added in the 1982 report. These data not only provide insight into study concentrations but also expand the basis for cost analysis. This year a measure of total instructional cost per student is introduced which permits comparisons with the public institutions of other states. The value of the data included in this report is enhanced each year by the longer time span over which trends can be observed.

-iii-

Under the law, the annual reporting by the four-year State-supported institutions covered in this report is intended for members of the General Assembly--specifically the appropriations and education committees of the House and Senate--to provide them with a data base for budgetary and other educational policy decisions. This research should also be of considerable value to the administrative personnel of the various institutions and to State officials concerned with the cost efficiency and effectiveness of public higher educaton in the Commonwealth.

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TABLE OF CONTENTS

FOREWO	ORD	iji
SUMMAF	RY	1
Ι.	INSTRUCTIONAL OUTPUT	9
	General Trends	9
	Full-Time Equivalent Students	14
	Student Credit Hours	16 16 19 19 22
	Degrees	26 26 29
	Relationship of Student Credit Hours to Degrees	33
II.	FACULTY WORKWEEK ACTIVITIES AND SALARIES	37
	Workweek Activities	37
	Average Instructional Salaries	39 39 42

III.	INSTRUCTIONAL SALARY COSTS	45
	Salary Cost per Student Credit Hour	45
	Class Size	50 51
	Individual Instruction	53 53
	Interstate Comparison of Total Instructional Cost per Full-Time Equivalent Student Unit	56
IV.	STUDENT AND PUBLIC COSTS	59
	Tuition and Student Fees	60
	State Appropriations	62
APPEN	DIX	65

TABLES

1.	Full-Time Equivalent Students by Level	15
2.	Student Credit-Hour Production by Level	17
3.	Summer Student Credit-Hour Production	20
4.	Student Credit-Hour Production, Percentage Distribution by Level	21
5.	Undergraduate Student Credit-Hour Production by HEGIS Classification	23
6.	Graduate Student Credit-Hour Production by HEGIS Classification	25
7.	Undergraduate Student Credit-Hour Production by Selected HEGIS Classification, Percentage of Total	27
8.	Degrees by Level	28
9.	Number and Percentage Distribution of All Degrees	
	Conferred by Level and HEGIS Classification	30
10.	Percentage Distribution of Degrees by HEGIS Classification, Pennsylvania State-Related and State-Owned Institutions and	
	All U.S. Institutions	32
11.	Relationship of Student Credit-Hour	
	Production to Degrees	34
12.	Full-Time Faculty Workweek Activities	38

13.	Average Salary of Full-Time Equivalent	40
-	Instructional Faculty	40
14.	Average Instructional Faculty Salaries by	
	Category and Rank, Main Campus of Selected	
	Public and Private Institutions	43
15.	Instructional Faculty Salary Cost per Full-Time	
	Equivalent Student and Student Credit Hour Produced	46
16.	Average Instructional Salary Cost per Student	
	Credit Hour; All Instruction and Selected	
	HEGIS Classification by Level	48
17.	Undergraduate Instructional Salary Cost	
- • •	per Undergraduate Student Credit Hour for	
	All Instruction and Selected HEGIS	
	Classification by Institution	49
18	Average Class Size in Classroom Instruction by Level	52
19	Average Number of Courses Taught and Student	02
13.	Credit Hours Broduced per Course per Term	54
20	Student Condit House in Individual Instruction	55
20.	Total Instructional Cost pon ETE Student Unit	55
21.	All Dublicly Controlled Institutions	57
22	All Publicity controlled institutions	57
22.	Academic fear fultion and Required fees, Main Campuses	61
• •	of Selected Public and Private Institutions	01
23.	Appropriations Related to luition and	60
	Fee Revenues and FIE Students	63
1A-12A.	Historical and Other Tables	65

FIGURES

1.	Actual and Projected Population of Pennsylvania, Ages 15-24, 1960-2010	11
2.	Fall Term Full-Time Equivalent Students by Level,	
	1973-74 to 1990-91	12
3.	Degrees Conferred, 1973-74 to 1990-91	13



- 1. During the mid 1960s and early 1970s, the number of student enrollments and degrees conferred grew rapidly, reflecting the large college-age population which resulted from the post-World War II "baby boom" and generally favorable economic conditions and social attitudes toward education. Since the mid 1970s, however, growth rates in enrollments and degrees have declined due to changes in demographic, economic and social conditions. Throughout the 1980s, further enrollment decreases are forecast. Pennsylvania's experience has followed the national trend. (figures 1, 2 and 3)
- 2. In the Pennsylvania State-related and State-owned institutions of higher education, full-time equivalent (FTE) students totaled approximately 190,000 in 1981-82, an increase of 1 percent over the preceding year. The number of undergraduate students increased by 2 percent, while the number of graduate students decreased by 5 percent. (table 1) Evidently the decreased economic value of advanced degrees has slowed the pursuit of upper-level degree work.

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- 3. The FTE enrollment of 114,000 at the State-related universities exceeds the FTE enrollment of 76,000 at the State-owned schools by almost 50 percent. Penn State alone accounts for 58,000 FTE students, or 30 percent of the total at the State-supported four-year institutions covered in this report. (table 1)
- 4. Total degrees conferred by the State-related schools increased by 1 percent and degrees conferred by the State-owned schools decreased by 1 percent over the preceding year; overall there was little change. Undergraduate and graduate degree changes followed the pattern for enrollment and credit hour changes: undergraduate degrees increased slightly and graduate degrees decreased slightly. (table 8) At the State-related schools, 33 percent of all undergraduate degrees are conferred in engineering and business and management; at the graduate level, 25 percent are in education and another 35 percent in three areas--business and management, the health professions and public affairs and services. In the State-owned schools, 49 percent of the undergraduate degrees are in two areas--education and business and management--and 59 percent of the graduate degrees are in education. (table 9 and appendix table 4A) For all of the Pennsylvania State-related and State-owned schools combined, the proportion of degrees in education is higher and the proportion in business and management lower than the national proportions for all

-2-

institutions of higher education. But the proportions of degrees conferred in these areas in Pennsylvania are changing toward the national percentages. (table 10)

- 5. In the State-supported schools, total student credit hours produced increased over the previous year by 3 percent in the undergraduate lower division and by only 1 percent in the undergraduate upper division. This shift from upper-division to lower-division undergraduate work continues the trend observed in Pennsylvania during the past four years. (table 2)
- 6. Since 1977-78, in all State-supported institutions combined, student credit hours produced per undergraduate degree conferred have increased, most substantially at the State-owned schools. (table 11) An increasing number of students are either failing or taking a significantly longer time to complete their degree work. Added support for this finding is given by the continuing shift from upper-division to lower-division student credit hour undergraduate output.
- 7. Total faculty workweek hours were virtually unchanged in both the State-related and State-owned schools compared with the previous year. Average classroom contact hours, however, <u>decreased</u> by 2 percent (.2 hour per full-time faculty member) in the State-related schools as a group and by 1 percent (.2 hour per

-3-

full-time faculty member) in the State-owned schools. The average contact hours for these two groups of schools were 9.9 and 11.7, respectively, in 1981-82. (table 12)

- Overall, the total number of FTE instructional faculty remained constant over the past two years. Individual institutions, however, reported significant changes: Cheyney, California and Temple reported <u>decreases</u> of 12, 9 and 4 percent, respectively.
 Indiana reported the largest <u>increase</u> in the number of FTE instructional faculty (5 percent) over 1980-81. (table 13)
- 9. Average instructional salaries for ranked and nonranked FTE instructional faculty were \$22,900 at the State-related schools and \$26,200 at the State-owned schools in 1981-82. These average salaries represent 7 percent and 5 percent increases for the two groups of schools, respectively, over the previous year. The higher average salaries for the State-owned institutions reflect their higher percentages of faculty in the top ranks. (table 13) During the period 1977-78 to 1981-82, however, average FTE instructional <u>ranked</u> faculty salaries at the State-related schools increased by over 34 percent and at the State-owned schools by about 31 percent, indicating a gradually diminishing gap in average salaries between the two groups.

-4-

10. Average instructional faculty salary costs per student credit hour vary considerably by school, instructional level and major field of study (HEGIS classification). Average faculty salary costs in both systems are higher for the undergraduate upper division and much higher for the graduate level than for the undergraduate lower division. In general, undergraduate costs at each level decrease as the number of FTE students increases. (table 15) Among the several HEGIS classifications with the highest levels of student credit-hour output overall, the undergraduate cost of the education curriculum is the most expensive. The State-owned schools register very high upper-division costs in the physical sciences, fine and applied arts, biological sciences and foreign languages. The lowest upper-division cost for the State-owned schools is in business and management. (tables 16, 17 and appendix table 7A)

14

11. Average class sizes in classroom instruction have considerable impact on faculty salary costs per student credit hour produced, as shown by regression equations based on 1981-82 data. An increase in average class size of one student would result in average cost reductions per student credit hour ranging from \$0.69 in the lower division and \$2.06 in the upper division of the State-related universities to \$1.03 in the lower division and \$7.21 in the upper division of the State-owned schools. (table 18 and appendix tables 8A and 9A)

-5-

- 12. Although Pennsylvania's per capita income is slightly below the national average, the total instructional cost per student in Pennsylvania's publicly controlled institutions is 14 percent higher than the average for all states of \$2,816. Pennsylvania's cost per student of \$3,207 ranks eighth highest among all states. (table 21)
- 13. An analysis of faculty productivity (or cost efficiency) at public institutions is important because of the impact of productivity on both the student's share of instructional costs (tuition and fees) and the public's share (State appropriations). When faculty productivity increases, it may be possible to reduce both tuition and the level of public support. Tuition at Pennsylvania's State-related and State-owned institutions is much higher than at comparable public institutions in other states. With few exceptions, the ranking of states with respect to tuition charges in their public institutions correlates with the ranking of states by total instructional costs per student unit. (tables 21 and 22)
- 14. For 1981-82, State appropriations for instruction per FTE student ranged from \$1,710 at Penn State to \$4,980 at Cheyney. The average for the State-related group is \$2,110 and for the State-owned, \$2,850. State appropriations per student tend to increase as the number of FTE student decreases--an implicit recognition of economies of scale in the appropriation process.

-6-

Appropriations for instruction to the large State-related universities cover about one-half the total cost of instruction represented by tuition, fees and direct State appropriations. In contrast, for the State-owned system 69 percent of total instructional cost is received in the form of direct State appropriations. (table 23)

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GENERAL TRENDS

Over the past two decades, a combination of factors has greatly influenced the number of student enrollments in our nation's colleges and universities and thus the number of degrees conferred by these institutions. During the mid sixties and early seventies the large number of persons born during the "baby boom" following World War II reached normal college age. Complementing the demographics were favorable economic conditions, social attitudes and rapid changes in technology, which insured bright employment prospects for those with college degrees. The result was a rapid growth in enrollments and degrees throughout the nation, especially in publicly controlled institutions of higher education. Between 1964 and 1975, total student enrollments increased in private colleges and universities at an average annual rate of over 2 percent per year and in public institutions at an average annual rate of 13 percent. Total degrees conferred by all institutions grew at the average annual rate of over 10 percent.

-9-

The picture began to change in the mid seventies. Since 1957 birth rates have generally declined, shrinking the pool of traditional college-age candidates. Increased enrollments of women, minorities and older part-time students have made up some but not all of the difference. Economic and social conditions have again reinforced the demographics. The relatively severe recessions of 1974-75 and 1981-82 and the high rates of inflation of the late seventies and early eighties served to increase unemployment and decrease real income and technological progress, thus diminishing the job opportunities for college graduates. Growth rates in students and degrees have declined drastically since the mid seventies.

In Pennsylvania, the experience of the State-owned and State-related colleges and universities largely paralleled the national experience. Total full-time equivalent student enrollments and degrees grew rapidly and during the 1977-78 school year reached over 75,000 and 15,000, respectively, at the State-owned schools and over 112,000 and 22,000, respectively, at the State-related universities. From 1977-78 to 1981-82, growth in FTE students was negligible and degrees declined about 1 percent per year.

Over the coming decades, traditional college-age populations are forecast to decline through 1995, when an "echo baby boom" is expected to temporarily increase college and university enrollments. By 1995, many researchers predict a 25 percent decrease in the normal college-age population and a 15 percent decrease in total student

-10-



SOURCE: U.S. Department of Commerce, Bureau of the Census, Census of Population: 1960 and 1970 General Social and Economic Characteristics, Pennsylvania (Washington, D.C.: Government Printing Office). The Pennsylvania State University Data Center, "1980 Census of Population and Housing, Summary Tape

File 1-A" (Capitol Campus, Middletown, Pa.).

Pennsylvania Department of Commerce, 1981 Pennsylvania Abstract, A Statistical Fact Book, 23rd ed. (Bureau of Statistics, Research and Planning, Harrisburg, Pa,), table 1, p. 4. • 1

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SURCE: Actual data - Pennsylvania Department of Education, Division of Education Statistics, Our Colleges and Universities--Summer and Fall Enrollments, 1981, vol. XIX, no.1.

Projected data - "Actual and Projected Enrollment for State-Related Universities by Level of Enrollment and Enrollment Status." Data obtained from Pennsylvania Department of Education, Division of Education Statistics, Sept. 1982.

Joint State Government Commission assumptions: (1) FTE students equal full-time students plus 0.35 times part-time students; (2) unclassified students are undergraduates or graduates in the same proportion as are actual full- and part-time students.

-12-





Figure 3



SOURCE: Pennsylvania Department of Education, Division of Education Statistics, Projections--Selected Education Statistics for Pennsylvania to 1990-91, 1981, table 9, pp. 18-19.

-13-

enrollments in institutions of higher education across the nation. In Pennsylvania, demographers and the State Department of Education project decreases by 1990 of 25, 19 and 13 percent, respectively, in student-age population, FTE students and degrees. All of the forecasts project that higher participation by nontraditional students will partially offset the losses in traditional students. The recent history of Pennsylvania's college-age populations, FTE enrollments and degrees, as well as projections of these same variables for the 1980 to 1990 period, are graphed in figures 1, 2 and 3, which clearly demonstrate the dramatic reductions expected in the output of Pennsylvania's State-supported four-year schools.

FULL-TIME EQUIVALENT STUDENTS

Table 1 presents FTE students arranged by level and school for 1981-82. Total FTE students in Pennsylvania's State-supported institutions increased in 1981-82 by a total of only 1 percent over the previous year. This represents a 2 percent <u>increase</u> in undergraduate students and a 5 percent <u>decrease</u> in graduate students. Between 1977-78 and 1981-82, aggregate growth in FTE students in Pennsylvania's State-supported schools was negligible.

Several observations about the latest one-year changes in FTE students in individual schools should be noted:

--Six schools report <u>increases</u> of 3 or more percent in total FTE students: California (7 percent), Clarion

-14-

			All le	vels			Undergrad	luate le	vel	Graduate level ³			
				Percen	tage change			Percen	tage change			Percen	rage change
	Institution ²	FTE students	One-year change	One year	Four-year average	FTE students	One-year change	0ne year	Four-year average	FTE students	One-year change	One year	Four-year average
5	tate-related												
	Penn State	57.873	1.879	3%	2%	53,225	1,851	4%	2%	4,648	28	1%	a
	Pittsburgh	29,154	143	a	۱.	20,967	207	l l	l l	8,187	- 64	-1	-1%
	Temple	25,408	-1,579	-6	-2	17,008	-844	-5	-3	8,400	-735	-8	-2
	Lincoln	1,525	308	25	7	1,300	302	30	3	225	6	3	92
	Total	113,960	75	ł	а	92,500	1,516	2	I	21,460	- 765	-3	~1
Ş	tate-owned												
	Indiana	12,869	269	2	2	12,139	334	3	2	730	-65	-8	-2
	West Chester	8,352	163	2	а	7,661	244	3	1	691	-81	-10	-3
	Bloomsburg	6,314	-40	-1	a	5,944	43	1	Ł	370	-83	-18	-6
	Millersville	5,947	118	2	1	5,349	160	3	2	598	-42	-6	-4
1	Edinboro ⁴	5,607	66	1	-1	5,213	118	2	a	394	- 52	-12	-5
È	Slippery Rock	5,564	104	2	-1	5,281	129	3	-1	283	-25	-8	-5
1	Clarion	5,493	23	4	2	5,290	256	5	3	203	-25	-11	-5
	Shippensburg	5,457	-10	a	a	4,937	17	а	1	520	-27	- 5	-6
	Kutztown	4,965	203	4	2	4,709	235	5	3	256	-32	-1]	-5
	California	4,541	315	7	a	4,193	343	9		348	~28	-7	-4
	East Stroudsburg	4,050	-40		-1	3,777	40	I	-1	273	-80	-23	-6
	Lock Haven	2,575	49	2	2	2,575	49	2	2	na	na	na	na
	Mansfield	2,554	103	4	-	2,440	128	6	a	114	-25	-18	-3
	Cheyney	2,080	-63	-3	-6	2,003	-75	-4	-6	77	12	19	-11
	Total	76,368	1,468	2	а	71,511	2,021	3	1	4,857	-553	-10	-5
,	All Institutions	190,328	2,219	i	a	164,011	3,537	2	ł	26,317	-1,318	-5	-2

FULL-TIME EQUIVALENT STUDENTS BY LEVEL I 1981-82, CHANGE FROM 1980-81 AND FOUR-YEAR AVERAGE ANNUAL RATE OF CHANGE (1977-78 to 1981-82)

1. Data for each year represent the summer term preceding the academic year plus the academic year. Full-time equivalent students are calculated by dividing undergraduate student credit hours by 30 and graduate student credit hours by 24. 2. Arranged in descending order with respect to total full-time equivalent students for 1981-82.

3. In addition to the master's level, the graduate level for Penn State, Pittsburgh, Temple and Indiana University also includes first professional (excluding medical) and/or doctoral levels.

4. Edinboro student credit-hour data for fiscal year 1977-78 from "State College and University Budgeting System Common Cost Accounting Reports."

a. Rounds to less than | percent.

na. Not applicable.

SOURCE: Reports provided by the individual institutions, 1977 to 1982.

(4 percent), Kutztown (4 percent), Lincoln (25 percent), Mansfield (4 percent) and Penn State (3 percent). Penn State's increase accounts for 85 percent of the total net increase for all State-supported schools combined.

--Two schools report <u>decreases</u> of 3 or more percent in <u>total</u> <u>FTE students</u>: Cheyney (3 percent) and Temple (6 percent). Temple's decrease exceeds the total net increase for all of the State-owned schools combined.

--Nearly all schools report increases in <u>undergraduate FTE</u> <u>students</u>. The exceptions are Cheyney and Temple, with 4 percent and 5 percent decreases, respectively.

--Nearly all schools report decreases in <u>graduate FTE</u> <u>students</u>. <u>Increases</u> registered by Cheyney (19 percent), Lincoln (3 percent) and Penn State (1 percent) are the exceptions.

Appendix table 1A shows total full-time equivalent students and total degrees conferred by level and school for the five years, 1977-78 to 1981-82.

STUDENT CREDIT HOURS

By Level and Institution

As shown in table 2, aggregate undergraduate student credit hours produced in all institutions in the <u>lower division</u> increased in 1981-82 by a total of 3 percent over the prior year and in the upper

-16-

			Underg	raduate					~			
	Lower division Upper division							Graduate ³				
		Percen	tage change		Percen	tage change		Регсел	tage change			
Institution ²	Credit hours	One year	Four-year average	Credit hours	One year	Four-year average	Credit hours	One year	Four-year average			
State-re lated								_				
Penn State	1,033.1	3%	3%	563.7	5%	-1%	111.5	1%	а			
Pittsb ur gh	412.3	l l	₹.	216.7	a	2	196.5	-1	-1%			
Temple	276.8	-б	-4	233.4	-3	-2	201.6	-8	-2			
Lincoln	31.9	32	5	7.1	23	- 4	5.4	3	92			
Tota!	1,754.1	ł	1	1,020.9	2	a	515.0	-3	- !			
State-owned												
Indiana	242.1	3	2	122.1	3	2	17.5	-8	-2			
West Chester	65.7	6	3	64.1	-2	-4	16.6	-10	-3			
Bloomsburg	115.2	2	2	63.1	-2	-1	8.9	-18	-6			
Millersville Edinboro ⁴	128.2	3 4	32	32.3 44.8	2 -1	-2 -4	14.4	-6 -12	-4 -5			
Slipperv Rock	118.0	4	а	40.4	-1	-3	6.8	-8	-5			
Clarlon	117.1	5	3	41.6	6	a	4.9	-11	-5			
Shippensburg	109.2	2	1	38.9	-4	1	12.5	-5	~6			
Kutztown	95•4	5	4	45.9	6	a	6.1	-11	-5			
California	94.5	12	2	31.3	a	- 1	8.3	-7	-4			
East Stroudsburg	81.6	5	1	31.7	7	-4	6.6	-23	-6			
Lock Haven	60.6	ş	4	16.7	7	-3	na	na	na			
Mansfleld	53.8	7	i	19.4	1	-4	2.7	-18	3			
Сћеупеу	44•3	-3	-6	15.8	-4	-5	1.9	19	-11			
Total	1,537.3	4	2	608.)	а	-1	116.7	-10	~5			
All institutions	3,291.4	3	2	1,629.0	i	-1	631.7	-5	-2			

STUDENT CREDIT-HOUR PRODUCTION BY LEVEL¹ 1981-82, CHANGE FROM 1980-81 AND FOUR-YEAR AVERAGE ANNUAL RATE OF CHANGE (1977-78 to 1981-82) (Credit hours in 000s)

Table 2

1. Data for each year represent the summer term preceding the academic year plus the academic year.

Arranged in descending order with respect to total full-time equivalent students for 1981-82.
 In addition to the master's level, the graduate level for Penn State, Pittsburgh, Temple and

Indiana University also includes first professional (excluding medical) and/or doctoral levels. 4. Edinboro student credit-hour data for fiscal year 1977-78 from "State College and University

Budgeting System Common Cost Accounting Reports."

a. Rounds to less than I percent.

na. Not applicable.

SOURCE: Reports provided by the individual institutions, 1977 to 1982.

<u>division</u> by a total of 1 percent. During the same time, total graduate student credit hours decreased by a total of 5 percent. These changes in student credit-hour production reflect the one-year changes in total FTE students shown in table 1.¹

Noteworthy is the relative growth of the production of total lower- versus upper-division and graduate student credit hours. As in 1980-81, total lower-division credit hours produced in 1981-82 increased faster than either total upper-division credit hours or total graduate credit hours. Over the past four years, lower-division output increased at the average annual rate of 2 percent. Upper-division and graduate student credit hours, on the other hand, actually decreased in the aggregate; upper-division output decreased at an average annual rate of 1 percent, and graduate output decreased at an average annual rate of 2 percent. The percentage of lower-division production at the State-owned schools increased from 69 percent of total undergraduate production in 1977-78 to 72 percent in 1981-82.² The output trends at the lower- and upper-division levels lead to the conclusion that while a larger number of students are entering institutions of higher learning fewer are progressing beyond the introductory level.

¹FTE students are computed by dividing undergraduate student credit hours by 30 and graduate student credit hours by 24. ²See faculty output report of March 1979, p. 6.

Summer Term

Table 3 illustrates two related points. First, total undergraduate student credit hours produced in the 1981 summer semester are approximately the same as the total number produced during the previous summer semester, while total summer graduate hours produced decreased by 11 percent. Overall, total undergraduate hours produced in the summer comprise only 7 percent of the total undergraduate hours produced in the full year, and total graduate hours produced in the summer comprise 22 percent of the total graduate hours produced in the full year.

Second, percentages are approximately the same for summer undergraduate credit hours in both groups of institutions but a much larger percentage of graduate credit hours (41 percent) are produced in the summer in the State-owned system than in the State-related group (18 percent). This difference at the graduate level in the two groups is significant because summer classes are generally much smaller than regular term classes, tending to lead to higher instructional salary costs per credit hour produced in the summer. The effect of class size on average faculty cost per student credit hour is discussed later.

Undergraduate and Graduate Proportions

Table 4, which details the mix of student credit hours among levels by institution, indicates that, in the State-related group, Pittsburgh and Temple produce about one-fourth of their student credit

-19-

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SUMMER STUDENT OREDIT-HOUR PRODUCTION 1981

	Perc	entage d	change from 190	30 and four (Crei	r-year dit hou	average annual rs in 000s)	rate of c	nange,	1977-1981	19 as	81 summer percentag	term je of	
		Tota	al	U	Under or aduate			Graduate			total vear 1981-82 by_		
		Percei	ntagé change	Percentage change				Percer	Ttage change	lev	el of Inst	ruction ²	
Institution ¹	Cred[† hours	One year	Four-year average	Credit hours	One year	lour-year average	Credit hours	Опе уеаг	łour-year average	Total	Under- graduate	Graduate	
State-related													
Penn State	94.8	1%	-1%	73.9	4%	18	20.9	7%	-6\$	6%	5%	198	
Pittsburgh	120.8	s'	-1	74.	3	-2	46.7	-3	1	15	12	24	
Temple	63.0	-18	-5	37.2	-19	-7	25.8	-17	-2	9	7	13	
Lincoln	5.9	15	24 ^a	5.2	16	21 ^a	•7	9	62 ^a	13	13	13	
Total	284.5	-4	-2	190•4	-2	-2	94.1	-8	-)	9	7	18	
State-owned													
Indiana	39.5	-3	6	33.4	ь	8	6.1	-18	· -3	10	9	35	
West Chester	23.6	-10	-2	17.7	-6	2	5.9	- 20	-8	10	8	36	
Bloomsburg	18.6	-6	ł	14.6	2	б	4.0	-25	-9	10	8	45	
Millersville	23.2	-5	Ь	14.1	-6	-1	9.1	-4	Ь	13	9	64	
Edinboro	15.1	-4	c	11.5	0	с	3.6	-15	С	9	7	38	
Slippery Rock	11.5	-3	-5	9.3	a	-4	2.2	-16	-9	7	6	32	
Clarion	2.7	11	16	11.0	16	23	1.7	-15	-5	8	7	34	
Shippensburg	15.3	-7	b	10.3	-6	6	5.0	-9	-6	10	7	40	
Kutztown	8.6	1	-3	6.5	11	1	2.1	-21	-9	6	5	34	
California	16.9	23	2	13.5	26	4	3.4	13	-3	13	11	42	
East Stroudsburg	13.7	-10	- 3	10.1	2	1	3.6	-32	-9	11	9	55	
Lock Haven	3.0	12	-9	3.0	12	-9	na	na	na	4	4	na	
Mansfleld	5.5	-2	-!	4.7	10	2	•8	- 40	-11	7	б	31	
Cheyney	2.8	-27	-13	2.5	-25	-11	•3	-45	-19	5	4	15	
Total	210.0	- 3	2	162.2	2	5	47.8	-16	-5	9	8	41	
All Institutions	494.5	-3	b	352.6	ь	1	141.9	-11	-3	9	7	22	

1. Arranged in descending order with respect to total full-time equivalent students for 1981-82.

2. In addition to the master's level, the graduate level for Penn State, Pittsburgh, Temple and Indiana University also includes first professional (excluding medical) and/or doctoral levels.

3. Data represent the summer term preceding the academic year plus the academic year.

a. Three-year average.

b. Rounds to less than I percent.

c. Edinboro student credit-hour data for fiscal year 1977-78 from "State College and University Budgeting System Common Cost Accounting Reports." Data from this source are not available by terms.

na. Not applicable.

SOURCE: Reports provided by the individual institutions, 1977 to 1982.

Table 4

Total year Graduate Under graduate Master's Total and Lower-Upperunder first pro-Institution² graduate division division fessional Doctor's State-related 4% Penn State 93% 60% 33% 3% Pittsbur gh 76 50 26 20 4 33 Temple 72 39 27 1 Lincoln 88 72 16 12 na Total 84 53 31 13 3 State-owned Indiana 95 63 32 5 а West Chester 93 26 7 67 na 20 34 19 Bloomsburg 95 5 61 na 8 Millersville 92 73 na 27 24 94 67 72 6 4 Edinboro na Slippery Rock 96 na Clarlon 97 72 25 3 ла 92 24 8 Shippensburg 68 na 31 Kutztown 96 65 4 na 23 27 б California 94 71 na East Stroudsburg 95 68 5 na Lock Haven 100 78 22 na na 97 Mansfield 71 26 3 na 3 Cheyney 97 71 26 na 5 95 Total 68 27 na All Institutions 10 2 88 59 29

STUDENT CREDIT-HOUR PRODUCTION 1981-82, PERCENTAGE DISTRIBUTION BY LEVEL

I. Data for each year represent the summer term preceding the academic year plus the academic year.

2. Arranged in descending order with respect to total full-time equivalent students for 1981-82.

a. Included in master's level.

na. Not applicable.

SOURCE: Reports provided by the individual institutions, 1982.

hours at the graduate level while Penn State produces less than 10 percent at this level. These proportions are the same as in 1977-78. The graduate percentage includes the large first professional programs in law, dentistry and pharmacology at Pittsburgh and Temple. In contrast, the State-owned schools, with smaller and more limited graduate programs, overall produce 95 percent of their credit hours at the undergraduate level and 5 percent at the graduate level. In 1977-78, over 6 percent were produced at the graduate level. No State-owned school except Indiana offers doctoral work and none has first professional programs.

Appendix table 2A shows total year and summer student credit hours produced by level and school for each of the five years between 1977-78 and 1981-82.

By HEGIS Classification

Table 5 presents undergraduate student credit hours for the year 1981-82 as well as the percentages in the undergraduate upper division for each HEGIS category;³ table 6 gives the same information for the individual graduate programs of the three large State-related universities and the combined graduate programs of the remaining State-supported schools.

-22-

³HEGIS is an acronym for the Higher Education General Information Survey, which is based on program areas and made by the U.S. Department of Education's National Center for Education Statistics. Since 1981, Pennsylvania's State-supported schools have been required to report enrollment, credit-hour and salary data by HEGIS.

UNDERGRADU	JATE STUDENT CREDIT-HO	UR PRODUCTION BY H	EGIS CLASSIFICATION	
1981-82	PERCENTAGE OF TOTAL	, AND PERCENTAGE A	T UPPER DIVISION	
	(Credit	hours In 000s)		

Table 5

		All institut	lons	State	-related ins	titutions	State-owned institutions			
HEGIS classification ¹	Number	Percentage of total	Percentage at upper division	Number	Percentage of total	Percentage at upper division	Number	Percentage of total	Percentage at upper division	
Social sciences	698	14%	25%	336	12%	31%	362	17%	20%	
Letters	656	13	18	358	13	23	298	14	11	
Education	535	11	50	171	6	45	364	17	53	
Business and management	509	10	57	264	10	61	245	11	53	
Mathematics	430	9	10	253	9	11	177	8	8	
Physical sciences	367	7	16	240	9	18	127	6	L.	
Fine and applied arts	275	6	28	141	5	36	134	6	20	
Psychology	224	5	29	111	4	29	113	5	28	
Fnalneerina	216	4	70	216	8	70				
Biological sciences	215	4	26	112	4	34	103	5	18	
Forelan languages	146	3	īž	88	3	21	58	3	íõ	
Computer and information sciences	111	2	37	77	3	43	34	2	22	
Public affairs and services	98	2	59	59	2	69	39	2	44	
Health professions	88	2	78	57	2	81	31	-	73	
Communications	58	ī	61	43	2	64	15	i	52	
Home economics	52	i	57	34	ĩ	58	ได้	i	57	
Interdisciplinary studies	33	i i	35	25	í	45		a	5	
Agriculture and		•					Ũ		-	
natural resources	28	1	95	28	1	95				
Military science	15	a	29	6	a	40	9	a	22	
Architecture and										
environmental design	14	а	50	14	a	50				
Area studies	8	a	57	8	a	57				
Law	6	a	48	6	a	48				
Library science	4	a	54	Ī	a	31	3	а	56	
Other	134	3	8	127	5	8	7	a	9	
Total ²	4,920	100	33	2,775	100	37	2, 145	100	28	

1. Arranged in descending order with respect to total under graduate student credit-hour production for 1981-82.

,°

Because of rounding, percentage totals may not equal 100.
 Rounds to less than | percent.

SOURCE: Reports provided by the individual institutions, 1982.

-23-

7

As shown in table 5, for all institutions combined large proportions of the upper-division undergraduate credit hours are produced in the fields of education, business and management and engineering. The emphasis on these particular fields, especially in the upper divisions, reflects both the missions of the institutions and recent trends toward the selection by students of majors more closely related to current and expected job opportunities. The State-owned schools do not have engineering programs and concentrate more heavily on the education curriculum than do the State-related universities.

For all schools, HEGIS classifications with relatively high levels of total output but with less than 20 percent of the credit hours earned at the upper-division level include letters (18 percent at the upper division), mathematics (10 percent) and physical sciences (16 percent). Despite the increasing international concerns of the U.S., student demand for foreign languages is low. Foreign language credit hours represent only 3 percent of total instructional output; 21 percent of the foreign language credits are in the upper-division level at the State-related universities and 10 percent are in the upper-division level at the State-owned schools.

Table 6 shows that the distribution of graduate student credit hours also reflects largely the missions of the various institutions and job market conditions. Pittsburgh and Temple have large graduate programs in the health professions, education, business and management and law, whereas the predominate emphasis in the State-owned schools

-24-

GRADUATE STUDENT CREDIT-HOUR PRODUCTION BY HEGIS CLASSIFICATION
1981-82, AND PERCENTAGE OF TOTAL
(Credit hours in 000s)

Table 6

	All ir	nstitutions	Т	emple	Pi+	tsburgh	Pen	in S <u>tate</u>	State-ownedand Lincoln ³		
HEGIS classification ²	Number	Percentage of total	Number	Percentage of total	Number	of total	Number	Percentage of total	Number	Percentage of total	
Education	167	26%	39	19%	38	19%	21	19%	69	57%	
Health professions	105	17	63	31	40	20	ł	I	1	1	
Business and management	70	12	26	13	26	13	11	10	7	6	
Law	51	8	32	16	19	10					
Public affairs and services	40	6	8	4	19	10	6	5	7	6	
Engineering	32	5	a	а	15	8	17	15			
Physical sciences	27	4	2	1	7	4	16	14	2	2	
Social sciences	22	4	5	2	5	3	6	5	6	5	
Letters	21	3	6	3	4	2	6	5	5	4	
Psychology	20	3	3	1	3	2	4	4	10	8	
Fine and applied arts	15	2	7	3	2	•	2	2	4	3	
Computer and											
Information sciences	13	2	4	2	7	4	2	2	а	a	
Biological sciences	12	2	1	1	3	2	5	4	3	2	
Mathematics	10	2	ł	ł	2		4	4	3	2	
Library science	6	4			4	2	a	a	2	2	
Foreign languages	6	ł	1	ł	2	1	2	2	ļ	1	
Agriculture and											
natural resources	4	l í					4	4			
Communications	4	ł	3	1			а	а	1	ł	
Home economics	3	a					2	2	1		
Interdisciplinary studies Architecture and	3	а	I	ł	~-		2	2	а	а	
environmental design	l	а					ł	1			
Area studies	a	а	a	а			a	а	~-		
Other	â	a	a	a	а	а	a	a		*-	
Total ⁴	632	100	202	100	196	100	112	100	122	100	

I. Graduate production includes master's at all institutions except Lock Haven, which does not have a master's program, first professional (excluding medical) and doctor's at Pittsburgh and Temple and doctor's at Penn State and Indiana University.

2. Arranged in descending order with respect to total graduate student credit-hour production for 1981-82.

3. All of Lincoln's graduate credit hours (5,000) are produced in public affairs and services.

4. Because of rounding, percentage totals may not equal 100.
 a. Rounds to less than 1,000 student credit hours or less than 1 percent of total production.

SOURCE: Reports provided by the individual institutions, 1982.

.25-

1

continues to be in the education curriculum. The large number of HEGIS categories with small--and therefore costly--graduate credit-hour output indicates a wide diversity of educational opportunities for students in the various schools.

Table 7 presents undergraduate student credit hours distributed by selected HEGIS classifications for 1981-82; the percentages are relative to the total number of undergraduate credit hours for each school shown in the last line of the table. This table brings out differences in program emphasis among the schools.

Appendix table 3A shows total 1981-82 student credit hours produced by school, selected HEGIS classifications and level.

DEGREES

By Level and Institution

Table 8 presents degrees conferred by level and school. The total number of degrees granted by all schools at all levels in 1981-82 increased slightly over 1980-81; since 1977-78, the total number of degrees conferred has decreased by an average of 1 percent per year. The State-related schools show an aggregate one-year increase in degrees at the undergraduate level and virtually no change at the graduate level; undergraduate degrees increased by 4 percent at Penn State and decreased by 1 and 2 percent, respectively, at Pittsburgh and Temple. Total graduate degrees granted by the State-owned schools decreased by 4 percent.

-26-

		State-owned ²																	
	HEGIS ¹ classification	Penn State	P[+†sburgh	Temple	Lincoln	Indiana	West Chester	B} comsburg	Millersville	Ed i nboro	Slippery Rock	Clarion	Shlppensburg	Kutztown	Cal I forni a	East Stroudsburg	Lock Haven	Mansfield	Сһеупеу
-27-	Social sciences Letters Education Business and management Mathematics Physical sciences Fine and applied arts Psychology Engineering Biological sciences Foreign languages Computer and Information sciences Public affairs and services Health professions All others	11 6 10 9 10 4 3 8 5 3 2 2 1 3	17% 12 4 10 10 5 7 9 4 4 4 1 5 4	10% 14 9 17 6 4 8 4 5 2 2 2 4 2 1	15% 19 14 94 75 40 76 0 000	20 % 12 12 16 5 6 5 6 4 0 5 4 2 0 2 6	13% 16 10 79 40 43 0 82 2	19 % 13 17 7 6 5 6 0 5 2 0 3 a	17 % 137 58 109 50 54 4 1	10% 17 14 912 912 70 42 0 31	15 % 18 18 76 65 40 52 2 65 1	14% 11 12 27 7 3 7 5 0 4 1 2 0 0 7	21% 10 21 10 4 4 6 0 5 1 0 3 0 4	20 % 13 29 7 45 7 0 5 3 0 3 0 3	14% 14 22 11 3 4 4 6 0 5 2 0 1 0 4	21% 13 27 15 86 40 72 3 1	22% 18 25 0 12 4 6 7 0 3 3 0 0 0 0 0	14% 17 23 0 8 5 0 6 0 6 2 11 2 0 6	16% 12 19 12 11 5 3 7 0 4 2 1 0 0 8
	Total under graduate production (000s)	1,597	629	510	39	364	230	178	160	156	158	159	148	14 1	126	113	77	73	60

UNDERGRADUATE STUDENT CREDIT-HOUR PRODUCTION BY SELECTED HEGIS CLASSIFICATION 1981-82, PERCENTAGE OF TOTAL

Arranged in descending order with respect to total undergraduate student credit-hour production for 1981-82.
 Institutions arranged in descending order with respect to total full-time equivalent students for 1981-82.

SOURCE: Reports provided by the individual institutions, 1982.

		All de	og ree s		U	ndergradua	ite degr	ees	Graduate degrees				
			Percen	tage change			Percen	tage change			Percen	tage change	
Institution ²	Degrees	One-year change	One year	Four-year average	Degræs	One-year change	One year	Four-year average	Degrees	One-year change	One year	Four-year average	
State-related													
Penn State	10,088	322	3%	a	8,385	361	4%	a	1,703	-39	-2%	-1%	
Pittsburgh	6, 153	-3	a	-1%	3,458	-27	-1	-1%	2,695	24	1	-!	
Temple	5,193	23	a	-2	3,028	-73	-2	-2	2,165	50	2	a	
Lincoln	227	-22	-9	12	155	7	5	0	72	-29	-29	37 ⁰	
Total	21,661	274	1	а	15,026	268	2	-1	6,635	6	а	a	
State-owned													
Indiana	2,570	- 87	-3	ł	2,139	-78	-4	1	431	-9	-2	4	
West Chester	1,360	0	0	-3	1,110	47	4	-2	250	-47	-16	-8	
Bloomsburg	1.367	40	3	2	1,147	59	5	2	220	-19	-8	-1	
Millersville	1,139	54	5	а	960	43	5	1	179	11	7	-6	
Edinboro	95	-61	-6	-8	763	-34	-4	-7	88	-27	-13	-10	
Slippery Rock	1,066	3	a	2	931	-24	-3	-2	135	27	25	-1	
Clarlon	981	20	2	-2	859	25	3	<u>-</u>]	122	-5	-4	-7	
Shippensburg	1,353	-31	-2	1	1,025	8	1	4	328	-39	-11	5	
Kutztown	869	34	4	-1	733	25	4	a	136	9	7	-5	
California	842	17	2	-5	687	23	3	-4	155	-6	-5	- 6	
East Stroudsburg	710	-57	-7	-4	626	-51	-8	-5	84	- 6	-7	4	
Lock Haven	393	-8	-2	-4	393	-8	-2	-4	na	na	na	na	
Mansfield	440	-22	-5	-5	381	-19	~5	-7	59	-3	-4	23	
Cheyney	340	-29	-8	-5	308	-35	-10	-5	32	6	23	-4	
Total	14,381	-127	-1	-2	12,062	-19	a	-2	2,319	-108	-4	-4	
All institutions	36,042	147	a	-!	27,088	249	1	-1	8,954	-102	- i	-1	

DEGREES BY LEVEL¹ 1981-82, CHANGE FROM 1980-81 AND FOUR-YEAR AVERAGE ANNUAL RATE OF CHANGE (1977-78 to 1981-82)

Table B

1. Undergraduate degrees include only bachelor's at all institutions. Graduate degrees include master's at all institutions except Lock Haven which does not have a master's program, first professional (excluding medical) and doctor's at Pittsburgh and Temple and doctor's at Penn State and Indiana University.

2. Arranged in descending order with respect to total full-time equivalent students for 1981-82.

a. Rounds to less than I percent.

b. Three-year annual average.

na. Not applicable.

SOURCE: Reports provided by the individual institutions, 1982.

-28-
The change in degrees conferred varies widely among the institutions. Schools reporting overall <u>one-year increases</u> in degrees of 3 percent or more include Bloomsburg (3 percent), Kutztown (4 percent), Millersville (5 percent) and Penn State (3 percent). Those reporting overall <u>decreases</u> of 3 percent or more are Cheyney (8 percent), East Stroudsburg (7 percent), Edinboro (6 percent), Indiana (3 percent), Lincoln (9 percent) and Mansfield (5 percent). The <u>four-year decline</u> in total degrees is shared in some measure by nearly all the schools; the exceptions are Penn State, Bloomsburg, Indiana, Lincoln and Shippensburg, all of which have average annual four-year increases in total degrees.

By HEGIS Classification

Table 9 gives the number and HEGIS distributions of degrees granted by type of institution and level for 1981-82 and table 10, the percentage distributions of degrees granted by type of degree, in total for the Pennsylvania State-supported schools and in total for all U.S. institutions.

Table 9 shows that in the State-related schools, 33 percent of all undergraduate degrees are in engineering and business and management; at the graduate level, 25 percent are in education and 35 percent in business and management, the health professions and public affairs and services. In the State-owned schools, 49 percent of the undergraduate degrees are in education and business and management and 59 percent of the graduate degrees are in education.

-29-

			DEGREES			
NUMBER AND PERC	ENTAGE DISTRIBUT	ION OF ALL	DEGREES CONF 1981-82	ERRED BY LEVEL	AND HEGIS CLASSI	FICATION

		All inst	i tut lons		State	-related	institutio	ns	State-owned institutions				
HEGIS	Under	graduate	Gradua	ate	Undergrad	luate	Gr	aduate	Undergradu	Jate	Gradua	te	
classification ²	Number	Percentage	Number Per	rcentage	Number Per	<u>centage</u>	Number	Percentage	Number Perc	centage	Number Per	centage	
Business and management	5, 195	19%	1.033	11%	2,628	17%	855	 3%	2,567	21%	<u>1</u> 78	8%	
Education	4.367	16	3.053	34	1.049	7	1.684	25	3,318	28	1.369	59	
Fngineering	2.378	9	460	5	2,335	16	460	7	43	a			
Social sciences	2.246	8	289	3	1,197	8	183	3	1.049	9	106	5	
Health professions Public affairs	1,674	6	797	9	1,068	7	734	11	606	5	63	3	
and services	1.666	6	806	9	863	6	738	11	803	7	68	3	
Letters	1,130	4	247	3	7 10	5	152	2	420	3	95	4	
Communications	1,056	4	80	1	659	4	32	а	397	3	48	2	
Psychology	1,049	4	240	3	572	4	117	2	477	4	123	5	
Computer and	•												
Information sciences	1.015	4	222	2	539	4	215	3	476	4	7	a	
Biological sciences	909	3	181	2	54 (4	313	2	368	3	70	3	
Physical sciences	876	3	270	3	574	4	238	4	302	3	32	1	
ယ် Fine and applied arts	836	3	75	2	384	3	!43	2	452	4	32	1	
Home economics	722	3	34	а	457	3	32	a	265	2	2	a	
Agriculture and													
natural resources	683	3	76	ł	683	5	76	i J					
Interdisciplinary studies	562	2	89	1	369	2	62	2 1	193	2	27	1	
Mathematics	264	1	99	ł	120	1	64	j	! 44	1	35	2	
Foreign languages Architecture and	216	I	61	J	1 19	1	48	3 1	97	1	13	١	
environmental design	114	a	27	а	109	ł	27	/ a	5	а			
Area studies	30	а	12	а	22	а	12	2 a	8	a			
Library science	27	a	172	2		'	127	2	27	a	45	2	
Law	19	a	564	6	19	a	564	8					
Total ³	27,034	100	8,987	100	15,017	100	6,674	100	12,017	100	2,313	100	

I. Under graduate degrees include only bachelor's at all institutions. Graduate degrees include master's at all institutions except Lock Haven which does not have a master's program, first professional (excluding medical) and doctor's at Pittsburgh and Temple and doctor's at Penn State and Indiana University. 2. Arranged in descending order with respect to total undergraduate degrees for 1981-82.

Because of rounding, totals may not equal 100.
Rounds to less than 1 percent.

SOURCE: Data obtained from Pennsylvania Department of Education, Division of Education Statistics, Bureau of Information Systems, December 1982.

Table 9

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Table 10 shows two things. First, in the Pennsylvania schools, the relative proportions of bachelor's and master's degrees granted in business and management are lower, and in education higher, than the national proportions for these HEGIS areas; during the last three years, however, the percentages of degrees in these areas have moved towards the national percentages. In the same areas, the relative number of doctor's degrees are above the national averages and have held steady over the past three years. Second, the remaining HEGIS distributions in Pennsylvania and the nation are not too dissimilar. Perhaps the most noticeable differences are in the social sciences and public affairs and services where Pennsylvania degrees are, respectively, lower and higher than the national percentages.

About 1 percent of all bachelor's degrees conferred in the State-supported institutions in Pennsylvania as well as nationally are in mathematics (264 degrees in Pennsylvania) and 3 percent in physical science (876 in Pennsylvania). The Pennsylvania institutions conferred only 99 graduate degrees in 1981-82 in mathematics and 270 in physical sciences. Officials of the American Physical Society term the lack of interest in science and math among students and the lack of well-qualified teachers of these subjects a "national scandal."⁴

Appendix table 4A shows the degrees conferred in 1980-81 by school, major field of study and level.

⁴"Pnysicists Deplore U.S. Lack of Science, Math Teachers," (Harrisburg) The Patriot, January 25, 1983.

PERCENTAGE DISTRIBUTION OF DEGREES BY HEGIS CLASSIFICATION PENNSYLVANIA STATE-RELATED AND STATE-OWNED INSTITUTIONS (1979-80 to 1981-82) AND ALL U.S. INSTITUTIONS (1979-80)

		Bachelo	r's degr	ees		Master'	s degræs	5	Flrst	- profes	sional d	legræs ²		Doctor '	s degræ	s
HEGIS classification1	-82	PA 1980 -81	- PA -1979 -80	0.5. 1979 -80	PA 1981 B2	PA 1980 -81	РА 1979 -80	0.5. 1979 -80	- PA 1981 -82	PA 1980 -81	-80	0.5: 1979 -80	-82	PA 1980 -81	РА 1979 -80	0.5. 1979 ~80
Business and management	198	18\$	17 %	20\$	14%	13%		19%					3%	2%	3%	2%
Education	16	18	20	13	37	40	42	35					40	39	40	24
Englacering	9	, ğ	- 8		5	5	5	5					6	5	5	8
Social sciences	8	é	9	цí	3	3	3	4				·	ě	7	7	IÕ
Health professions	6	6	6	7	6	6	7	5	57%	56%	58%	39%	7	4	5	2
Public affairs	•	•	•	•	•	-		-				2.1			-	-
and services	6	7	7	4	11	11	10	7					3	3	2	ł
	Å	1	,	Å	3	τ,	2	3		-			6	8	8	5
Communications	4	4	4 X	3	Ĩ	í	i i	í					a	a	a	ĭ
Bayeho Logy	7	4	1	5	7		2	י ד					5	5	1	, 0
Computer and	4	4	4	2	ر	2	2	,					,)	-+	0
Information sciences	4	3	2	I	3	2	2	ļ					I	I	a	ł
Biological sciences	3	4	4	5	2	2	2	2					5	6	8	11
Physical sciences	3	3	3	3	2	2	2	2					10	10	9	9
Fine and applied arts	3	3	3	4	2	2	2	3	~~				1	i	i	2
Home economics	3	3	3	2	a	а	а	i					2	2	1	1
, Agriculture and																
ω natural resources	3	2	3	2	1	1	J.	1					1	2	2	3
N Interdisciplinary studie	s 2	2	2	4	J.	i i	ł	2					а	а	i	1
Mathematics	Ī		Ĩ	Ĺ	j	i	į				****		Ì	i	i	2
Forelan languages	i	i	Í	i i	i	i	j	i					i	2	Í	2
Architecture and		•	•	•	,		•	-							-	
environmental design	а	а	а	i	a	1	i	l I	·							а
Area studies	а	а	а	а	а	a	а	а								а
Library science	a	ā	a	- a	2	2	2	2					2	ł.	1	ā
Law	ā	a		a	ī	ī	ĩ	Ī	43	44	42	51				a
Military science				a		<u> </u>		à								
Theology		а		ĩ				ើ				10	~			4
meerogy		ŭ		•				•				10				т
Total ³	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total degrees 27	,034	26,778	27,941	929,417	7,147	7,180	7,015 2	98,081	1,157	1,214	1,183	70,131	1,084	1,012	1,037	32,615

1. Arranged in descending order with respect to total undergraduate degrees conferred by Pennsylvania State-related and State-owned institutions, 1981-82.

- 2. Includes medical degrees.
- 3. Because of rounding, totals may not equal 100.
- a. Rounds to less than I percent.

SOURCE: W. Vance Grant and Leo J. Elden, National Center for Education Statistics, Digest of Education Statistics 1982 (U.S. Government Printing Office, Washington, D.C.: 1982); Pennsylvania Department of Education, <u>Our Colleges and Universities Today--Degrees and Other Formal Awards Conferred</u>, vol. XVIII (1979-80), no. 2 and vol. XIX (1980-81), no. 2; "Bachelor's <u>and Higher Degrees Conferred by Major Subject Area and Institution, 1981-82,"</u> Pennsylvania Department of Education, Statistics, Bureau of Information Systems, December 1982.

RELATIONSHIP OF STUDENT CREDIT HOURS TO DEGREES

Table 11 shows that in total undergraduate student credit hours per degree conferred have increased by nearly 7 percent over the past four years. At the State-related universities, the number of student credit hours per undergraduate degree increased by about 9 (from 176 to 185) from 1977-78 to 1981-82. At the State-owned schools, the increase in credit hours per degree is 16 credit hours (from 162 to 178), which is equivalent to a full semester's workload. The minimum number of credit hours required to earn a bachelor's degree ranges from 120 to 128 depending upon the program and institution.

The increasing number of credit hours in excess of those normally required for a degree and the trend of increasing lower-division output relative to upper-division output lend support to the tneory that a growing proportion of students are either leaving the State-supported schools before progressing beyond the introductory level courses or taking more credits than the minimum necessary to meet degree requirements, possibly because they must repeat courses. Other factors, however, may affect the relationship between degrees and student credit hours, including course availability as well as changes in the proportions of output in the various majors and associate degree programs.

It is interesting to note that the large State-related institutions require fewer credit hours for an undergraduate degree

-33-

	AH	institutio	ns	State-re	lated insti	tutions	State-o	wned instit	utions
Year and level	Student credit hours (000s)	Degrees	Ratio	Student credit hours (000s)	Degræs	Ratio	Student credit hours (000s)	Degrees	Ratio
981-82									
Undergraduate	4,920	27,088	181.6	2,775	15,026	184.7	2,145	12,062	177.8
Graduate	632	8,954	70.6	5 5	6,635	77.6	117	2,319	50.4
1980-81									
Undergraduate	4,817	26,839	79.5	2,730	4,758	185.0	2,087	12,081	172.0
Graduate	663	9,056	73.2	533	6,629	80.4	130	2,427	53.0
979-80									
Undergraduate	4,743	a	a	2,678	15,206	176 • 1	2,065	а	
Graduate 1978-79	649	8,865	73•2	517	6,406	80.7	32	2,459	53.
Undergraduate	4.681	28,193	66.0	2,645	15.465	171.0	2.036	12,728	160.
Graduate	650	9,394	69.2	518	6,745	76.8	32	2,649	49.
Undergraduate	4,789	28.211	169.8	2.709	15.368	176.3	2.080	12.843	162.
Graduate	675	9,492	7	532	6.734	79 0	143	2.758	51.

RELATIONSHIP OF STUDENT CREDIT-HOUR PRODUCTION TO DEGREES

Table 11

I. Undergraduate degrees include only bachelor's at all institutions. Graduate degrees include master's at all Institutions except Lock Haven which does not have a master's program, first professional (excluding medical) and doctor's at Pittsburgh and Temple and doctor's at Penn State and Indiana University. a. Data not available for all institutions.

SOURCE: Data provided by individual institutions, 1977 to 1982.

than do the State-owned schools but show a higher number of credit hours per degree earned. The minimum number of credits required for a bachelor's degree at Penn State or Pittsburgh is 120 and at Temple, 123. The minimum requirement at Lincoln and the State-owned schools is 128 with three exceptions--Indiana's minimum is 124 and Millersville and Shippensburg each require 120.

During the four-year period from 1977-78 to 1981-82, graduate credit hours per degree have not significantly changed. A decrease of about 1 percent in all institutions may be due to a shift in the mix of degree programs, which have more widely ranging requirements than at the undergraduate level. The normal requirement for an initial graduate degree is 30 credits.

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II. FACULTY WORKWEEK ACTIVITIES AND SALARIES

WORKWEEK ACTIVITIES

Table 12 presents the head count of full-time faculty members in fall 1981 and the average amount of time they report spending in work-related activities. The total average workweek for all schools of 53 hours is approximately the same as in 1980 and has changed little since 1977. Total average classroom contact hours for all institutions, however, <u>decreased</u> by 2 percent (.2 hour per full-time faculty member) from 1980-81 to 1981-82, although Pittsburgh, Lincoln, Millersville, Clarion and Kutztown shows increases ranging from 1 percent to 5 percent. Total average weekly classroom contact hours since 1977 have decreased by 6 percent (.6 hour) in the State-related schools and 2 percent (.3 hour) in the State-owned schools for an overall decrease of 5 percent (.6 hour).

As shown in table 12, total classroom contact hours per week range from 12.1 (Lincoln) to 9.4 (Temple) in the State-related schools, and from 12.6 (Indiana) to 10.0 (Shippensburg) in the State-owned schools. The average for the State-related schools is 9.9 hours and for the State-owned schools, 11.7 hours. The average for all

-37-

FULL-TIME FACULTY WORKWEEK ACTIVITIES 1981-82, AND PERCENTAGE CHANGE FROM 1980-81

							Ауөг	age weekly	hours pe	ər full-tim	e faculty	member ³			
	·	Fulleti	me faculty		Conta	ict hours									
	institution ¹	Total num- ber ²	Percentage reporting workwæks	Total	Percent age change	Under- graduate	Graduate	Instruc- tional support	Percent- age change	- Research	Percent age change	- Other university service	Percent ~ age change	Total work- week	Percent- age change
s	tate-related														
-	Penn State	2,660	100%	10.2	-1%	8.3	1.9	20.5	-1%	9.5	3%	11.7	-3%	51.9	-1%
	Pittsburgh	1,499	100	9.7	2	5.5	4.2	18.2	2	13.8	-1	11.6	-3	53.3	a
	Temple ⁴	1,232	100	9.4	-10	5.6	3.8	15.9	1	9.5	-19	17.2	18	52.0	-1
	Lincoln	71	100	12.1	5	11.0	1.1	16.1	11	8.3	9	9.9	б	46.4	8
	Total	5,462	100	9.9	-2	6.9	3.0	18.8	ł.	10.7	-4	12.9	2	52.3	а
S	tate-owned														
	Indiana	613	100	12.6	-2	11.5	1.1	18.5	-5	9.9	8	17.5	3	58.5	a
	West Chester	453	100	12.0	0	10.9	1.1	17.8	- i	9.1	5	19.3	1	58.2	1
	Bloomsburg	312	100	11.6	-2	10.9	•7	16.6	-3	7.2	3	16.1	-4	51.5	-2
	Millersviile	289	100	11.8	3	11.1	•7	\$6.7	2	7.8	1	16.9	-1	53.2	1
	Edinboro	342	100	11.9	-3	10.9	1.0	18.9	-6	7.B	-12	15.5	5	54 • 1	-4
	Slippery Rock	323	100	12.1	Ь	11.5	•6	17.9	b	8.1	Ь	17.0	Ь	55.	2
ப்	Clarion	288	100	11.3	2	0.8	•5	17.1	-1	6.7	0	16.2	0	51.3	а
õ	Shippensburg	289	96	10.0	-2	'9 •1	•9	17.6	-2	8.5	i	15.9	í	52.0	-1
	Kutztown	297	95	12.3	1	11.9	•4	16.9	4	8.4	4	16.4	-4	54.0	ŀ
	Callfornia	266	00	10.8	-3	10.0	•8	15.7	-3	7 •	1	18.0	3	51.6	a
	East Stroudsburg	224	100	10.9	-2	10.3	•6	18.0	2	8.8	-9	18.0	-4	55.7	-3
	Lock Haven	161	100	11.7	0	11.7	na	16.7	-6	7.0	-5	17.8	2	53•2	-2
	Mansfleld	164	88	10.4	-3	10.0	•4	20.0	32	8.7	б	11.4	3	50.5	12
	Cheyney	174	66	11.8	-2	11.2	•6	17.1	-3	8.7	-6	17.3	-8	54.9	-5
	Total	4,195	98	11.7	-1c	10.9	•8	17.6	-1c	8.3	lc	16.9	0c	54.5	0
,	All Institutions	9,657	99	10.6	-2 ^C	8.6	2.0	18.3	0 ^c	9.7	-2 ^c	14.6	lc	53•2	a

Arranged in descending order with respect to total full-time equivalent students for 1981-82.
The number of full-time faculty for 1981-82 represents those reported by each school for the fall term.

3. Average calculated using only those full-time employed faculty in the fall who reported a complete workweek of 100 hours or less. For all schools except Cheyney at least 88 percent of full-time faculty reported each year; at Cheyney, 66 percent reported in 1981-82 and 60 percent in 1980-81. 4. Temple's workweek activities are shown as reported. Due to changes in workload data collection procedures at the school, Temple's breakdown of Its workweek hours for 1981-82 may not be fully comparable to previous years.

a. Rounds to less than I percent.

b. Noncomparable data reported.

c. Does not include Slippery Rock.

na. Not applicable.

SOURCE: Reports provided by the individual institution, 1981 and 1982.

institutions is 10.6 hours. The division of contact hours between undergraduate and graduate levels reflects the relative sizes of the graduate programs in the two systems.

The reader should be aware that because of a change in data collection procedures, Temple's average hours spent in the various workweek activities may not be fully comparable with those reported in previous years (see footnote 4, table 12).

Appendix table 5A presents the fall full-time faculty head count and the average undergraduate and graduate contact hours reported for 1977 to 1981.

AVERAGE INSTRUCTIONAL SALARIES

FTE Instructional Faculty

Table 13 presents the average salaries of FTE instructional faculty members in 1981-82 by separate rank category and for all instructional faculty. The average salary increases shown in the table do not correspond with any general salary increases given to all faculty members. For example, if the composition of a faculty changes from one year to the next, with a greater proportion of higher-paid personnel the second year, the increase in the average salary will be greater than a general salary increase. Average instructional salaries are computed by dividing the total instructional salaries for the respective category by the number of FTE instructional faculty in the category.

-39-

AVERAGE	SALARY	OF	FULL-TIME	EQUIVALENT	INSTRUCTIONAL	FACULTY	AND	PERCENTAGE	DISTRIBUTION	ΒY	RANK
					1981-82						
				(D	ollar amounts	In 000s)					

	FTE I	nstructional faculty Percentage	Av Instr	verage ructional salary Percentage	Prof	essor	Associate	professor	Assistant	professor	Inst	ructor	Non-ranked ³		
		change		Increase		Percentage		Percentage		Percentage		Percentage		ercentage	
Institution ²	Number	1980-81 to 1981-82	Amount	1980-81 to 1981-82	Average salary	of faculty	Average salary	of faculty	Average salary	of faculty	Average salary	of faculty	Average salary	of faculty	
State-related															
Penn State	2,746	2%	\$23.8	9%	\$34.9	17%	\$26.7	20%	\$21.0	30%	\$15.9	4%	\$20.4	19%	
Plttsburgh	1,824	a	22.7	9	33.6	18	24•4	27	19.0	20	13.1	12	20.3	23	
Temple	1,666	-4	22.0	4	34.7	25	25.6	24	19.6	20	11.6	14	9.7	17	
Lincoln	97	2	17.7	2	26.0	16	19.9	16	16.0	38	15.2	18	13.1	12	
Total	6,333	-}	22.9	7	34•4	20	25.5	23	20.1	24	14.0	14	17.8	19	
State-owned															
Indiana	681	5	25.3	5	29.9	38	25.0	31	20.6	23	18.6	8	20.0	а	
West Chester	458	-2	25.5	б	31.3	29	25.9	39	21.0	23	15.7	8	27.0	1	
Bloomsburg	336	a	25.1	6	30.9	30	25.6	37	20.0	26	15.5	7	na	0	
Millersville	318	b	25.1	ъ	30.2	32	24.8	41	20.3	21	14.9	6	16.2	а	
. Edinboro	340	2	27.0	7	31.8	36	26.2	37	22.0	25	18.2	2	na	0	
S Ippery Rock	306	4	26.7	7	31.7	40	26.8	29	21.6	21	17.2	10	23.4	a	
D Clarlon	289	a	25.5	5	31.7	31	25.6	34	21.0	25	16.8	10	28.5	а	
Shippensburg	287	1	26.5	6	31.6	38	25.9	31	21.3	25	17.5	б	na	0	
Kutztown	268	1	27.7	6	32.8	37	27.0	38	22 . 1	18	18.2	7	25.0	a	
California	241	-9	28.5	6	32.3	44	26•4	42	22.8	12	18.6	1	30.7	i	
East Stroudsburg	223	3	25.8	7	30.5	39	25.1	37	20.5	19	14.1	5	31.9	а	
Lock Haven	47	1	27.6	7	32.9	33	26.8	46	22.3	17	17.0	4	32.9	а	
Mansfleld	160	4	25.9	3	33.1	26	27.0	37	22.0	25	16.0	12	na	0	
Cheyney	44	-12	27.5	Ь	32.5	30	26.8	55	22.8	8	18.2	7	9.6	а	
Total	4,198	a ⁴	26•2	5 ^C	31.4	35	25.9	37	21.1	21	16.9	7	24.4	a	

1. Average salary is calculated by dividing the total instructional salary paid to all staff members in the respective rank categories by their total full time equivalency in the instructional function. One full-time equivalent faculty represents one full-time workload for two terms (one academic year). The summer term is treated as one term or one-half the academic year. Data for each year represent the summer term preceding the academic year plus the academic year.

2. Arranged in descending order with respect to total full-time equivalent students for 1981-82.

3. The full time equivalency of nonranked faculty members is based on the time spent in instruction of all nonranked personnel, including lecturers, administrators, librarians, research staff and graduate assistants.

4. Excludes Millersville.

a. Rounds to less than 1 percent.

b. Noncomparable data reported.

c. Excludes Cheyney and Millersville.

na. Not applicable.

SOURCE: Salary reports provided by the Individual Institutions, 1981 and 1982.

Table 13

Registering the largest one-year increases in average salaries were Penn State and Pittsburgh, each with a 9 percent increase; however, only two of the State-supported schools have lower average salaries--Temple (\$22,000) and Lincoln (\$17,700). Not only does Temple have the lowest average salary of the large schools, but the university also managed to achieve a 4 percent reduction in FTE faculty and to hold the average instructional salary increase to 4 percent over the previous year.

It was necessary to recompute Penn State's 1980-81 average salary to determine the percentage change, since it was discovered that the university reported incorrect salary data last year. Penn State's average instructional faculty salary in 1980-81 was \$21,900 instead of \$21,300, as previously reported (1980-81 average salary data are shown as part of appendix table 6A). Penn State, which increased its FTE instructional faculty by 2 percent, has the highest average salary for the rank of professor (\$34,900). However, Penn State and Lincoln have the lowest percentages of faculty in this rank (17 and 16 percent, respectively).

Most of the State-owned schools register increases in average salaries in the 5 to 7 percent range, with the exception of Mansfield, with a 3 percent increase. The overall average FTE instructional faculty salary of the State-owned schools (\$26,200) exceeds the average of the State-related universities by approximately \$3,000. The State-owned schools have far higher percentages of faculty in the two

-41-

top ranks: the percentages of faculty in the rank of professor range from 26 percent (Mansfield) to 44 percent (California) and in the rank of associate professor range from 29 percent (Slippery Rock) to 55 percent (Cheyney). Eighty-six percent of California's faculty are in the top two ranks. At the other end of the scale, only 37 percent of Penn State's faculty are in these ranks. While accomplishing a 9 percent reduction in FTE instructional faculty, California still has the highest average salary for all ranks, \$28,500.

Comparable data are available for only ranked faculty for 1977-78 to 1981-82. During this four-year period, the average FTE instructional ranked faculty salary at the State-owned schools increased by about 31 percent and at the State-related schools by over 34 percent. Thus, it appears that while the State-owned average salaries are considerably higher than the State-related salaries, the gap between the two is diminishing.

Ranked Faculty

Data in table 14, which were collected and compiled by the National Center for Education Statistics and are for a different set of faculty than those in table 13, are useful for making salary comparisons with State-supported institutions in other states and with selected private schools in Pennsylvania. The average salaries for 1981-82 in table 14 are calculated using the total salaries of full-time ranked main-campus faculty whose major assignment is

-42-

AVERAGE INSTRUCTIONAL FACULTY SALARIES¹ BY CATEGORY² AND RANK PERCENTAGE OF FULL-TIME FACULTY IN EACH RANK MAIN CAMPUS OF SELECTED PUBLIC AND PRIVATE INSTITUTIONS ACADEMIC YEAR, 1981-82

			Ave	erage sal (000s)	ary		Total ranked		Perce ranked	ntage of faculty	
Category	Institution	ranks	Prof.	Assoc. prof.	Asst. prof.	Instr.	instructional faculty	Prof.	Assoc. prof.	Asst. prof.	Instr.
I	State-related and State-owned Penn State Pittsburgn Temple Indiana	\$28.6 29.3 28.3 27.2	\$37.8 39.4 36.3 33.5	\$28.1 28.3 27.5 27.0	\$22.4 22.1 21.8 21.9	\$15.3 16.1 17.3 15.4	1,402 1,254 1,349 645	37% 33 35 36	28% 36 33 32	25% 24 23 24	10% 7 9 8
	Private (Pennsylvania) Bryn Mawr College Lehign University of Pennsylvania	26.7 30.8 35.0	32.6 36.8 42.9	25.4 27.1 30.6	20.7 22.4 25.4	na 21.2 nd	118 341 1,028	43 50 48	33 28 24	24 20 28	na 2 a
	Public (other states) University of Delaware University of Maryland University of Michigan SUNY - Stony Brook Onio State	27.5 26.1 33.3 31.3 30.7	38.4 35.5 39.8 41.4 38.6	27.0 26.1 28.4 28.1 28.9	20.9 20.9 23.1 21.1 23.8	17.8 15.1 16.9 nd 17.9	744 1,332 1,603 613 1,941	32 30 55 43 39	36 33 22 31 28	30 27 22 25 27	2 10 1 1 5
TI A	State-related and State-owned Lincoln Bloomsburg California Cheyney Clarion East Stroudsburg Edinboro Kutztown Mansfield Millersville Shippensburg Slippery Rock West Chester	19.5 27.4 29.1 28.2 27.4 27.9 28.3 28.1 26.7 27.5 28.4 27.9 27.7	26.3 33.4 33.6 33.8 32.7 33.4 33.7 33.0 33.1 33.5 33.5 33.6 33.6 33.6	21.5 27.5 27.9 27.5 26.8 27.7 27.5 27.5 27.5 27.5 27.5 27.6	17.8 21.1 22.5 23.0 21.9 21.8 22.5 22.3 21.6 22.0 22.5 22.0 22.3	14.9 16.4 nd 19.0 17.8 nd 17.8 15.8 17.9 17.7 17.8 18.4	77 302 282 179 246 227 344 266 167 291 265 319 464	21 32 41 30 35 37 35 38 29 31 40 40 30	22 39 43 48 36 37 37 38 39 42 32 32 41	39 25 15 21 25 27 18 22 20 25 22 25 22 24	18 4 1 10 8 1 1 6 10 7 3 8 5
	Private (Pennsylvania) Bucknell Gamuon Villanova Public (other states) Towson State University (Maryland) Grand Valley State Colleges (Michigan) Glassboro State College (N.J.)	27.9 21.8 25.8 24.9 25.7 26.5	35.3 25.4 34.9 32.1 30.7 33.5	26.8 22.4 26.8 27.1 25.2 26.7	20.6 20.1 21.8 22.3 20.2 21.7	19.8 15.6 16.2 17.3 na 17.8	212 101 424 427 189 363	38 23 23 24 26 31	30 34 31 28 56 23	29 37 37 37 37 18 44	3 6 9 11 na 2
118	CUNY - Hunter College Youngstown State University (Ohio) State-owned Lock Haven	31.7 27.1 27.9	41.0 32.7 33.4	33.1 27.2 27.5	24.8 22.2 22.6	19.4 17.1 17.6	597 413 163	33 34 33	35 36 42	20 21 19	12 9 6
	Private (Pennsylvania) Franklin & Marshall College Gettysburg Moravian Washington & Jefferson	25.2 24.3 22.3 22.4	34.4 32.3 28.2 27.1	26.0 24.5 22.3 22.5	19.1 18.9 18.6 19.3	16.1 17.4 nd 18.3	136 131 85 75	31 27 27 27	26 36 33 35	31 27 36 29	12 10 4 9
	Public (other states) Lake Superior State College (Michigan) Stockton State College (N.J.)	21.1 21.4	26.6 30.9	23.5 24.5	19.6 19.1	15.2 16.0	107 156	11 13	39 28	33 38	17 21

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1. All data include only full-time ranked faculty whose major assignment is instruction--including those with release time for All data include only full-time ranked faculty whose major assignment is instruction--including those with release time for research--and excludes part-time and administrative faculty and faculty for preclinical and clinical medicine. Average salaries based on contracted salaries (adjusted to a standard academic year basis, when necessary), excluding summer teaching, extra load, etc.
Institutions in category I offer the doctorate degree and in the most recent three years conferred an annual average of 15 or more earned doctorates in at least three nonrelated disciplines. Institutions in category IIA award degrees above the bachelor's degree but do not qualify for category I. Institutions in category IIB award only the bachelor's degree or equivalent.
a. Less than 1 percent.
na. Not applicable.

nd. No data.

SOURCE: "Surprises and Uncertainties: Annual Report on the Economic Status of the Profession, 1981-82," <u>Academe</u> 68, Bulletin of the American Association of University Professors (Washington, D.C.: August 1982), pp. 26-79. Data obtained from the National Center for Education Statistics and submitted by institutions on NCES Form 2300-3.

instruction and who are employed during the academic year. To facilitate comparison, the institutions are categorized according to the level of the degrees granted, as detailed in footnote 2 of the table.

The data in table 14 show that the average instructional salaries for all ranks combined in the three large State-related schools are higher than those in selected similar publicly controlled schools in Delaware and Maryland, but lower than those in Michigan, New York and Ohio. In the State-owned schools a different picture emerges. Average instructional salaries for all ranks combined in these schools are generally higher than those in selected similar privately controlled schools in Pennsylvania or publicly controlled schools in other states (CUNY - Hunter College is an exception). This is because, in many cases, the State-owned schools use more higher-ranked faculty.

-44-

SALARY COST PER STUDENT CREDIT HOUR

The most significant measure of the cost efficiency of the instructional process in State-supported institutions is the faculty salary cost per student credit hour produced. This cost is determined by dividing the portion of all instructional faculty salaries, allocated by levels, by the corresponding student credit-hour output.⁵ While instruction requires other inputs--e.g., classrooms, libraries, dormitories, books, audio/visual aids, etc.--the cost of such inputs is either roughly proportional to salary costs or must be allocated by some fairly arbitrary factors (see footnotes and source note, table 21, p. 57). Tables 15, 16 and 17 provide data on 1981-82 instructional faculty salary costs per student credit hour by institution, level and HEGIS category.

⁵Since the method for allocating faculty salary costs by level was refined this year, 1981-82 cost data are not directly comparable with similar data for 1980-81 as reported last year. To permit a historical comparison, the cost data for 1980-81, 1981-82 and 1982-83 will be computed under the same method and presented in the 1984 report.

	Instructiona salary cost pe	l faculty r full-time	Instructional Und	faculty sal	ary cost per	student cr	edit hour?
	equivalent	student ²	Total	Lower	Upper	Gra	duate
Institution	Undergraduate	Master's	Under graduate	division	division	Master's	Doctor's
State-related	,						
Penn State	\$868	\$2,262	\$29	\$23	\$39	\$94	\$232
Plttsburgh	1,045	2,493	35	25	53	104	188
Temple	1,224	2,282	41	32	51	95	196
Lincoln	1,125	1,146	38	31	67	48	na
Total	977	2,349	33	25	45	98	215
State-owned							
Indiana	1,210	3,493	40	3	59	146	a
West Chester	1,301	2,490	43	33	69	104	na
Bloomsburg	1,307	,795	44	37	55	75	na
Millersville	1,300	1,703	43	37	69	71	na
Edinboro	,567	2,565	52	44	73	107	na
Silppery Rock	1,411	2,511	47	39	71	05	na
Clarion	1,260	3,513	42	36	60	146	na
Shippensburg	1,310	2,175	44	38	58	91	na
Kutztown	1,462	1,970	49	36	75	82	na
California	1,409	2,798	47	39	70	117	na
East Stroudsburg	1,410	1,568	47	37	73	65	na
Lock Haven	,584	na	53	46	77	na	na
Mansfield	1,610	2,035	54	39	94	85	na
Cheyney	1,834	3,796	61	55	78	157	na
Total	1,369	2,460	46	37	67	102	na

INSTRUCTIONAL FACULTY SALARY COST PER FULL-TIME EQUIVALENT STUDENT AND STUDENT CREDIT HOUR PRODUCED 1981-82

Table 15

 Arranged in descending order with respect to total full-time equivalent students for 1981-82.
Full-time equivalent students are calculated by dividing undergraduate student credit hours by 30 and graduate student credit hours by 24. 3. The instructional faculty salary cost per student credit hour for each level was calculated as

follows: the instructional salary for each rank was assigned by level according to the percentage distribution of the course (assigned) credits within each rank. The salary determined by this method for each rank was summed by level and divided by the total student credit-hour production at that level. In the case of individual instruction, most institutions did not report the applicable course credits. Therefore, one course credit was attributed to every three student credit hours produced in individual instruction.

a. Included at the master's level.

na. Not applicable.

SOURCE: Reports provided by the individual institutions, 1982.

Table 15 shows that instructional faculty salary costs per student credit hour are lower in total in the State-related schools than in the State-owned schools. However, average faculty costs vary considerably among the schools. In general, undergraduate costs at each level decrease as the number of FTE students increases. Penn State's average undergraduate costs are well below those of all other schools. Of the State-owned institutions, Indiana, the largest, has the lowest cost per FTE undergraduate student while Cheyney, the smallest, has the highest cost--more than 50 percent higher per FTE student than Indiana's cost. In both the State-related and State-owned schools, instructional salary costs per student credit hour are much higher for the undergraduate upper division than for the lower division, and higher still for the graduate level. Graduate costs appear to relate less to the size of the institution than to the nature of the graduate instruction offered. Penn State's doctoral-level cost is considerably higher than either Pittsburgh's or Temple's.

The HEGIS breakdowns in tables 16 and 17 show wide variances in costs among the selected categories, levels and institutions. The average cost per <u>undergraduate</u> student credit hour is \$33 at the State-related universities and \$46 at the State-owned schools. As shown in table 16, among the several classifications with the highest levels of student credit-hour output, the undergraduate cost of the

-47-

AVERAGE INSTRUCTIONAL SALARY COST PER STUDENT CREDIT HOUR¹ ALL INSTRUCTION AND SELECTED HEGIS CLASSIFICATION BY LEVEL 1981-82

	U	S ndergradua	tate-relat	.eq			owned Te		
HEGIS classification ²	under- graduate	Lower division	Upper division	Master's	Doctor's	lotal under- graduate	Lower division	Upper division	Master's
All instruction ³	\$33	\$25	\$45	\$98	\$215	\$46	\$37	\$67	\$102
Social sciences	29	22	44	 ا 34	270	37	30	64	162
Letters	32	28	46	139	238	45	40	80	137
Education	46	29	66	82	157	60	46	74	85
Business and management	26	21	29	59	226	29 <i>·</i>	24	32	73
Mathematics	25	22	48	108	275	36	33	71	120
Physical sciences	26	23	37	159	241	57	46	141	194
Fine and applied arts	40	29	58	129	256	59	46	112	207
Psychology	24	15	44	136	207	38	30	58	87
Engineering	33	32	34	104	242				
Biological sciences	26	21	35	174	277	51	40	101	211
Foreign languages	41	34	69	166	175	61	54	131	88
Computer and									
information sciences	27	23	32	48	180	34	29	49	91
Public affairs and services	s 41	28	46	69	159	40	27	56	105

1. The instructional faculty salary cost per student credit hour for each level was calculated as follows: the instructional salary for each rank was assigned by level according to the percentage distribution of the course (assigned) credits within each rank. The salary determined by this method for each rank was summed by level and divided by the total student credit-hour production at that level. In the case of individual instruction, most institutions did not report the applicable course credits. Therefore, one course credit was attributed to every three student credit hours produced in individual instruction.

2. Arranged in descending order with respect to total undergraduate student credit-hour production for 1981-82.

3. Includes all HEGIS classifications.

SOURCE: Reports provided by the individual institutions, 1982.

	Tab	Θ	17
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HEGIS classification	(]) Penn Stafe	(2) Pittsburgh	(3) Lincoln	(4) Indlana	(5) Tempie	(6) Ciarion	(7) Millersville	(8) West Chester	(9) Bloomsburg	(10) Shippensburg	(11) Callfornla	(}2) East Stroudsburg	(13) Silppery Rock	(!4) Kutztown	(15) Edinboro	(16) Lock Haven	([7) Mansfield	(18) Cheyney
All Instruction ²	\$29	\$35	\$38	\$40	\$4 i	\$42	\$43	\$43	\$44	\$44	\$47	\$47 ,	\$47	\$49	\$52	\$53	\$54	\$61
Social sciences Letters Education Business and management Mathematics Physical sciences Fine and applied arts Psychology Biological sciences Foreign languages Computer and Information sciences	25 29 43 21 23 25 31 22 23 35 25	31 37 52 27 24 26 35 21 36 49 22	44 39 30 32 25 50 51 55 36 39	29 38 64 26 41 54 54 36 45 47 29	35 34 50 34 32 27 57 31 18 52 45	36 54 25 43 89 57 35 44 69 37	38 40 56 25 33 38 47 41 51 66 33	31 45 54 31 29 41 67 36 44 50	37 40 51 33 59 50 32 53 70	38 50 60 35 67 47 37 51 73	48 53 63 22 29 75 54 33 73 72	33 40 59 39 37 51 49 42 43 87 37	40 42 25 34 60 67 38 47 63 38	41 52 63 29 44 61 40 38 43 66 79	44 65 34 39 72 38 64 74	40 54 56 43 78 76 43 84 72	45 46 76 45 86 41 47 62 30	66 64 77 36 39 69 89 62 75 93
Public affairs and services	41	51			37		61	33	—	52	42	57	42				37	

UNDERGRADUATE INSTRUCTIONAL SALARY COST PER UNDERGRADUATE STUDENT CREDIT HOUR FOR ALL INSTRUCTION AND SELECTED HEGIS CLASSIFICATION BY INSTITUTION¹ 1981-82

1. Institutions arranged in ascending order with respect to cost efficiency for all Instruction. HEGIS classifications are arranged in descending order with respect to total undergraduate student credit-hour production for 1981-82. The instructional faculty salary cost per student credit hour for each level was calculated as follows: the instructional salary for each rank was assigned by level according to the percentage distribution of the course (assigned) credits within each rank. The salary determined by this method for each rank was summed by level and divided by the total student credit-hour production at that level. In the case of individual instruction, most institutions did not report the applicable course credits. Therefore, one course credit was attributed to every three student credit hours produced in individual instruction.

2. Includes all HEGIS classifications.

SOURCE: Reports provided by the individual institutions, 1982.

education curriculum is the most expensive--\$46 per undergraduate credit hour at the State-related schools and \$60 at the State-owned schools.

The State-owned schools, which have an average <u>upper-division</u> cost for all instruction of \$67, register very high upper-division costs in the physical sciences (\$141), fine and applied arts (\$112), biological sciences (\$101) and foreign languages (\$131). The lowest upper-division cost at the schools is in business and management (\$32). The average upper-division cost for all instruction at the State-related universities is \$45, with the costs in the selected categories ranging from \$29 in business and management to \$69 in foreign languages.

Appendix table 7A presents instructional salary costs per student credit hour by school, HEGIS and level for 1981-82.

CLASS SIZE

Previous research by the Joint State Government Commission has snown that average class sizes in classroom instruction have a considerable impact on faculty salary costs per student credit hour produced. Regression analyses relating 1981-82 class sizes to salary costs per student credit hour show that an increase in average class size of one student would result in average cost reductions per student credit hour ranging from \$0.69 in the lower division and \$2.06 in the

-50-

upper division of the State-related universities to \$1.03 in the lower division and \$7.21 in the upper division of the State-owned schools.

Appendix tables 8A and 9A give average lower- and upper-division class sizes by institution and HEGIS classification for 1981-82.

By Level and Institution

Table 18 shows that class sizes vary significantly among schools and among levels within individual schools. Significant changes in individual schools over 1980-81 include:

- --California and Lincoln show <u>increases</u> in average <u>undergraduate</u> class size of 15 percent and 19 percent, respectively.
- --While Lincoln, Cheyney and Lock Haven show respective <u>upper-division</u> class size <u>increases</u> of 22 percent, 36 percent and 12 percent, significant <u>decreases</u> are reported by Slippery Rock (12 percent) and East Stroudsburg (11 percent).
- --At the <u>master's</u> level, while Cheyney increased the average class size by 50 percent, five schools register sizable <u>decreases</u>: Indiana (14 percent), Edinboro (12 percent), Clarion (11 percent), California (11 percent) and Mansfield (21 percent).

Appendix table 10A gives average class sizes by level and school for the three years 1979-80 to 1981-82.

-51-

AVERAGE CLASS SIZE IN CLASSROOM INSTRUCTION BY LEVEL ACADEMIC YEAR 1981-82 PERCENTAGE CHANGE 1980-81 to 1981-82

					Undergrad	luate						
		Total			Lower div	Islon		Upper div	/Ision		Master	-1s
Institution ²	Class size	One-year change	Percentage change	Class size	One-year change	Percentage change	Class size	One-year change	Percentagë change	Class slze	One-year change	Percentage change
State-related												
Penn State Plttsburgh	31 29	0	0 0	32 32	0	0 3%	30 25	1 0	3% 0	14 18	0 1	0 6%
Temple Lincoln	22 19	a 3	a 19%	24 24	a 4	a 20	20 []	a 2	a 22	13 14	a O	a 0
Total	28	a	а	30	a	а	26	a	a	15	a	a
State-owned									,			
Indiana	26	l l	4	32	-}	-3	18	3	6	6	-1	-14
West Chester	21	a	a	27	a	a	13	a 1	a -5	7	. a	a
Millersville	24	ĩ	4	29	0	0	16	1	7	11	ò	ó
Edinboro	21	ó	Ö	25	Ĭ	4	15	-i	-6	7	-1	-12
Slippery Rock	23	-2	-8	29	Q	0	15	-2	-12	10	ò	0
Clarion	30		د	57	5	9	20	-1	-5	8	-1	~1}
Shippensburg	20	-1	-4	28	0	0	21	-1	-2	14	2	17
California	24	U 3	15	עע דכ	1	17	10	1	7	14		-11
East Stroudsburg	25	0	0	32	4	.,	17	-2	-11	14	-1	-11
Lock Haven	25	ĭ	4	28	ŏ	ŏ	18	2	12	na	nă	na
Mansfleld	20	Ó	0	28	i	4	11	-1	-8	14	-3	-21
Cheyney	19	1	6	21	-2	-9	15	4	36	9	3	50
Total	24	a	а	29	a	a	16	a	а	9	а	а
All institutions	26	а	a	30	а	а	21	a	a	12	а	a

1. Average class size for each level is calculated by dividing the total classroom student credit hours by the total classroom assigned credits.

2. Arranged in descending order with respect to total full-time equivalent students for 1981-82.

a. Noncomparable data reported.

na. Not applicable.

SOURCE: Reports provided by the individual institutions, 1981 and 1982.

-52-

Courses Taught

Average class sizes are influenced by student enrollments and the number of courses and course sections scheduled. Table 19 shows one-year changes in the number of courses taught per term and the student credit-hour output per course. Appendix table 11A shows the average number of courses taught per term by level and school for the five academic years 1977-78 to 1981-82.

Individual Instruction

Some courses are taught in the classroom, whereas others are arranged on a "one-to-one" basis between teachers and students. Previous analysis has indicated individual instruction to be significant in explaining differences in salary cost per student credit hour at the upper-division level.⁶ Table 20 details the number and percentage of total student credit hours produced in individual instruction at the graduate and undergraduate levels in the various schools.

Penn State produces 46 percent and Pittsburgh, 20 percent, of their graduate student credit hours in individual instruction (a one percentage point increase from 1980-81 for each of these schools). Penn State's extraordinarily high proportion of individual instruction helps explain its high doctoral-level salary costs. As exhibited in appendix table 12A--which shows 1981-82 total student credit-hour

-53-

⁶See 1982 faculty output report, pp. 55-56.

		Underg	graduate			Master's				
	Courses taught per term		Average student credit-hour production per course taught per term		Courses	taught term	Average student credit-hour production per course taught per term			
Institution ²	Average number	Percentage change	Average number	Percentage change	Average number	Percentage change	Average number	Percentage change		
State-related										
Penn State	1,768	15	431	3%	295	-1%	73	18		
Pittsburgh	1,752	a	158	0	937	-2	48	2		
Temple	1,648	a	144	-3	b	Ъ	ъ	ъ		
Lincoin	189	11	89	19	21	17	112	-12		
State-owngd										
Indiana ⁵	850	2	195	1	258	6	22	-8		
West Chester	904	4	117	0	238	2	22	-8		
Bloomsburg	516	-1	159	2	76	-3	32	-9		
Millersville	522	a	\$40	4	102	29	26	-30		
Edinboro	517	-2	40	4	86	0	34	-11		
Slippery Rock	565	б '	32	-3	82	4	28	-7		
Clarion	482	3	153	1	72	-1	22	-8		
Shippensburg	394	1	175	0	82	0	46	-2		
Kutztown	416	Ь	162	b	43	Ь	47	b		
California	490	а.	115	8	108	24	23	-32		
East Stroudsburg	432	а	119	0	37	-8	40	0		
Lock Haven	314	1	118	0	na	na	ņa	na		
Mansfleld	455	7	75	-3	56	44	17	-32		
Cheyney	294	-8	97	5	25	-19	32	88		

AVERAGE NUMBER OF COURSES TAUGHT AND STUDENT CREDIT HOURS PRODUCED PER COURSE PER TERM¹ ACADEMIC YEAR 1981-82, AND PERCENTAGE CHANGE FROM 1980-81

Table 19

1. Average student credit hours per course are calculated by dividing the average production for each term in the academic year by the average number of courses taught each term in the academic year. Penn State data adjusted to two terms.

2. Arranged in descending order with respect to total full-time equivalent students for 1981-82.

3. Doctoral student credit hours included at the master's level.

a. Rounds to less than 1 percent.

b. Noncomparable data reported.

na. Not applicable.

SOURCE: Reports provided by the individual institutions, 1981 and 1982.

Institution ²	Total credit hours in individual instruction	Percentage of total production	Totai undergraduate credit hours in individuai instruction	Percentage of total undergraduate production	Total graduate credit hours in individual instruction ²	Percentage of total graduate production
State-related						
Penn State	84.6	5%	33.0	2%	51.6	46%
Pittsburgh	57.9	7	18.8	3	39.1	20
Temple	26.8	4	12.4	2	14.4	7
Lincoln	•2	a	•2	a	0	0
Total	169.5	5	64•4	2	105 • 1	20
State-owned						
Indiana	6.9	2	6.1	2	•8	5
West Chester	•5	a	•5	a	Õ	Ö
Bloomsburg	1.7	1	1.4)	•3	3
Millersville	•7	а	•5	a	•2	
Edinboro	3.0	2	2.9	2	• 1	j j
Slippery Rock	•7	'a	•5	a	•2	3
Clarion	1.4	1	1.3	1	•1	3
Shippensburg	3.4	2	2.6	2	•8	6
Kutztown	1.3	1	1.1	1	•2	3
California	0	. 0	0	0	0	0
East Stroudsburg	2.3	2	2.0	2	•3	4
Lock Haven	•4	í	• 4	i	na	na
Mansfield	•2	а	•2	a	а	1
Cheyney	a	â	a	a	0	0
Total	22•5	1	19.5	i	3.0	3
All institutions	192.0	3	83.9	2	108.1	17

STUDENT CREDIT HOURS IN INDIVIDUAL INSTRUCTION 1981-82, AND PERCENTAGE DISTRIBUTION OF TOTAL PRODUCTION BY LEVEL (Credit hours in 000s)

1. Individual instruction encompasses all instruction which, because of its nature, is not delivered in a group situation. This activity may include independent study research (both thesis and nonthesis), internship or fleid work, teaching or clinical practicum and individual instruction in the fine arts. 2. Arranged in descending order with respect to total full-time equivalent students for 1981-82.

3. In addition to the master's level, the graduate level for Penn State, Pittsburgh, Temple and Indiana University also includes first professional (excluding medical) and/or doctoral student credit hours.

a. Rounds to less than 100 student credit hours or less than 1 percent of total production.

na. Not applicable.

SOURCE: Student credit-hour reports provided by the individual institutions, 1982.

production in individual instruction by level, HEGIS classification and school--Penn State has a sizable proportion of its graduate individual instruction output (as well as total graduate output--see appendix table 3A) in education and the physical sciences. Pittsburgh also reports considerable graduate output and individual instruction output in education.

INTERSTATE COMPARISON OF TOTAL INSTRUCTIONAL COST PER FULL-TIME EQUIVALENT STUDENT UNIT

Table 21 lists the <u>total</u> instructional cost per FTE student unit for all publicly controlled institutions of higher education (including two-year colleges) in all states for the fiscal year 1980. Pennsylvania's total instructional cost per FTE student unit is \$3,207, the eighth highest in the nation. Higher per student expenditures are made only by the publicly controlled institutions of higher education in Alaska, Wyoming, Vermont, New York, Delaware, Iowa and Wisconsin. The average (mean) instructional expenditure per student unit is \$2,816, which is exceeded by only 18 of the 50 states.

Regional differences in per student instructional expenditures are obviously determined by many factors. Among the important causal variables are the average size of the institutions, wealth and the population's "preference for higher education" in any state.

-56-

Rank	State	Total Instructional cost/student unit	Rank	State	Total Instructional cost/student unit
i	Alaska	\$5,733	26	l daho	\$2,733
2	Wyoming	3,983	27	Nevada	2,719
3	Vérmont	3,762	28	Florida	2,688
4	New York	3,405	29	West Virginia	2,685
5	Delaware	3,404	30	Texas	2,656
6	lowa	3,287	31	South Dakota	2,617
7	Wisconsin	3,235	32	Tennessee	2,611
8	PENNSYLVANIA	3,207	33	Colorado	2,596
9	Michigan	3,053	34	Nebraska	2,595
0	South Carolina	a 3,045	35	Alabama	2,586
H	North Carolina	a 3.013	36	Missouri	2,576
12	California	2,973	37	Arkansas	2,539
13	North Dakota	2,933	38	Washington	2,522
4	Indiana	2,919	39	Kansas	2,508
15	Kentucky	2,918	40	Hawali	2,485
16	Rhode Island	2,902	41	Georgia	2,484
17	Marvland	2.886	42	Virginia	2,472
18	Utah	2,826	43	New Mexico	2,440
19	Mississippi	2,804	44	Arizona	2,415
20	Maine	2,790	45	Louisiana	2,363
2	llinols	2.788	46	New Hampshire	2,349
22	Oregon	2,781	47	Connecticut	2,319
23	Ohio	2,779	48	Montana	2,313
24	Minnesota	2,745	49	Massachusetts	2.135
25	New Jersey	2,741	50	Oklahoma	2,019

Total Instructional Cost¹ per FTE Student Unit,² All Publicly-Controlled Institutions, Fiscal Year 1980

Average, 50 States \$2,816

1. Instructional costs for each state include instruction, Student Services, and Scholarships and Fellowships, plus a portion of Academic Support, Instructional Support, Plant Operation and Mandatory; the latter costs are allocated to instruction on the basis of the ratio of each state's direct instructional costs to its total costs, where total costs equal the direct instructional costs plus noninstructional Public Service and Research. 2. FIE students are converted to student units, using the weights devised by Bowen.

2. FTE students are converted to student units, using the weights devised by Bowen, In recognition that instructional costs vary by student levels.

SOURCE: FTE Students - National Center for Education Statistics, Fall Enrollment in Higher Education, 1979 (Washington, D.C.: July 1980), Tables 12-E, 13-E; Student Weights -Howard R. Bowen, The Costs of Higher Education (San Francisco: Jossey-Bass Publishers: 1980), p. 265; Instructional Costs - National Center for Education Statistics, Washington D.C., worksheets, August 1980.

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IV. STUDENT AND PUBLIC COSTS

An analysis of faculty productivity (or cost efficiency) at public institutions is important because of the impact of productivity on both the student's share of instructional cost (tuition and fees) and the public's share (State appropriations). When faculty productivity increases, it may be possible to reduce tuition and the level of public support. As pointed out in previous chapters, faculty productivity as measured by cost per student credit hour is affected by such factors as the average number of students per class (class size), the amount of time spent in the classroom by FTE faculty (contact nours) and average faculty salary levels. There is little evidence to support the notion that high faculty productivity corresponds with low instructional quality. As discussed in the 1982 faculty output report, independent research confirms that some of the nation's more prestigious institutions of higher learning are among the most cost efficient.

-59-

TUITION AND STUDENT FEES

Table 22 shows the 1982-83 undergraduate and graduate tuition and required fees for the main campuses of Pennsylvania's Statesupported institutions, selected private institutions in Pennsylvania and selected public institutions in other states. Data in table 22 (and appendix table 12A in the 1982 report) indicate that in-State undergraduate student tuition and required fees increased from 1981-82 to 1982-83 at the State-related schools as follows: Penn State, 14.6 percent; Pittsburgh, 12.5 percent; Temple, 9.8 percent; and Lincoln, 20.7 percent. At the State-owned schools, in-State undergraduate student tuition and required fees increased from 1981-82 to 1982-83 by 18 percent. For 1982-83, the in-State undergraduate tuition and average fees are approximately \$1,600 at the State-owned schools as compared with approximately \$2,100 at Penn State, \$2,300 at Pittsburgh and \$2,600 at Temple.

Table 22 further shows that direct student charges at Pennsylvania's State-supported institutions, while much lower than those at comparable private schools within the State, are often much higher than those at comparable public schools in other states. With few exceptions, the ranking of states with respect to tuition charges in their publicly controlled institutions (table 22) would correspond to the ranking of states by total instructional costs per student unit (table 21).

-60-

ACADEMIC YEAR TUITION AND REQUIRED FEES MAIN CAMPUSES OF SELECTED PUBLIC AND PRIVATE INSTITUTIONS 1982-83 .

		Undergraduate ²			Graduate ²			
Categoryl	Institution	In-state	Out-of-state	Private	In-state	Out-of-state	Private	
I	State-related and State-owned Penn State Pittsburgh (average, all programs) Temple Indiana	\$2,118 2,318 2,616 1,632	\$4,254 4,528 4,800 2,742		\$2,256 2,624 2,904 1,584	\$4,512 5,184 3,720 1,584		
	Private (Pennsylvania) Bryn Mawr College Lehigh University of Pennsylvania			\$7,855 7,200 8,000			\$7,100 7,200 8,330	
	Public (other states) University of Delaware University of Maryland University of Michigan Rutgers SUNY - Stony Brook Ohio State	1,290 1,185 2,144 3,681 1,145 1,458	3,480 3,303 6,014 3,047 1,845 3,726		1,290 1,718 2,966 2,166 1,769 1,881	3,480 3,038 6,310 3,022 2,233 4,518		
AII	State-related and State-owned Lincoln State-owned ³	1,750 1,630	2,750 2,740		1,820 1,556	3,020 1,556		
	Private (Pennsylvania) Bucknell Gannon Villanova			7,425 3,414 5,140			5,100 3,000 3,120	
	Public (other states) Towson State University (Maryland) Grand Valley State Colleges (Michigan) Glassboro State College (N.J.) CUNY - Hunter College Youngstown State University (Ohio)	1,292 1,365 1,164 1,125 1,245	2,332 3,165 1,764 1,625 2,145		1,489 1,431 1,691 1,740 960	1,489 3,135 2,071 2,295 1,560		
IIB	State-owned Lock Haven	1,604	2,714		na	, na		
	Private (Pennsylvania) Franklin & Marshall Collegé Gettysburg Moravian Washington & Jefferson			6,550 6,000 5,660 6,110	,			
	Public (other states) Lake Superior State College ⁴ (Michigan) Stockton State College (N.J.)	1,328 1,155	2,516 1,755		2,160 na	2,160 na		

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Institutions in category I offer the doctorate degree and in the most recent three years conferred an annual average of 15 or more earned doctorates in at least three nonrelated disciplines. Institutions in category IIA award degrees above the bachelor's degree but do not qualify for category I. Institutions in category IIB award only the bachelor's degree or equivalent.
In instances where charges are on a per course basis, undergraduate tuitions are determined on a 30 credit-hour, academic-year workload.
Bloomsburg, California, Cheyney, Clarion, East Stroudsburg, Edinboro, Kutztown, Mansfield, Millersville, Shippensburg, Slippery Rock and West Chester. The tuition of all State-owned institutions, established by the Department of Education, is

identical; fees vary slightly. 4. Graduate in business administration only.

na. Not applicable.

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SOURCE: Pennsylvania Department of Education, <u>Tuition and Required Fees and Room and Board Charges at Institutions of Higher</u> Education in Pennsylvania, 1982-83 (Harrisburg: 1982) and individual out-of-state institutions.

If direct student charges are to reflect properly the differentials in average instructional faculty salary costs by level of instruction, they should also vary by instructional level. That is, in addition to the different tuition rates which now exist for undergraduate and graduate students and for in- and out-of-State students (reflecting State appropriations), different tuition rates should be set for lower- and upper-division undergraduate students to reflect the higher salary costs for the production of upper-division student credit hours. Higher tuition charges for upper-division students are in effect in public institutions in such states as Florida and Michigan.

STATE APPROPRIATIONS

Table 23 shows total State appropriations for instruction to all of the State-related and State-owned institutions, appropriations per FTE student and the one-year and four-year percentage changes in these amounts. The schools in each group are arranged in descending order with respect to FTE students. It is clear from the table that State appropriations per student tend to increase as the number of FTE students decreases--an implicit recognition of economies of scale in the appropriation process.

Generally, the larger State-related schools receive smaller State appropriations per FTE student than do the smaller State-owned schools. Both Pittsburgh and Temple receive larger appropriations per

-62-

APPROPRIATIONS	RELATED TO	THITION AND F	FE REVENUES	AND FTF	STHDENTS
LOGI-92 CHANCE 6	POM 1090-91	AND COND_VEA	D AVEDACE AN		C OF CUANCE
1901-02, URANGE F	- KUM 1900-01	AND FOURTER	IN AVERAGE AI	WUNL RAI	E UF CHANGE

(1977-78 to 1981-82)

	State a	appropria	it lon	Appropriation	Appropriation per FTE student			
	Percentage change			as percentage	Percenta			age change
Institution ²	Amount (millions)	One year	annua) average	from tuition, fees and appropriation	Amou nt	One-year change	One year	annua) average
State-related								
Penn State	\$98.9	4%	6%	48% '	\$1.710	\$1B	1%	4%
Plttsburgh ³	66.3	4	6	47	2.270	87	4	6
Temple .	70.9	4	6	51	2,790	275	H	JÖ
Lincoln ⁴	3.9	4	8	59	2,580	-524	-17	Ì
Total	240.0	4	6	49	2,110	76	4	6
State-owned								
Indiana	28.9	9	9	65	2,250	136	7	7
West Chester	22.1	6	6	67	2,640	100	4	6
Bloomsburg	16.0	6	9	66	2,540	149	6	9
Millersville	15.4	6	5	66	2,590	104	4	4
Edinboro	16.6	-2	4	71	2,960	-104	-3	5
Silppery Rock	16.1	6	5	68	2,900	113	4	7
Clarion	15.3	7	6	69	2,790	62	2	4
Shippensburg	15.1	7	7	68	2,770	175	7	7
Kutztown	14.1	6	6	67	2,850	49	2	4
California	14.9	3	3	74	3,290	-141	-4	3
East Stroudsburg	12.6	6	9	68	3,110	210	7	11
Lock Haven	9.4	6	9	73	3,650	144	4	6
Mansfield	10.4	0	4	76	4,050	-178	-4	4
Cheyney	10.4	7	7	77	4,980	466	10	18
Total	217.4	5	6	69	2,850	91	3	6
All institutions	457•4	5	6	57	2,400	84	3	6

Appropriations include only funding for educational and general purposes.
Arranged in descending order with respect to total full-time equivalent students for 1981-82.
Includes appropriation for Titusville campus.
Includes appropriation for human services.

SOURCE: Reports provided by the Individual Institutions, 1982; Governor's Executive Budget, 1982-83; data furnished by Pennsylvania Department of Education, Bureau of Budget and Management, February 1983.

student than would be justified by the number of their total FTE students alone because of their greater emphasis upon graduate programs (see table 4). For 1981-82, State appropriations for instruction per FTE student ranges from \$1,710 at Penn State to \$4,980 at Cheyney. The average for the State-related group is \$2,110 and for the State-owned, \$2,850. While the average appropriation per FTE student has increased during the last four years at the average annual rate of 6 percent overall, the appropriations per FTE student allocated for three schools (Temple, East Stroudsburg and Cheyney) have increased at average rates of 10 percent or more since 1977-78.

Appropriations to the large State-related universities cover about one-half the total cost of instruction represented by tuition, fees and direct State appropriations. In contrast, for the State-owned system 69 percent of total instructional cost is received in the form of direct State appropriations.⁷

-64-

⁷Some students at all institutions also receive State-subsidized grants or loans from PHEAA.
Appendix Table 1A

TOTAL YEAR FULL-TIME EQUIVALENT STUDENTS AND DEGREE PRODUCTION 1977-78 to 1981-82

		Full-time	.equivalent	students				Degrees		
Institution	1981-82	1980-8T	1979-80	1978-79	1977-78	T981-82	1980-81	1979-80	1978-79	1977-78
State-related										
Penn State	F3 07 7	CF 001		52 004	54 400	10.000	A 766	0 (23)	10 210	
lotal	5/,8/3	55,994	54,550	53,824	54,498	10,088	9,766	9,931	10,318	10,017
Undergraduate	53,225	51,3/4	50,137	49,455	49,782	8,385	8,024	8,319	8,588	8,251
Bittsburgh	4,040	4,020	4,413	4,308	4,710	1,703	1,742	1,012	1,730	1,700
Total	29 154	29 011	28 276	27 828	28.537	6.153	6.156	6-064	6.254	6.366
Undergraduate	20 967	20 760	19 941	19 810	20,123	3,458	3 485	3,450	3,555	3,603
Graduate	8,187	8.251	8.335	8.018	8.414	2,695	2.671	2,604	2,709	2,763
Temple			• •		•		•			,
Total	25,408	26,987	26,562	26,957	28,201	5,193	5,216	5,401	5,411	5,564
Undergraduate	17,008	17,852	17,961	17,885	19,226	3,028	3,101	3,246	3,139	3,359
Graduate	8,400	9,135	8,601	9,072	8,975	2,165	2,115	2,155	2,272	2,205
Lincoln						_				
Total	1,525	1,217	1,412	1,158	1,199	227	249	216	217	155
Undergraduate	1,300	998	1,207	1,046	1,151	155	148	181	183	155
Graduate	225	219	205	112	48	72	101	35	34	na
State-owned										
Broomsourg	14	6 364	6 366	6 101	6 20.2	1 267	1 207	1 211	1 220	1 204
Undergraduate	5 944	5 901	5,875	5,755	5,802	1 147	1 088	1,074	1,118	1 057
Graduate	370	453	491	436	500	220	239	237	221	229
California	575	455		430	500	220	255	237	~~ !	225
Total	4,541	4,226	4.068	4.208	4.473	842	825	851	950	1.029
Undergraduate	4,193	3,850	3,724	3.840	4,058	687	664	700	780	822
Graduate	348	376	344	368	415	155	161	151	170	207
Cheyney										
Total	2,080	2,143	2,371	2,363	2,747	340	369	348	359	428
Undergraduate	2,003	2,078	2,285	2,263	2,606	308	343	318	316	390
Graduate	11	65	86	100	141	32	26	30	43	38
Clarion Total	5 402	E 969	5 200	6 212	E 050	001	061	1 001	7 110	1 046
	5,493	5,202	5,299	5,213	5,050	901	901	1,001	1,110	1,040
Graduate	203	228	208	4,970	4,790	122	127	120	121	165
	203	220	200	243	200	122	127	120	121	105
Total	4 050	4 (190	4 096	4 045	4 276	710	767	766	770	838
Undergraduate	3,777	3,737	3,776	3,709	3,909	626	677	686	692	765
Graduate	273	353	320	336	367	84	90	80	78	73
Edinboro ²										
Total	5,607	5,541	5,356	5,484	5,760	951	1,012	1,074	1,253	1,363
Undergraduate	5,213	5,095	4,946	5,046	5,279	763	797	837	978	1,053
Graduate	394	44 õ	410	438	481	188	215	237	275	310
Indiana ²										
Total	12,869	12,600	12,427	12,264	11,885	2,570	2,657	2,673	2,657	2,461
Undergraduate	12,139	11,805	11,601	11,469	11,080	2,139	2,217	2,255	2,254	2,090
Graduate	(10/10/1	/95	326	/95	805	431	440	418	403	371
KUIZIOWN	A 055	4 750	4 601	4 510	4 502	060	0.25	00 F	010	021
total -	4,905	4,702	4,521	4,312	4,393	205	835	750	919	747
Undergraduate	4,709	4,4/4	4,242	4,203	4,278	126	127	102	1/5	174
tock Haven	2003	200	215	203	212	130	127	100	1-0	174
Total	2 575	2 525	2 384	2 252	2 350	393	401	395	388	464
lindergraduate	2,575	2,526	2.384	2 252	2,350	393	401	395	388	464
Graduate	na	., <u>.</u> a	na	na	~, na	na	na	na	na	na
Mansfield										
Total	2,554	2,451	2,539	2,400	2,618	440	462	497	548	562
Undergraduate	2,440	2,312	2,381	2,287	2,488	381	400	448	510	531
Graduate	114	139	158	113	130	59	62	49	38	31
Millersville										
Total	5,947	5,829	5,600	5,523	5,650	1,139	1,085	1,082	1,238	1,148
Undergraduate	5,349	5,189	4,956	4,863	4,934	950	917	894	1,002	914
Graduate	598	640	644	660	/16	1/9	168	188	236	234
Shippensourg				5 40 F	F 400	1 050		1 202	1 074	
lotal	5,457	5,467	5,500	5,405	5,488	1,353	1,384	1,389	1,2/4	1,11,7 7,11
Undergraduate	4,937	4,920	4,923	4,760	4,019	1,025	1,017	1,018	430	435
Graduate Slino yyu Dark	520	547	5//	645	690	328	367	3/1	433	410
STIDDETY KOCK		6 460	E E26	5 504	5 015	1 055	1 000	1 160	1 000	1 164
lotal Undargeaduate	5,504	5,400	5,550	5,504	5 454	000	955	1,132	872	1 023
Cardusta	J 1 CO 1	3,132	3,170 3CD	3,170	361	135	100	1/0	176	141
Graduate Vact Chastan	283	208	220	320	100	221	100	149	1.50	141
Total	R 35.2	8 189	8 188	100 8	8.238	1.360	1.360	а	1.556	1,576
Undergraduate	7,661	7,417	7,449	7.335	7,436	1,110	1,063	à	1.213	1,207
Graduate	691	772	7.39	756	802	250	297	296	343	369
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115

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1. Data for each year represent the summer term preceding the academic year plus the academic year. Full-time equivalent students are calculated by dividing undergraduate student credit hours by 30 and graduate student credit hours by 24. Undergraduate degrees include bachelor's degrees only. Graduate degrees include master's at all institutions except Lock Haven which does not have a master's program, first professional (excluding medical) and doctor's at Pittsburgh and Temple and doctor's at Penn State and Indiana University.

2. Editation on versity.
2. Editation on versity.
2. Editation of versity.
3. Editation of versity.
4. Noncomparable data reported.
a. Noncomparable.
a. Not applicable.

SOURCE: Reports provided by the individual institutions, 1977 to 1982.

Appendix Table 2A

STUDENT CREDIT-HOUR PRODUCTION BY LEVEL I TOTAL YEAR AND SUMMER, 1977-78 to 1981-82 (Credit hours in 000s)

.

				Total year						Summer	
Institution	Lower division	Upper division	Tota) undergraduate	Master's	first pro- fessional	Doctor's	Total graduate	Grand total	Under- graduate	Graduate	Total
State-related											
Penn State (981-82	1.033	564	1,597	49	na	62	111	1,708	74	21	95
1960-81	1,003	538	1,541	50 50	0.8 0.7	61 56	111	1,652	71 20	23 21	94 91
1978-79	908	576	1,484	49	na.	56	105	1,589	77	21	98 98
1977-78 Pittsburgh	915	579),494	24	ne -	79	115	1,007			
1981-82	412 406	217	629 623	121	42 44	<u>در</u> 11	196	625	74 72	47 48	121
1979-80	386	212	598	123	43	33	199 192	797 786	65 69	48 39	108
1977-78	404	200	604	130	43	29	202	806	80	44	124
Temple 1981 = 82	277	233	510	102	93	7	202	712	37	26	63
1980-81 1979-80	295 295	241 244	536 539	114	97 86	8	207	746	47	27	74
1978-79	294 326	242 751	536 577	113	96 90	9 14	218 216	793	48 52	25	80
Lincoln	12	7	D.	5	08	0a	5	44	5	,	6
1980-81	24	6	30	5	na	na	5	35	4	1	5
1978-79	22	9	31	دَ	na 	na	ŝ	34	3	a	3
1977-78	26	8	4	,	114	114	,		2		-
State-owned Bloomsburg								1.02			10
1981-82 1980-81	115	63 65	178	9 11	חם הם	na na	9	187	15	4	20
1979-80	112	64 66	176	12	na Aa	ла Па	12	188	13	5	19
1977-78	IOB	66	124	ĺž	ла	0.0	12	186	12	6	18
1941-82	95	31	126	8	na	ла	8	134	14	ž	17
1980-81 1979-80	80	32	112	8	na	na	é	120	9	ž	12
1978-79 1977-78	6 69	34 33	122	9	na na	na	10	132	12	4	16
Cheyney 1961-82	44	16	60	2	na	na.	2	62	3	٥	3
1980-81	46	16	62 68	2	na na	na na	2	64 70	3	1	4
1978-79	49	18	67	. 1	0.0 0.0	nê De	2	69 82	3	1	4
Clarion			150	5			5	164	11	2	13
1981-62	312	- 39	151	ŝ	na	na	5	156	9	2	Ĩ
1979-80 1978-79	113	40 43	153	5	na na	na	6	155	9	2	i i
1977-78	103	41	144	6	78	na	6	150	6	2	a
1981-82	3 81	32	113	7	04	na OA	7	120	10	4	14
1979-80	80	, K	134	é	na	na na	8	122	io	4	14
1970-79 1977-78	77	28 28	H7	9	лò	08	9	126	Iõ	6	16
Edinboro ² 1981-82	112	45	157	9	ne	na	9	166	11	4	15
1990-81	108	45 43	153	10	п <u>а</u>	no na	10	159	10	4	14
1978-79	103	49 54	152	11	76 70	68 04	\$1 12	163	b	b B	ь 5
Indiana ²	147	1 2 2	364	la	0.4	c	18	362	33	6	39
1261-63	255	112	354	19	na	č	19	373	ذذ ط	9 b	41 b
1978-79	229	115	344	19	na	c	12	363	29	8	37
1977-78 Kutztown	221	112	رور	13	10	2	,,,			,	~
1981-82 1980-81	95 91	46 43	541 134	5	п. л.а	64 80	7	147	6	ŝ	9
1979-80	85	42	127	7	na 0.0	ла 00	77	134	5	3	8
1977-78	67	46	128	8	na	na	8	136	5	3	9
1981-82	60	17	17 16	na	00	60 00	л а 0 а	77 76	3	na 00	2
1979-80	56	16	72	na	n a	00	na	72	3	na	3
1978-79 1977-78	51	19	21	na na	ла Ла	na na	na	71	5	ла	5
Mansfleid 1981-82	54	19	73	3	60	0.0	3	76	5	1	6
1980-81	50	20	70	3	ña 02	08 08	3	73 75	4	2	5
1978-79	46	22	68	3	na 20	0.8 D.0	3	71 77	3		4
Hillersville			100	-			(4		14	•	23
981-82 980-81	28	32	156	15	114 (10	na	is	171	15	ģ	24
1979-80	116	32 32	148 146	15	60 60	06 Nø	15	162	12	9	22
1917-78 Shippenshure	113	55	140	17	n a	na	37	165	15	9	24
1981-82	109	39	148	12	na oa	na na	12	160 161	10 	5	15 16
1979-80	109	39	148	14	na	0.5	14	162	ji A	6 6	17 14
1978-79 1977-78	108	38	145	16	110 110	110 N.B.	16	161	8	ĩ	15
Silppery Rock 981-82	116	40	158	7	na	na.	7	165	9	2	11
1900-81	134	4 44	155	7 9	08 08	ПА ПА	7 9	162 164	9	3	12
1978-79		45 46	156	B 9	6 A	` מת מח	8 9	164	9 	3	12
West Chustor	110			-			16	246	18	6	24
1981~82 1980~81	166	64 66	223	18	n8	0.0	18	241	19	7	26
1979-80 1978-79	156	68 69	224 220	18	ла Па	198 198	18	238	17	7	24
1977-78	146	77	223	19	na	64	19	242	17	8	25

Lata for each year represent the summer term proceeding the academic year plus the academic year.
 Edinboro student credit-hour data for fiscal years 1977-78 and 1978-79 and indiana University data for fiscal year 1979-80 from "Stete College and University Mudgeting System Common Cost Accounting Reports."
 Bata not available by terms.
 Clouded in master's level.
 Not applicable.

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SOURCE: Reports provided by the individual institutions, 1977 to 1982.

Appendix Table 3A

TOTAL STUDENT CREDIT-HOUR PRODUCTION BY LEVEL AND SELECTED HEGIS CLASSIFICATION 1981-82 (Credit hours in OODs)

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		State-re	lated								State	-owned						
HEGIS classification and level	Penn State	Pittsburgh	Temple	Lincoln	Bloomsburg	California	Сһеупеу	Clarion	East Stroudsburg	Edìnboro	Indiana	Kutztown	Lock Haven	Mansfield	Millersville	Shippensbung	Slippery Rock	West Chester
All areas ¹ Lower division Upper division Graduate	1,033.1 563.7 111.5	412.3 216.7 196.5	276.8 233.4 201.6	31.9 7.1 5.4	115.2 63.1 8.9	94.5 31.3 8.3	44.3 15.8 1.9	117.1 41.6 4.9	81.6 31.7 6.6	111.6 44.8 9.5	242.1 122.1 17.5	95.4 45.9 6.1	60.6 16.7	53.8 19.4 2.7	128.2 32.3 14.4	109.2 38.9 12.5	118.0 40.4 6.8	165.7 64.1 16.6
Lawer division Upper division Graduate	53.6 24.5 5.1	13.0 9.4 2.4	5.6 4.0 1.3	2.3	6.1 1.9 .1	4.1 1.8 .2	2.0 .8 a	4.8 1.5 .6	6.4 1.8 .4	6.4 .7 .3	16.9 1.7 .2	4.6 1.9 .2	2.1	3.3 .7	5.8 1.7 .4	7.1 1.1 .2	7.1	6.9 2.4 .3
Business and management Lower division Upper division Graduate	57.2 95.2 10.7	б.7 17.4 25.8	36.5 47.6 26.4	1.9 1.8	9.2 22.0 .5	10.1 4.4	4.7 2,3	24.3 18,7 .8	.2 1.1	9.8 4.9 .1	18.2 38.4 2.9	8.6 4.5 a			6.8 1.5	14.9 15.6 2.6	4.4 7.1 	4.8 8.5
Communications Lower division Upper division Graduate	.6 12.0 .2	.2 .8 	14.8 14.9 2.5					2.8 2.2 .6	.1 	 	.7 2.3 	1.3 1.0 .1	 		.2	2.3 2.5 .3		
Computer and information sciences Lower division Upper division Graduate	19.0 18.5 2.1	19.7 8.1 7.2	4.9 5.9 3.6				,8 a 	2.9	2.1		5.8 2.3	a .3		5.8	5.1 1.5		3.3	
Education Lower division Upper division Graduate	60.1 38.8 21.4	9.5 13.2 37.6	20.0 23.9 39.5	4.7	12.9 17.4 7.6	13.0 14.3 6.4	6.5 4.7 1.7	7.9 10.3 1.5	14.3 16.2 5.4	9.4 11.8 5.1	18.5 23.9 8.4	10.9 22.9 3.1	9.9 9.6	9.4 7.7 2.3	17.2 10.9 9.0	8.3 6.0 5.9	14.2 13.7 5.2	20.0 21.9 7.3
Fine and applied arts Lower division Upper division Graduate	47.5 20.9 2.2	19.3 9.4 2.4	21.3 21.0 6.9	1.8	5.} 3.4 .1	5.0 .3 a	1.4 .7 	9.9 1.2 	5.8 .8 a	13.4 4.9 .6	16.8 5.4 1.0	6.6 .6 a	3.3 .9 		11.7 2.3 .6	4.6 .9 a	7.8 .6 a	15.7 4.1 1.4
Foreign languages Lower division Upper division Gruduate	41.9 8.3 2.0	19.1 5.2 1.6	6.4 4.9 .8	1.9 .2	4.1	2.1 a	1.0 a	2.3 .1 	² .2 .2	2.3 .5 	13.6 1.1 a	3.4 .3 .1	2.3 .2	1.5 .1 	5.5 1.7 .7	2.2 _1	3.3 .3	6.9 1.2 .3
Health professions Lower division Upper division Graduate	1.4 10.2 .7	7.7 25.5 40.3	1.6 10.6 62.6		2.0 2.8				.4	1.3 3.5 .3	.7 6.7 	.4			.9		3.0 4.7 .2	1.0 2.9 .8
Rome Economics Lower division Upper division Graduate	14.2 19.5 2.3	 				 	.3 .6 			.4	5.8 7.7 .4	 	 	1.3 1.7 a	 		 	
Letters Lower division Upper division Graduate	168.8 38.1 5.6	52.8 22.0 4.5	47.0 21.8 6.0	6.6 .6 	20.0 3.1 .3	15.3 2.3 .3	6,5 .9 a	15.3 1.5 .1	13.2 1.9	19.6 7.1 .3	40.7 3.3 1.1	16.3 2.3 .3	12.9 .9 	9.8 2.5 	18.5 2.1 .5	15.8 .7 .3	26.6 2.2 .4	33.6 3.5 .1.2
Mathematics Lower division Upper division Graduate	136.0 14.0 3.7	57.7 6.5 2.1	25.8 7.1 1.0	5.5 .1 	11.6 ,5 ,1	14.6 1.5 .2	6.2 .3 	10.2 .5 a	5.3 .4 .1	18.0 .6 .1	22.2 1.4 .7	8.1 2.1 .1	7.8	5.8 .3 	12.1 .8 .2	12.2 2.2 .3	8.5 .2	20.4 2.0 1.0
Physical sciences Lower division. Upper division Graduate	124.4 28.5 15.9	53.8 7.4 7.1	15.4 7.4 2.3	2.1 .7	9.3 .8 .1	4.4 .8 	2.6	5.3 .4 	8.6 .9 	13.7 1.2 .4	17.7 2.1 .2	4.4 1.1	2.5 .1	3.0 .4 .1	14.1 1.6 .2	4.7 .9 a	9.0 1.0 .2	13.5 2.5
Ever division Upper division Graduate	34.0 10.6 3.6	31.3 12.9 2.6	12.1 8.3 3.1	.8 .7	9.2 1.4 a	5.6 2.6 .4	1.5 2.5 .1	5.5	4.0 .9 a	8.0 3.1 2.1	8.9 4.5 1.0	6.9 2.8 1.7	4.8 .8 	3.2 1.0 .4	5.1 2.9 2.1	6.8 2.6 .8	5.3 1.4 .1	6.4 3.0 1.8
Public affairs and servi- Lower division Upper division Graduate	22.6 5.9	.2 7.3 18.9	10.5 10.8 8.0	5.4	 	.7 .9		 	.6 .8		 `	 	 	1.3 .6	.6 1.1	2.2 2.1	5.0 4.2 .4	11.7 7.5 1.4
Social sciences Lover division Upper division Graduate	120.3 50.7 6.6	82.0 27.2 5.5	26.9 23.1 4.5	4.1 1.7	25.5 9.3 .1	15.2 2.1 .8	7.0 2.4 a	20.0 2.2	18.3 5.0 .6	9.0 6.1 .1	51.9 20.6 1.6	23.5 5.1 .2	14.8	7.8 2.2 a	25.2 2.4 .4	27.5 3.7 1.7	19.6 3.8 .1	24.9 4.3 .2
All other areas Lower division Upper division Graduate	140.5 ^b 151.3 ^b 23.6 ^b	39.2 ^C 44.5 ^C 38.5 ^C	28.0d 21.3d 28.0d	 	.1 .2 	4.5 .2	3.5 .3	5.9 .6 1.1	.2 .2 .1	.1 .1 	3.6 .7	.7 .6 .4	.1	1.7	.4 .9 a	.6 .4 .4	-1.1 	a a

 Because of rounding, HEGIS detail may not sum to total of all areas.
 a. Rounds to less than 100 student credit hours.
 b. Undergraduate level includes credit hours of 135,300 in engineering, 28,200 in agriculture and natural resources and,13,600 in architecture and environmental design. Graduate level includes 16,700 in engineering, 3,900 in agriculture and natural resources and 800 in architecture and environmental design.

 Undergraduate level includes credit hours of 57,300 in engineering. Graduate level includes 15,200 in engineering and 19,200 in law.
 Undergraduate level includes credit hours of 23,700 in engineering and 6,300 in law. Graduate level includes 400 in engineering and 32,000 in law.

SOURCE: Student credit-hour reports provided by the individual institutions, 1982.

Appendix Table 4A

DEGREES CONFERRED BY HEGIS CLASSIFICATION AND LEVEL) 1981-82

	_	State	e-related	1							State-o	wned							+
HEGIS classification	Penn State	Pittsburgh	Temple	Lincoln	Bloomsburg	California	Cheyney	Clarion	East Stroudsburg	Edinboro	Indiana	Kutztown	Lock Haven	Mansfield	Millersville	Shippensburg	Slippery Rock	West Chester	
Agriculture and natural resource Bachelor's Graduate Architecture and environmental	s 683 76	3 							 				 	 			 		ť
design Bachelor's Graduate	109 27										5								•
Area studies Bachelor's Graduate	9 9	1	12		2								4					2	
Biological science Bachelor's Graduate Business and	s 351 81	113 19	67 11	10 	29 1	22 2	14	32 7	51 6	20 5	52 8	8 8	10	13 	49 9	38 12	18 7	12	
management Bachelor's Graduate	1,658 136	300 404	620 315	50	426 13	83 	93 	322 17	19 	95 	528 94	159	19 	42	127	357 54	112	185	5, ⁻ 1,(
Communications Bachelor's Graduate Computer and infor-	302 10	26	331 22		39 4	11 4	ו 	. 68 10	17		86 11	26 	10 		5 	128 19	3	3	٦.٢
Bachelor's Graduate	179 36	240 133	120 46		58	10	3	72 	22 	18 	115	9		8 	50 	46 7	15 	20	، ر
Bachelor's Graduate	570 417	185 569	283 698	11 	298 186	244 126	72 31	190 34	261 68	204 127	364 180	217 77	167 	116 47	320. 113	105 131	322 102	438 147	4.: 3,(
Bachelor's Graduate Fine and	1,564 269	572 191	199			43													2,;
applied arts Bachelor's Graduate	131 25	36 22	217 96		12	17	13 	21	11	82 1	69 20	111	5	13 4	39 	11	11	37 5	!
Foreign languages Bachelor's Graduate	60 16	27 24	22 8	4	4	1		7	3	5	24 	9 3	1		25 9	5	3	10 1	•
Health professions Bachelor's Graduate Home econolics	335 17	413 465	320 252	 	 98	21		39 19	20 	51 27	164 	15		3	41	3	47 	104 17	1,(
Buchelor's Graduate Law	457 32						13 			3 2	214 			35 					:
Bachelor's Graduate Letters		207	19 357							 									:
Bachelor's Graduate Library science	275 46	341 57	87 49	7 	14 7	35 1	סז ר	18 4	18 	49 6	26 27	12 7	12	25	39 8	17 12	79 12	66 10	٦,
Bachelor's Graduate Mathematics		127						6 28				13 11 7				6	8 		-
Bachelor's Graduate Physical sciences	41 200	43 18	21 5			4	ь 	2	0 	 	30 11 26	4	נ 2		24 5	7		2	
Sachelor's Graduate Psychology	388 132	74 74	33 32	8 ~- 12	23 1 32	27 4 17	 16			39 3	30 9			13	23 4 71	20	2	20 8 31	1
Graduite Public affairs and services	48	15	54							12	24	21		7	26	2		31	•••
Bachelor's Graduate Social sciences	467 176	164 306	232 182	74		56 	16 		20 	56 	73 	59 	35 	61 	38 40	124 11	150 17	115	1.€ £
Bachelor's Graduate Interdisciplinary studies	407 75	445 70	307 38	38 	98 6	58 8	35 	20	120 8	57 5	302 49	39 4	19 	23 1	58 ნ	65 9	100. 3	55 7	2,1
Bachelor's Graduate	217 53	133 9	19		1 	31	7	1 	18 2	19 	1 4	10 	49 	4 		32 21	19 	1	:
Bachelor's Graduate	8,385 1,722	3,458 2,713	3,028 2,165	146 74	1,147 220	678 149	308 32	857 121	626 84	763 188	2,143 437	733 135	385 	381 59	939 220	1,018 292	929 143	1,110 233	27.0 8.9

The graduate level includes master's degrees at all institutions except Lock Haven, which does not have a master's program, first professional (excluding medical) and doctor's at Pittsburgh and Temple and doctor's at Penn State and Indiana University.

SOURCE: Data obtained from Pennsylvania Department of Education, Division of Education Statistics, December, 1982.

		Fu lt- 1	time head	d count			Average con	underg tact ho	graduate ours	,		Averag cont	je gradu Fact hou	uate urs	
Institution	1981	1980	1979	1978	1977	1981	1980	1979	1978	1977	1981	1980	1979	1978	1977
State-related															
Penn State	2,660	2,602	2,621	а	а	8.3	8.4	8.5	а	a	1.9	1.9	1.9	а	a
Pittsburgh	1,499	1,530	1,546	1,608	1,612	5.5	5.2	5.1	5.3	5.3	4.2	4.3	4.2	4.2	4.4
Temple	1,232	1,248	1,310	1,330	1,339	5.6	6.5	6.5	6•2	6.3	3.8	4.0	3.9	3.8	3.9
Lincoln	71	76	72	78	76	11.0	10.2	10.7	11.1	11.2].]	1.3	1.1	•7	na
State-owned															
Bloomsburg	312	312	308	307	291	10.9	11.0	11.8	11.6	12.0	•7	•8	•8	•6	•8
Callfornia	266	284	299	307	313	10.0	10.2	8.8	8.8	B•7	•8	•9	•8	1.0	1.0
Cheyney	174	167	177	181	185	11.2	11.5	10.8	10.5	11.2	•6	•6	•8	1.1	1.4
Clarion	288	302	306	308	298	10 . 8	10.5	9.5	9.4	10.5	•5	•6	•6	•6	•7
East Stroudsburg	224	220	219	218	222	10.3	10.5	11.0	10.9	10.9	•6	•6	•6	•5	•5
Edinboro	342	341	383	384	403	10.9	11.3	11.9	12.0	12.1	1.0	1.0	.0	1.0	•8
Indiana	613	59 9	603	574	560	11.5	11.8	.11.7	11.5	11.6	1.1	1.0	1.2	1.1	1.0
Kutztown	297	283	295	294	293	11.9	11.7	12.2	11-1	11.3	•4	•5	•5	•6	•6
Lock Haven	161	161	168	159	167	11.7	11.7	11.7	11.7	11.9	na	na	na	na	na
Mansfield	164	158	187	191	193	10.0	10.2	10.2	10.4	10.4	•4	•5	• 4	•3	•4
Millersville	289	291	296	292	296	11-1	10.8	10.7	10.6	10.8	•7	•7	•7	·•7	•7
Shippensburg	289	292	294	298	298	9.1	9.2	9.4	9.1	9.0	•9	1.0	1.0	1.1	1.0
Slippery Rock	323	315	334	339	323	11.5	а	а	а	a	•6	а	a	a	a
West Chéster	453	467	484	483	449	10.9	10.9	11.4	10.7	11.8	1.1	1 • 1	.	1.1	1.2

AVERAGE WEEKLY CLASSROOM CONTACT HOURS REPORTED BY FULL-TIME FACULTY TEACHING IN FALL TERM 1977 to 1981

1. At least 25 percent of Cheyney's full-time faculty each year did not submit a report of hours spent in work-related activities; for fall term 1981, 34 percent did not report.

a. Noncomparable data reported. na. Not applicable.

SOURCE: Reports of average weekly hours of work-related activities provided by the individual institutions, 1978 to 1982.

Appendix Table 5A

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Appendix Table 6A

AVERAGE SALARY OF FULL-TIME EQUIVALENT INSTRUCTIONAL FACULTY AND PERCENTAGE DISTRIBUTION BY RANK¹ 1980-81 and 1981-82 (Dollar amounts in 000s)

	FTE	Av 1 ns ta	verage ructional	Prof	essor	Associat	e professor	Assistant	professor Percentage	Inst	ructor	Noi	nranked
Institution	tional facul ty	Amount	Percentage increase	Average salary	of facul ty	Average salary	of facul ty	Average salary	of facul ty	Average salary	of facul ty	Average salary	of facu
State-related													
Penn State	2 715	677 0	٥	¢ 24 0	174	\$76 7	204	121 0	20.9	115 D	149	1 003	10
1940-91	2,746	21 Q	9	\$34.9 32.2	17.5	\$20.7 24.8	20.8	191	30 2	14 2	146	191	19
Pittsburgh	2,701	2717				2.10	_ ·		•••		••		
1981-82	1,824	22.7	9	33.6	18	24.4	27	19.0	20	13.1	12	20.3	23
1980-81	1,832	20.8		30.8	18	22.2	26	17.5	21	12.4	11	18.4	24
1emple 1991-92	1 666	22 A	4	34 7	25	25.6	24	19.6	20	11 6	14	9.7	17
1980-81	1,741	21.3	-	33.6	26	24.9	23	17.9	21	10.3	14	10.3	16
Líncoln	••••			••••							• •		
1931-82	97	17.7	2	26.0	16	19.9	16	16.0	38	15.2	18	13,1	12
1990-31	95	17.3		22.7	16	19.0	19	16.7	35	14.2	20	13.5	10
State-owned													
Bloomsburg													
1981-82	336	25.1	6	30.9	30	25.6	37	20.0	26	15.5	7	па	0
1990-91	335	23.0		29.0	30	24.0	40	18.4	25	13.9	5	na	0
California	243	20 E	c	22.2	44	25 4	42	12.0	10	19.6	,	20.7	•
1980-82	264	26.5	U	30.4	43	25.3	42	22.0	13	16.0	1	27 4	1
Cheyney								2017			•		
1981-82	144	27.5	b	32.5	30	26.8	55	22.8	8	18.2	7	9.6	а
1980-81	103	с		с	31	С	54	с	8	c	7	c	a
1041-02	299	25 5	5	31 7	31	25.6	34	21 0	25	16.9	10	29.5	
1980-81	288	24.4	5	30.1	31	24.3	37	20.2	22	15.2	10	30.1	a
East Stroudsbu	rg				-								-
1981-82	223	25.8	7	30.5	39	25.1	37	20.5	19	14.1	5	31.9	a
1980-81	216	24.2		29,3	37	23,5	38	19.2	21	10.5	4	35.0	a
1041-42	340	27 A	7	31.8	36	26.2	37	22 0	25	18 2	2	na	0
1930-31	334	25.3	'	29.4	37	24.8	36	20.5	25	19.1	2	23.9	a
Indiana					•••						-		-
1981-82	681	25.3	5	29.9	38	25.0	31	20.6	23	18.6	8	20.0	a
1990-91	649	24.0		28.7	38	23.1	34	19.4	23	15.8	5	17.5	a
1981-92	263	27 7	б	12 A	37	27 0	38	22 1	18	18.2	7	25.0	a
1980-81	265	26.1	•	30.7	35	26.2	39	21.2	19	16.3	7	28.8	a
Lock Haven													-
1981-82	147	27.6	7	32.9	33	26.8	46	22.3	17	17.0	4	32.9	a
1980-81 Nux finld	146	25./		31.0	31	25.1	47	20.5	18	15.6	4	na	0
1981-82	1.50	25.9	3	33.1	25	27.0	37	22.0	25	16.0	12	na	n
1980-81	154	25.2	5	31.4	28	26.5	36	20.8	26	15.0	10	na	ŏ
Millersville													-
1981-82	318	25.1	Ь	30.2	32	24.8	41	20.3	21	14.9	6	16.2	a
1980-81	Þ	Ъ		D	b	b	D	Б	D	Þ	р	Ъ	D
1941-82	287	26 5	6	31.6	38	25 9	31	21 3	25	17 5	6	na	0
1980-81	284	25.0	v	30.0	37	24,5	33	20.2	26	16.5	4	23.8	a
Slippery Rock													
1981-82	306	26.7	7	31.7	40	26.8	29	21.6	21	17.2	10	23.4	a
1980-81	295	24,9		30.0	39	24.9	30	19.9	21	10.2	IU	22.4	a
NAL-32	45H	25 5	б	31.3	29	25.9	39	21.0	23	15.7	8	27.0	1
1980-81	468	24.0	5	29.4	29	24.4	39	19.8	23	15.0	ğ	25.7	a
-						-			-	-			

1. Average salary is calculated by dividing the total instructional salary paid to all staff members in the respective rank categories by the total full-time equivalency in the instructional function. One full-time equivalent faculty represents one full-time workload for two terms (one academic year). The summer term is treated as one term or one-half the academic year. Data for each year represent the summer term preceding the

academic year). The summer term is treated as one term or one-half the academic year. Data for each year represent the summer term preceding is academic year.
 2. The full-time equivalency of nonranked faculty members is based on the time spent in instruction of all nonranked personnel, including lecturers, administrators, librarians, research staff and graduate assistants.
 a. Rounds to less than 1 percent.
 b. Noncomparable data reported.

c. Incomplete salary data submitted. na. Not applicable.

SOURCE: Salary reports provided by the individual institutions, 1981 and 1982.

Apperdix Table 7A INSTRUCTIONAL FACULTY SALARY COST PER STUDENT CREDIT HOUR BY LEVEL AND SELECTED HEGIS CLASSIFICATION¹ 1981-82

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		State	-relate	ed							Sta	te-own	ed	_				
HEGIS classification and level	Penn State	Pittsburgh ²	Temple ³	Lincoln	Bloomsburg	California	Cheyney	Clarion	East Stroudsburg	Edínboro	Indiana	Kutztown	Lock Haven	Mansfield	Millersville	Shippensburg	Slippery Rock	West Chester
All instruction ⁴ Lower division Upper division Master's Doctor's	\$23 39 94 232	\$25 53 104 188	\$32 51 95 196	\$31 67 48	\$37 55 75 	\$39 70 117 	\$55 78 157 	\$36 60 146	\$37 73 65 	\$44 73 107	\$31 59 146 	\$36 75 82	\$46 77 	\$39 94 85 	\$37 69 71	\$38 58 91	\$39 71 105	\$33 69 104
Biological sciences Lower division Upper division Master's Doctor's Business and management	18 35 132 245	35 37 267 374	11 30 87 415	29 87 	40 95 199 	57 111 333 	60 112 95	31 86 263 	26 107 52	56 139 148	37 130 453 	26 88 186	66 175 	31 125 	43 78 144	44 94 179	40 148 301	36 57 163
Lower division Upper division Master's Doctor's Communications	14 25 58 198	30 25 40 302	31 37 76 319	24 40 	30 34 80	17 32 	37 34 	20 31 87 	31 40 	28 45 145 	21 28 82 	26 34 217			24 29 	29 40 52 	22 27 	27 33
Lower division Upper division Master's Doctor's Computer and	26 40 150 95	35 	20 34 126 205	 ,				28 58 105 	105 		34 56 	33 62 109		 	39 	42 51 95	 	
information sciences Lower division Upper division Master's Doctor's	22 28 60 167	21 26 40 210	38 50 61 92		 		48 115	35 67	32 54 		20 52 154	75 79 		28 37 	30 44 53		35 71 	
Education Lower division Upper division Master's Doctor's Fine and apolied arts	25 71 79 207	31 67 66 122	38 59 93 172	25 52 	39 60 65	54 72 96	74 80 160	28 74 141 	47 69 55	51 76 86	37 85 113 	41 74 75	46 67 	52 106 84	50 66 62	59 61 102	46 79 86	39 68 80
Lover division Upper division Master's Doctor's Foreign languages	20 56 154 295	29 45 142 181	49 66 122 196	46 96 	35 73 160 	44 226 488 	80 108	117 117	44 87 153	57 114 305 	38 106 244 	29 155 76	73 86 	 	42 72 92	39 89 198 	53 255 194 	45 151 170
Lower division Upper division Master's Doctor's Health professions	28 65 137 143	41 82 200 299	47 59 140 201	30 121 	66 265 	66 848 	87 502 	63 250 	84 121 	55 158 	39 150 734	56 195 283	66 157 	47 273 	57 92 52	68 158 	52 178 	43 88 100
Lower division Upper division Master's Doctor's Hone economics	54 53 96 298	35 108 234 486	100 186 287 151		86 99 				76 138 	107 76 193	107 55 	181			44 	 	34 61 122	49 101 124
Lower division Upper division Master's Doctor's Letters	13 42 112 222		 			 	63 78 	 		13 235 	29 52 189			46 94 215 				
Lower division Upper division Master's Doctor's Mathematics	26 42 107 230	30 53 143 239	30 44 148 306	34 98 	36 65 120 	46 99 276 	61 83 158 	41 96 191 	36 65 	39 63 100 	34 84 182 	47 90 131 	50 113 	40 70 	37 64 77 	46 131 135	40 74 118 	38 111 93
Lower division Upper division Master's Doctor's Physical sciences	20 50 99 271	22 48 100 289	29 41 132 538 25	23 118 	35 84 133 	26 56 202 	37 87 	40 110 606 	34 73 117 	34 60 69 	36 113 133 	38 65 235 	41 53 	41 138 58	30 87 111 	32 53 76 	32 79 	26 60 95
Upper division Master's Doctor's Psychology	32 122 234	55 211 274	33 129 157 25	40 62 -33	112 162 	1 30 	119 57	266	152 	95 44 	+3 134 749 	170 31	361 35	308 39 	1 55 201 	145 231 	160 94 	97 173
Upper division Master's Doctor's Public affairs and services Lower division	50 108 205 18	41 208 250 55	39 89 131 36	77 	56 126 	40 153 45	66 98 	63 	92 246 43	47 80 	60 170	57 52 	92 	80 78 25	52 72 33	55 64 31	72 97 29	47 95 23
Upper division Naster's Doctor's Social sciences Lower division	49 65 203 20	51 82 125 23	38 58 120 28	48	 29	40 44	 54	 30	67 26		 21		 35	64 33	75 34	74 33	57 188 31	48 84 27
Upper division Master's Doctor's	37 113 294	57 153 232	43 132 217	71 	58 241	83 118 	100 213	89 	57 162	60 275	51 202 	75 186	71 	88 385	75 131	76	87 207	53 277

The instructional faculty salary cost per student credit hour for each level was calculated as follows: the instructional salary for each rank was assigned by level according to the percentage distribution of the course credits within each rank (the total classroom course credits were increased by the division of the individual student credit hours by 3). The salary determined by this method for each rank was summed by level and divided by the total student credit-hour production at that level.
 The first professional level cost for law at Pittsburgh is \$35.
 The first professional level cost for law at Temple is \$72 and health professions is \$41.

Includes all HEGIS classifications; not just selected.
 SOURCE: Reports provided by the individual institutions, 1982.

-71-

Appendix Table BA

LOWER-DIVISION AVERAGE CLASS SIZE BY INSTITUTION AND BY HEGIS CLASSIFICATION¹ ACADEMIC YEAR 1981-82

		State	-related						Class	size	State-	owned						
HEGIS classification	Penn State	P1Hsburgh	Temple	Lincoln	l nd i ana	West Chester	Bloomsburg	Millersville	EdInboro	Si Ippery Rock	Clarion	Shippensburg	Kutztown	Cal ifornla	East Stroudsburg	Lock Haven	Mansfield	Сћеулеу
All instruction ²	32	32	24	24	32	27	28	29	25	29	37	28	33	27	32	28	28	21
Social sciences Letters Education Business and management Mathematics Physical sciences Fine and applied arts Psychology Engineering Biological sciences Foreign languages	48 26 25 58 39 34 39 57 30 47 20	40 23 19 28 37 52 26 54 36 35 13	27 20 19 33 24 40 13 35 28 85 11	22 25 27 30 31 15 15 22 37 18	47 31 24 41 31 38 18 38 46 23	41 27 25 38 32 29 17 34 28 16	36 27 24 34 32 23 25 38 33 17	32 25 24 37 38 47 26 33 23 20	29 26 20 32 35 25 16 35 	36 27 23 39 35 37 22 41 38 17	48 28 43 40 32 25 31 56 50 16	31 26 22 34 30 26 28 40 28 40 	34 27 25 39 33 70 48 39 83 20	25 22 23 55 40 26 16 39 30 16	43 31 23 38 33 43 28 38 60 15	34 24 27 28 31 23 35 35 21	31 25 20 31 35 62 23	23 19 15 30 29 19 13 24
Computer and Information sciences Public affairs and services Health professions Communications Home economics Interdisciplinary studies Agriculture and natural resources Architecture and environmental design	35 32 20 35 54 21 28 25	29 14 63 30 	26 18 21 27 14		40 10 21 27	36 19 	 7 7	31 25 58 	 22 28 	31 28 29 19	40 52 45 	24 24 	2 32 	20 	34 21 20 10 	 	32 24 21 39 	22 15 44
Area studies Law Library science	32 	19 6	2 38 	 			 	 20	 		11	21					 	

i. Institutions are arranged in descending order with respect to total full-time equivalent students; State-related schools are listed first, followed by the State-owned schools. HEGIS classifications are arranged in descending order with respect to total undergraduate student credit-hour production. Class sizes were calculated by dividing classroom student credit hours by assigned credits.

2. Includes all HEGIS classifications.

SOURCE: Reports provided by the individual institutions, 1982.

Appendix Table 9A

UPPER-DIVISION AVERAGE CLASS SIZE BY INSTITUTION AND BY HEGIS CLASSIFICATION ACADEMIC YEAR 1981-82

		State	-related						Class	size	State-(owned						
HEGIS classification	Penn State	Pl tt sburgh	Temple	Lincoln	Ind I ana	West Chester	Bloomsburg	Millersville	Edinboro	Slippery Rock	Cłar lon	Shippensburg	Kutztown	Cal Ifornia	East Stroudsburg	Lock Haven	Mansfield	Chevnev
All instruction ²	30	25	20	Н	18	13	19	16	15	15	20	21	16	16	17	18		5
Social sciences Letters Education Business and management Mathematics Physical sciences Fine and applied arts Psychology Engineering Biological sciences Foreign languages	36 23 16 43 25 30 22 30 37 41 13	19 19 17 28 19 24 20 28 36 38 10	19 18 12 29 20 25 10 22 22 31 10	10 8 12 16 6 11 12 9 	22 13 14 36 11 15 7 21 	2 9 14 3 14 9 5 2 	21 18 18 33 17 13 11 20 15 5	17 17 18 28 14 8 14 23 	20 21 14 24 17 17 7 30 10 8	12 17 14 32 18 11 5 15 	17 12 14 35 14 7 13 26 19 3	18 11 23 30 23 13 14 23 9 8	15 17 14 28 20 17 10 22 	13 10 16 32 20 10 3 28 17 17	26 19 16 27 18 14 15 21 	17 13 19 24 5 18 14 14 14	10 14 10 7 10 7 12 14 4	 6 5 5
Computer and Information sciences Public affairs and services Health professions Communications Home economics Interdisciplinary studies Agriculture and	32 28 21 25 34 16	30 22 pd 24 29	23 17 14 19 	 	23 15 21 20	6 2 	10 12	2 3 9 	30 4	22 3 6 	[4 29 	16 21	9 15 13	17 	24 7 0 	 	26 10 8 15	
natural resources Architecture and environmental design Area studies Law Library science	36 17 26 	 2	 8 29					 18		 		 6	 11			 		

1. Institutions are arranged in descending order with respect to total full-time equivalent students; State-related schools are listed first, followed by the State-owned schools. HEGIS classifications are arranged in descending order with respect to total undergraduate student credit-hour production. Class sizes were calculated by dividing classroom student credit hours by assigned credits.

2. Includes all HEGIS classifications.

pd. Poor data.

İ

SOURCE: Reports provided by the individual institutions, 1982.

Appendix Table IOA

					Undergrad	uate	_					
		Total		Lo	ower divis	lon	U	pper divis	Ion		Master's	
Institution ²	1981-82-	1980-81	1979-80	1981-82	1980-81	1919-80	1981-82	1980-81	1979-80	1981-82	-1980-81	1979-80
State-related												
Penn State	31	31	30	32	32	31	30	29	27	14	14	13
Pittsburgh	29	29	28	32	31	31	25	25	23	18	17	17
Temple	22	а	a	24	a	a	20	а	а	13	a	a
Lincoln	19	16	18	24	20	22	11	9	12	14	14	18
State-owned												
Indiana	26	25	а	32	33	a	18	17	a	6	7	а
West Chester	21	a	а	27	a	а	13	a	а	7	а	а
Bloomsburg	24	24	24	28	28	28	19	20	19	2	11	13
Millersville	25	24	25	29	29	29	16	5	17	11	11	13
Edinboro	21	21	19	25	24	23	15	16	14	7	8	8
Slippery Rock	23	25	22	29	29	28	15	17	14	10	10	10
Clarion	30	29	25	37	34	29	20	21	17	8	9	8
Shippensburg	26	27	a	28	28	a	21	22	а	\$4	12	a
Kutztown	24	24	22	33	33	30	16	15	4	14	13	12
California	23	20	20	27	23	22	16	15	16	8	9	9
East Stroudsburg	26	26	23	32	32	32	17	19	14	14	14	10
Lock Haven	25	24	23	28	28	26	18	16	15	na	na	na
Mansfleld	20	20	18	28	27	24	11	12	11	11	14	12
Cheyney	19	18	18	21	23	23	15	11	12	9	6	6

AVERAGE CLASS SIZE IN CLASSROOM INSTRUCTION BY LEVEL ACADEMIC YEARS 1979-80 to 1981-82

i. Average class size for each level is calculated by dividing the total classroom student credit hours by the total classroom assigned credits.

.

2. Arranged in descending order with respect to total full-time equivalent students for 1981-82.

a. Noncomparable data reported.

na. Not applicable.

SOURCE: Reports provided by the individual institutions, 1980 to 1982.

Appendix Table IIA

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		ປ	ndergradu	ate				Master's		
Institution	1981-82	1980-81	979-80	1978-79	977-78	1981-82	1980-81	1979-80	1978-79	1977-78
State-related										
Penn State	1,768	,75	1,707	1,703	1,679	295	299	325	3 28	335
Plttsburgh	1,752	,748	1,704	a	а	937	961	947	a	a
Temple	1,648	1,650	687	1,693	1,660	a	a	a	a	a
Lincoln	189	170	191	165	163	21	18	12	10	8
State-owned										
Indiana	850	831	pd	779	754	258	244	215	200	183
West Chester	904	872	853	a	а	238	233 [~]	222	а	a
Bloomsburg	516	520	516	503	491	76	78	68	59	55
Millersville	522	520	566	456	448	102	79	99	65	67
Edinboro	517	526	528	582	590	86	86	89	97	96
Slippery Rock	565	533	525	542	5 30	82	79	80	79	79
Clarion	482	468	454	45	425	72	73	68	68	76
Shlppensburg	394	391	406	386	390	62	82	86	79	78
Kutztown	416	а	460	450	430	43	a	56	47	50
CallfornIa	490	492	530	474	464	108	87	95	98	85
East Stroudsburg	432	431	426	437	423	37	40	40	39	37
Lock Haven	314	310	301	295	283	na	na	na	na	na
Mansfleld	455	424	409	425	411	56	39	27	27	30
Cheyney	294	321	359	358	370	25	31	35	43	48

AVERAGE NUMBER OF COURSES TAUGHT PER TERM ACADEMIC YEARS 1977-78 to 1981-82

Arranged in descending order with respect to total full-time equivalent students for 1981-82.
 a. Noncomparable data reported.
 na. Not applicable.
 pd. Poor data.

SOURCE: Reports provided by the individual institutions, 1978 to 1982.

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Appendix Table 12A

TOTAL STUDENT CREDIT-HOUR PRODUCTION IN INDIVIDUAL INSTRUCTION¹ BY LEVEL AND SELECTED HEGIS CLASSIFICATION 1981-82

(Credit hours in DOOs)

		<u>State-r</u>	elated								State	-owned						
HEGIS classification and level ²	Penn State	Pittsburgh	Temple	Lincoln	Bloomsburg	California	Cheyney	Clarion	East Stroudsburg	Edinboro	Indiana	Kutztown	Lock Haven	Mansfield	Millersville	Shippensburg	Slippery Rock	West Chester
All areas ³ Lower division Upper division	3.1 29.9	2.6	3.8 8.6	.1	a 1.4		a a	.1	2.0	.8	a 6.1	.1	.1 .3	a .2	.2	.5 2.1	.1	.5
Biological sciences Lower division	.2	9 39.1							 	. I 	.8	. 2 a		a 		.0 a	. 2 a	 a
Upper division Graduate Business and management	1.4 4.0	.2 1.9	.2 .3		a a			a a	.4 a	 a	.3 a	.1 a	a 		.1 a	.6 a	a a	
Lower division Upper division Graduate	a 1.6 2.0	a .1 1.1	a .3 1.5	a a 	.1 a			.8 a	.1	.3 a	.5 .2	6 6 		 	ھ ء	а .З а	a 	
Lower division Upper division Graduate	.1 a	.4	.1 .8 .4	 				.2 .1			.5	a a	 			a .1 a		
Computer and information sciences Lower division	a 1	.1	a 4						 1			a 1		a	3		•••	
Graduate Education Lower division	.5	1.5	.i .6				 a				 a 	 a	 à	 a	ā a		 a	 a
Upper division Graduate Fine and applied arts	8.8 7.6	2.8	3.3 7.5		.1 .1		ð 	a a	.3 .1	.2 .1	1.1	.3 .1	a 	a a	.1	.1 .2	a .1	
Lower division Upper division Graduate Foreign languages	2.0 1.2	.3 .4 1.1	1.7 1.7 1.0	a a 	а а		а 	a 	a a	.6 .3 a	а .2 а	a .) 	.1 a 		a a	a .1 .a	a .] 	. 3
Lower division Upper division Graduate	.1 .9 .4	1.6 .7 .6	a .1 .1	a 8 	 a 		a a 	.1 	 		a a	a a a	ä a 	a 	a a 	a a 	a a 	<u>.1</u>
Health professions Lower division Upper division Graduate	.7	a 4.0 4.4	.2						 a	 .4 a		 a 	 	 			a a a	a
Home economics Lower division Upper division	a 1.5		 				 a	 			.7			 a	 		 	
Graduate Letters Lower division	1.3	 a	.]	 a	a I		ā				à 1		 a	a	 a	.3		 a
Graduate Mathematics Lower division	2.7	1.7	1.0 .1		a a			a 	 	.5 a .2	.1	a 	 a	 	a a	a a	a	
Upper division Graduate Physical sciences	.1 1.0	.3 .5	a .1		a a			a 	.1		.1 a	a	a 		à 	.1 a	a 	
Lower division Upper division Graduate Psychology	.2 .7 11.3	a .4 4.9	a .2 .8	a a 	a a a			a 	.1	a 	.1 a	a .1 	a a 	a 	a .1 a	a a ð	a a a	a
Lower division Upper division Graduate Public affairs	.1 .7 2.3	1.3 1.6	a .1 ,4	a a	 a a			a 	.1		.2 .1	 a a	a a 	 	a a a	 a	 a	
and services Lower division Upper division Graduate	.1 3.4	1.0	a a a						.2					 a		.3	a ,1	a
Social sciences Lower division Upper division Graduate	a 1.1 3.1	a 1.4 2.2	.1 .4	a a	 .8 1			 a	 .6 .1	.4	a 2.0	a _ 1 _ 2	a .1	a	a .1	a .4	a à	a
Lother areas Lower division Upper division Graduate	.2 5.6 12.8	.3 1.8 4.2	1.0 .7 .2		.2		 	a 	 a	a .1	 	ð a a				 a		a

Individual instruction encompasses all instruction which, because of its nature, is not delivered in a group situation. This activity may include independent study and research (both thesis and nonthesis), internship or field work, teaching or clinical practicum and individual instruction in the fine arts.
 In addition to the master's level, the graduate level for Penn State, Pittsburgh, Temple and Indiana University includes first professional (excluding medical) and/or doctoral student credit hours.
 Because of rounding, HEGIS detail may not sum to total of all areas.
 Rounds to less than 100 student credit hours.

SOURCE: Student credit-hour reports submitted by the individual institutions, 1982.