

# Science at a small liberal art institution – Part II, A closer look Instituted by Eckerd College Science Curriculum Review Spring 2007

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The institutions (60+) surveyed were evenly split

**21** (1/3) were in the top half of US News Nationally Ranked Liberal Arts Schools:

Avg Endowment \$478,953,638

# of Schools on Pope\* List: 6

Total Responses: 106

**21** (1/3) were in the bottom half of US News Nationally Ranked Liberal Arts Schools:

Avg Endowment \$137,647,423

# of Schools on Pope\* List: 14

Total Responses: 118

**21** Schools Not Ranked by US News in the nationwide listing:

Avg Endowment \$102,500,689

# of Schools on Pope\* List: 8

Total Responses: 79

## **INSTITUTION ENDOWMENTCOMPARISONS**

Small Endowment:  $\geq$  \$1 And  $<$  \$107000000

Average Endowment:  $\geq$  \$107000000 And  $<$  \$250000000

Large Endowment:  $\geq$  \$250000000

Survey Questions 13, 20, 22, 24, 26, 27, 28, 29, 30, 31, 33, 35

GC: Greatest Concentration TTF: Tenure-Track Faculty CC: Course Credit

CR: Course Release GWS: Grant Writing Support SR: Special Recognition

\* ***Colleges that Change Lives*** by Loren Pope <http://www.ctcl.com/>

# INSTITUTION ENDOWMENT COMPARISONS

Small Endowment:  $\geq \$1$  And  $< \$107000000$

Average Endowment:  $\geq \$107000000$  And  $< \$250000000$

Large Endowment:  $\geq \$250000000$

Survey Questions 13, 20, 22, 24, 26, 27, 28, 29, 30, 31, 33, 35

GC: Greatest Concentration TTF: Tenure-Track Faculty CC: Course Credit

CR: Course Release GWS: Grant Writing Support SR: Special Recognition

## Small Endowment SUMMARY

Approximate Total Student Body Sizes ranges from under 1000 to above 2500, GC: 1001-1500

1. Standard Course Load Per Year for TTF ranges from 4 to 8, GC: 6
2. Average CC Given to TTF for Labs, GC: 1
3. CR for Funded Research, GC: No
4. CR for Research Common, GC: No
5. Internal Funds Available Annually for each TTF for Research & Travel ranges from less than \$1000 to \$3000, GC: less than \$1000
6. Sig Research w/ Students **AND** Monitoring Mult Internships Recognized as Course for TTF, GC: No
7. Institution GWS, GC: Individ. or Few Staff
8. Research Recognized as Sig in Annual Reviews **AND** Important for Promotion for TTF, GC: Yes
9. Faculty Research Rewarded by SR, GC: Yes

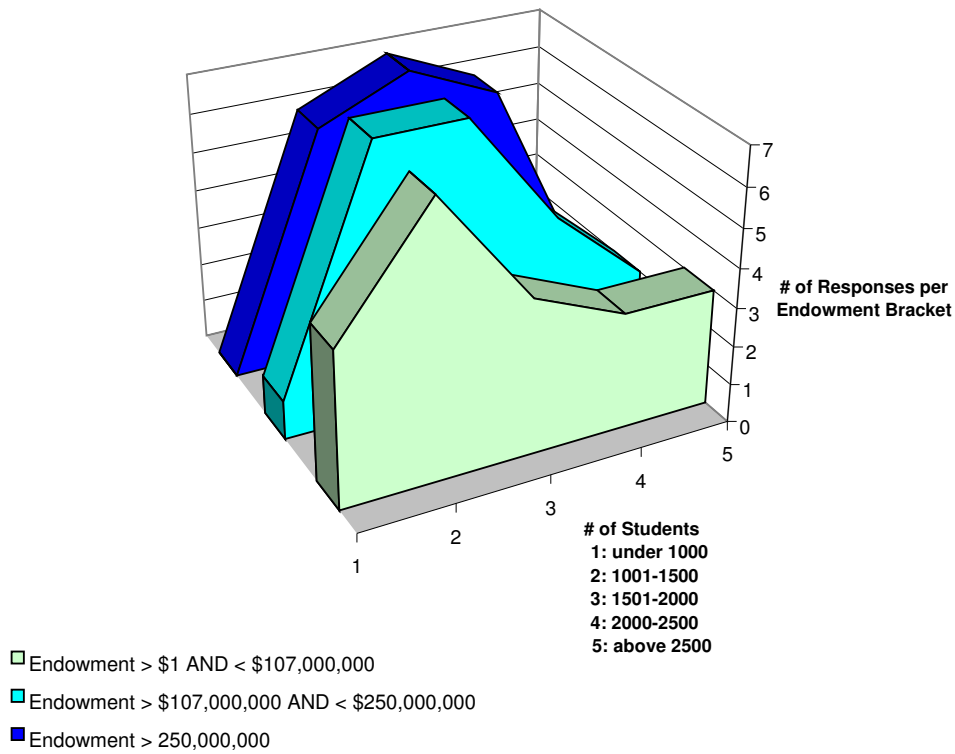
## Average Endowment SUMMARY

1. Approximate Total Student Body Sizes ranges from under 1000 to above 2500, GC: 1001-1500
2. Standard Course Load Per Year for TTF ranges from 4 to 7, GC: 5
3. Average CC Given to TTF for Labs, GC: 1
4. CR for Funded Research, GC: No
5. CR for Research Common, GC: No
6. Internal Funds Available Annually for each TTF for Research & Travel ranges from less than \$1000 to \$3000, GC: \$1000-\$3000
7. Sig Research w/ Students **AND** Monitoring Mult Internships Recognized as Course for TTF, GC: No
8. Institution GWS, GC: Individ. or Few Staff
9. Research Recognized as Sig in Annual Reviews **AND** Important for Promotion for TTF, GC: Yes
10. Faculty Research Rewarded by SR, GC: Yes

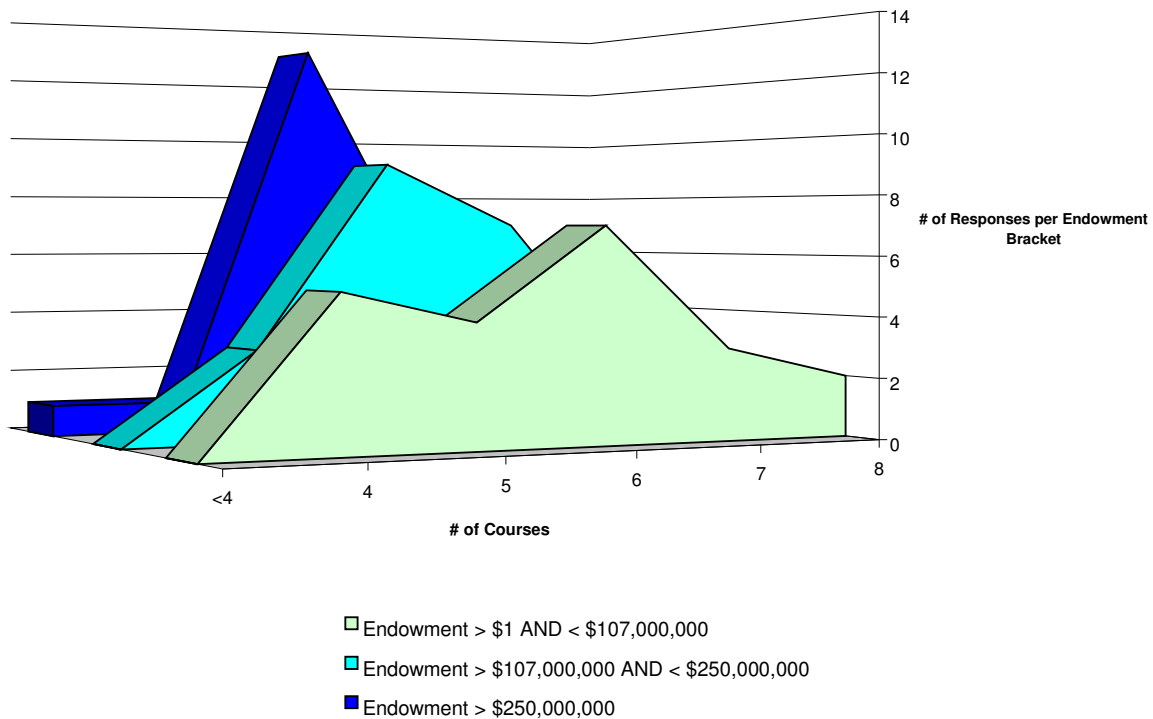
## Large Endowment SUMMARY

1. Approximate Total Student Body Sizes ranges from 1001 to above 2500, GC: 1501-2000
2. Standard Course Load Per Year for TTF ranges from less than 4 to 6, GC: 5
3. Average CC Given to TTF for Labs, GC: 1 (9 responses for 1, 8 responses for 1/2)
4. CR for Funded Research, GC: No
5. CR for Research Common, GC: No
6. Internal Funds Available Annually for each TTF for Research & Travel ranges from less than \$1000 to greater than \$3000, GC: \$1000-\$3000
7. Sig Research w/ Students **AND** Monitoring Mult Internships Recognized as Course for TTF, GC:
8. Institution GWS, GC: Individ. or Few Staff
9. Research Recognized as Sig in Annual Reviews **AND** Important for Promotion for TTF, GC: Yes
10. Faculty Research Rewarded by SR, GC: No

### Student Body Size



### Standard Annual Course Load for Tenure-Track Faculty

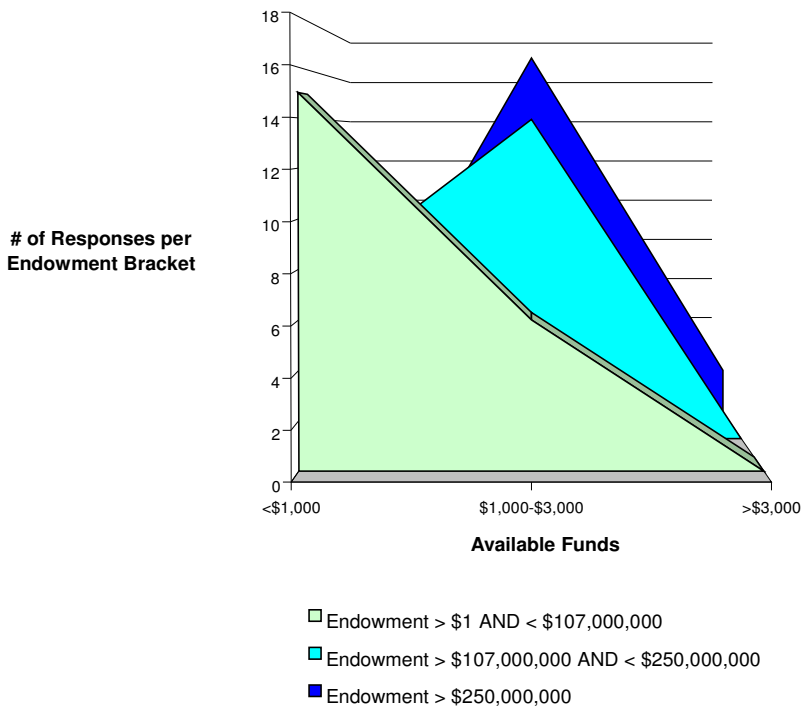


In correlation with the laboratory question there were 17 institutions with a “light” teaching load (4 course load or 5 course load which included laboratories as a full course). These institutions have an average endowment of \$325,000,000.

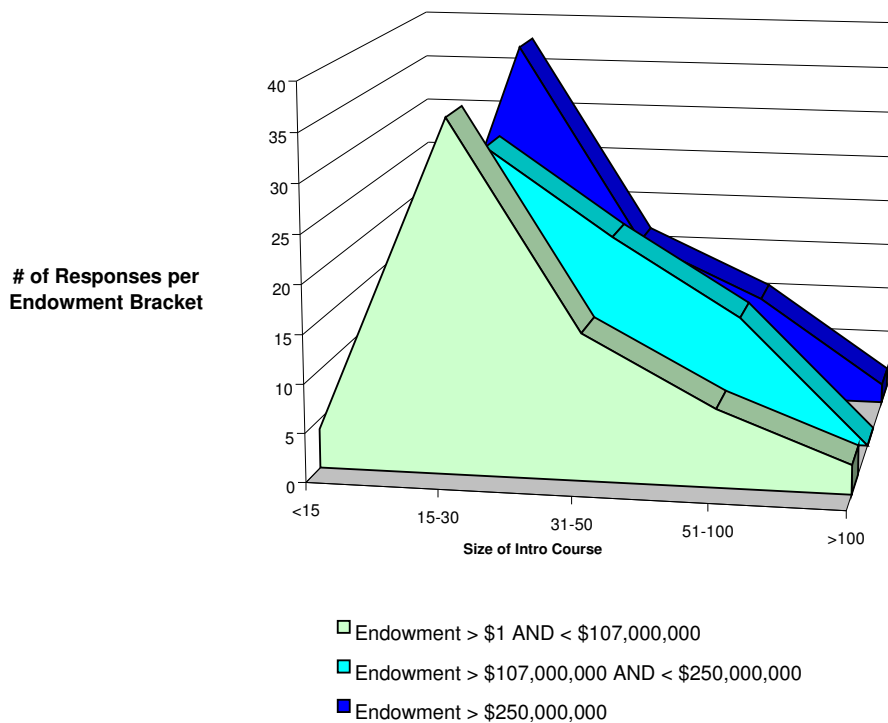
There were 18 institutions with a “heavy” teaching load (a 7 or 8 course load and also 6 course load institutions where the lab was included as part of the course with no extra compensation). These

institutions have an average endowment of \$125,000,000. Only three of these institutions have an endowment over \$200,000,000.

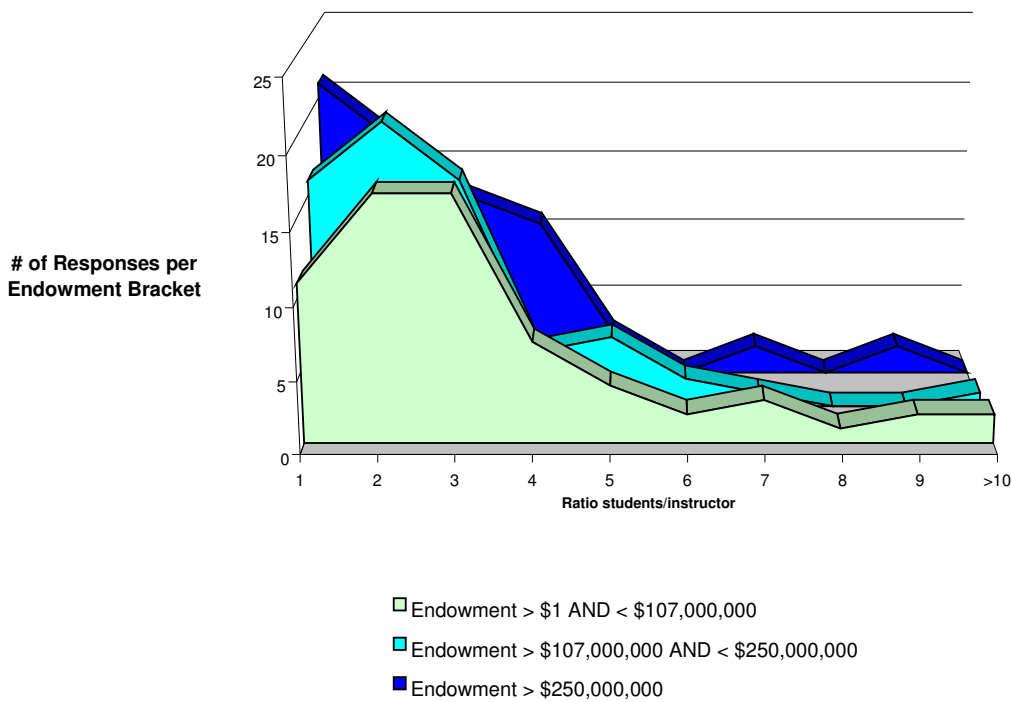
### Available Internal Funds for Research & Travel



### Size of Introductory Classes in the major



**Ratio of (Students in Major/(# of full time faculty, adjuncts, visitors)) with a given endowment**



**US NEW RANKED & NOT RANKED INSTITUTION COMPARISONS**

Survey Questions 13, 20, 22, 24, 26, 27, 28, 29, 30, 31, 33, 35

GC: Greatest Concentration TTF: Tenure-Track Faculty CC: Course Credit CR: Course Release GWS: Grant Writing Support SR: Special Recognition

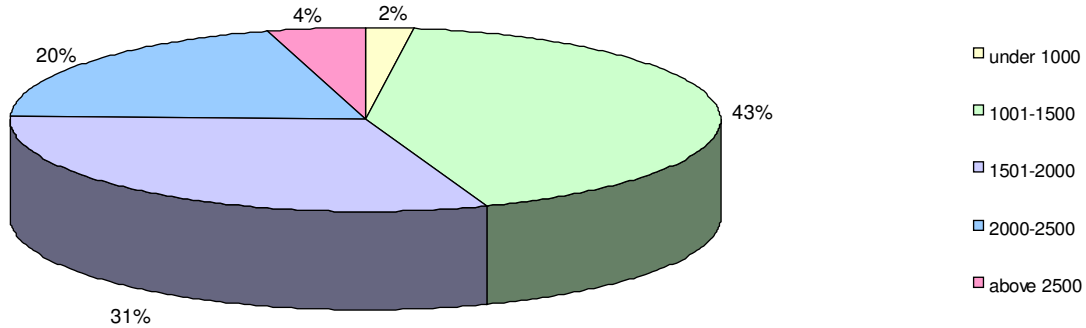
**US NEWS RANKED SUMMARY**

1. Approximate Total Student Body Sizes ranges from under 1000 to above 2500, GC: 1001-1500
2. Standard Course Load Per Year for TTF ranges from 4 to 6, GC: 5
3. Average CC Given to TTF for Labs, GC: 1
4. CR for Funded Research, GC: No
5. CR for Research Common, GC: No
6. Internal Funds Available Annually for each TTF for Research & Travel ranges from less than \$1000 to greater than \$3000, GC: \$1000-\$3000
7. Sig Research w/ Students **AND** Monitoring Mult Internships Recognized as Course for TTF, GC: No
8. Institution GWS, GC: Individ. or Few Staff
9. Research Recognized as Sig in Annual Reviews **AND** Important for Promotion for TTF, GC: Yes
10. Faculty Research Rewarded by SR, GC: No

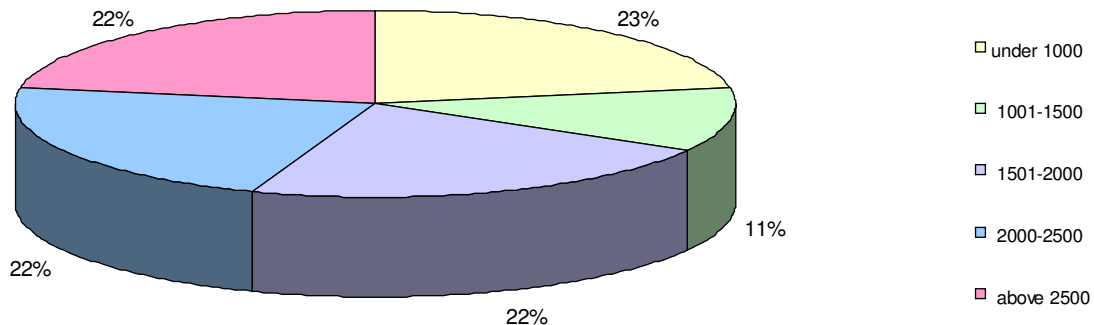
## US NEWS NOT RANKED SUMMARY

1. Approximate Total Student Body Sizes ranges from under 1000 to above 2500, EVEN CONCENTRATIONS: under 1000, 1501-2000, 2000-2500, and above 2500
2. Standard Course Load Per Year for TTF ranges from less than 4 to 8, GC: 6
3. Average CC Given to TTF for Labs, GC: 1
4. CR for Funded Research, GC: No
5. CR for Research Common, GC: No
6. Internal Funds Available Annually for each TTF for Research & Travel ranges from less than \$1000 to \$3000, GC: less than \$1000
7. Sig Research w/ Students **AND** Monitoring Mult Internships Recognized as Course for TTF, GC: No
8. Institution GWS, GC: Indiv. or Few Staff
9. Research Recognized as Sig in Annual Reviews **AND** Important for Promotion for TTF, GC: Yes
10. Faculty Research Rewarded by SR, EVEN CONCENTRATIONS: Yes & No

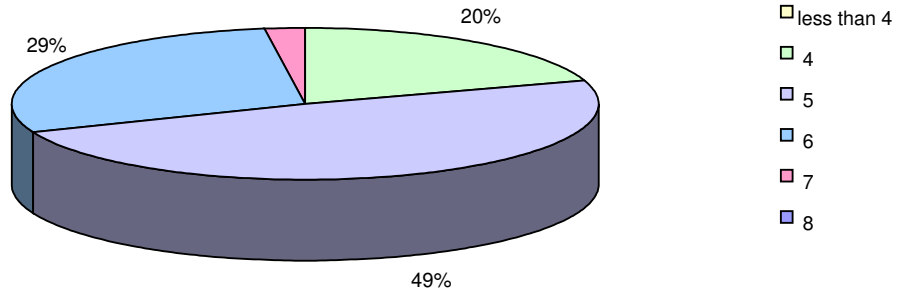
Average Student Body Size of US News Ranked Schools



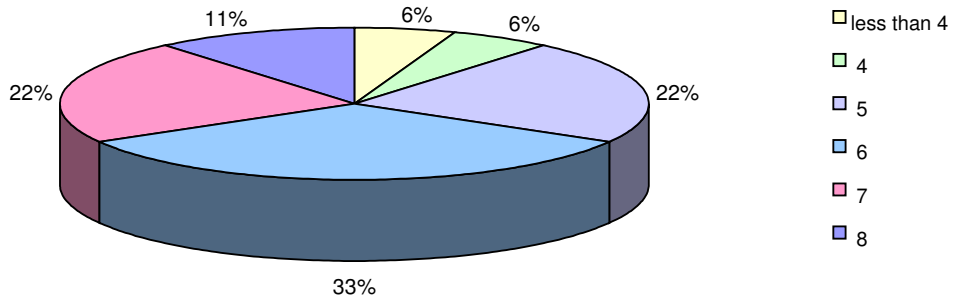
Average Student Body Size of Schools Not Ranked by US News



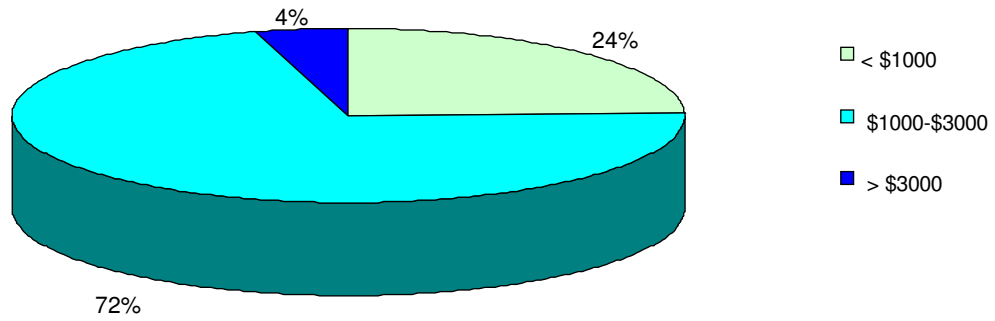
**Standard Annual Course Load for Tenure-Track Faculty at US News Ranked Schools**



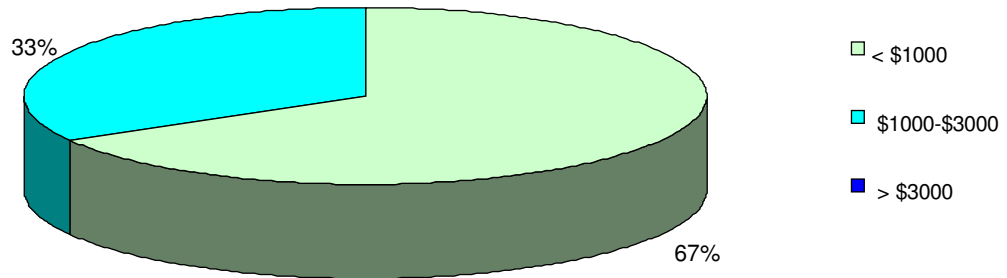
**Standard Annual Course Load for Tenure-Track Faculty at Schools Not Ranked by US News**



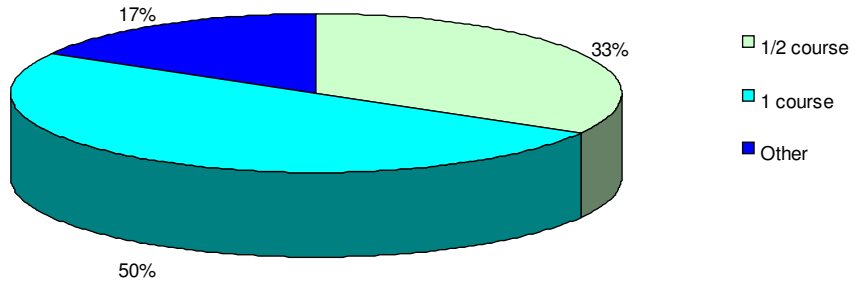
**Available Internal Funds for Research & Travel at US News Ranked Schools**



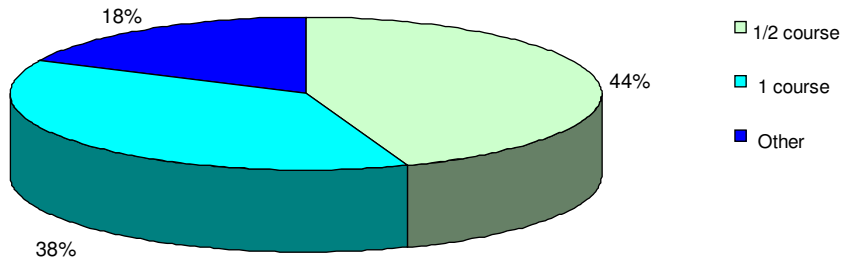
**Available Internal Funds for Reserch & Travel at Schools Not Ranked by US News**



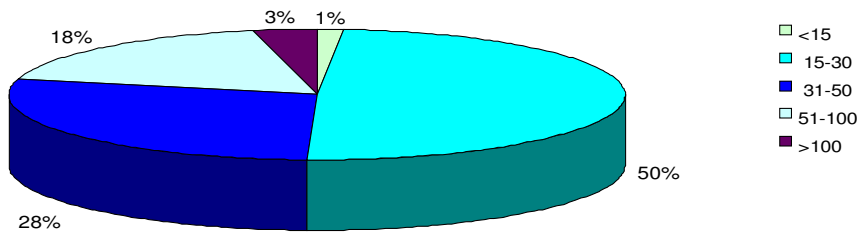
**Course Credit Given to Tenure-Track Faculty for Laboratories at Schools Not Ranked by US News**



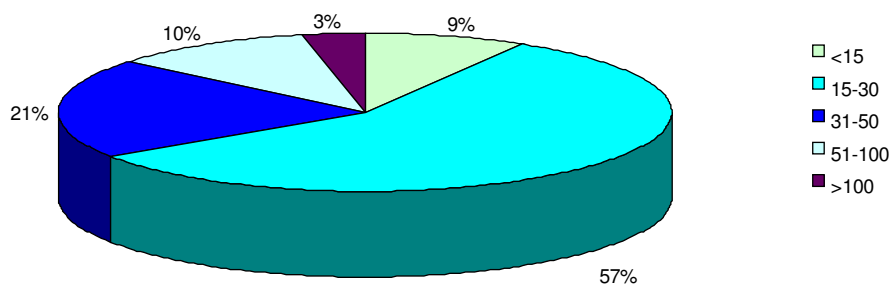
**Course Credit Given to Tenure-Track Faculty for Laboratories at US News Ranked Schools**



**Intro Course Size at Schools Ranked by US News**



**Intro Course Size at Schools Not Ranked by US News**



## DEPARTMENT COMPARISONS

Survey Questions 4, 5, 6, 7, 8, 9, 11

GC: Greatest Concentration FT: Full-Time TTF: Tenure-Track Faculty S/A: Secretaries/Assistants A/L/V: Adjuncts/Lecturers/Visitors TS: Technical Staff

### BIOLOGY SUMMARY

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year ranges from less than 5 to greater than 100, TIED GC: 26-50 & 51-100
2. Approximate Number of Students That Graduate in Dept ranges from 11 to 100, GC: 16-25
3. Number of FT TTF in Dept ranges from less than 5 to 15, GC: 6-10
4. Number of S/A in Dept ranges from none to 3, GC: 1
5. Number of FT A/L/V in Dept ranges from none to 3, GC: 1
6. Number of TS in Dept ranges from none to 6, GC: 1
7. Average Size of Introductory Course in Major ranges from 16 to greater than 100, GC: 16-30

### BIOCHEMISTRY SUMMARY

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year ranges from 6 to 50, EVEN CONCENTRATIONS: 6-10 & 26-50
2. Approximate Number of Students That Graduate in Dept ranges from 6 to 50, EVEN CONCENTRATIONS: 6-10 & 26-50
3. Number of FT TTF in Dept ranges from less than 5 to 10, EVEN CONCENTRATIONS: less 5 & 6-10
4. Number of S/A in Dept ranges from none to 1, EVEN CONCENTRATIONS: none & 1
5. Number of FT A/L/V in Dept ranges from none to 1, EVEN CONCENTRATIONS: none & 1
6. Number of TS in Dept ranges from none to 1, EVEN CONCENTRATIONS: none & 1
7. Average Size of Introductory Course in Major of 16-30, GC: 16-30

### CHEMISTRY SUMMARY

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year ranges from less than 5 to 50, GC: 16-25
2. Approximate Number of Students That Graduate in Dept ranges from 6 to 50, GC: 6-10
3. Number of FT TTF in Dept ranges from less than 5 to 15, GC: 6-10
4. Number of S/A in Dept ranges from none to 2, GC: 1
5. Number of FT A/L/V in Dept ranges from none to 6, GC: 1
6. Number of TS in Dept ranges from none to 6, GC: 1
7. Average Size of Introductory Course in Major ranges from 16 to greater than 100, GC: 31-50

### COMPUTER SCIENCE SUMMARY

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year ranges from less than 5 to 50, GC: 6-10
2. Approximate Number of Students That Graduate in Dept ranges from less than 5 to 25, GC: 6-10
3. Number of FT TTF in Dept ranges from less than 5 to 10, GC: less than 5
4. Number of S/A in Dept ranges from none to 2, GC: 1
5. Number of FT A/L/V in Dept ranges from none to 6, GC: none
6. Number of TS in Dept ranges from none to 1, GC: 1
7. Average Size of Introductory Course in Major of 16-30, GC: 16-30

## **ENVIRONMENTAL SCIENCE SUMMARY**

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year ranges from 16 to 100, EVEN CONCENTRATIONS: 16-25 & 51-100
2. Approximate Number of Students That Graduate in Dept of 16-25, GC: 16-25
3. Number of FT TTF in Dept ranges from less than 5 to 10, EVEN CONCENTRATIONS: less than 5 & 6-10
4. Number of S/A in Dept of none, GC: none
5. Number of FT A/L/V in Dept ranges from none to 1, EVEN CONCENTRATIONS: none & 1
6. Number of TS in Dept ranges from none to 3, EVEN CONCENTRATIONS: none & 2-3
7. Average Size of Introductory Course in Major ranges from 16 to 50, EVEN CONc.: 16-30 & 31-50

## **GEOLOGY SUMMARY**

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year ranges from less than 5 to 15, GC: less than 5
2. Approximate Number of Students That Graduate in Dept ranges from 6 to 15, GC: 6-10
3. Number of FT TTF in Dept ranges from less than 5 to 15, GC: less than 5
4. Number of S/A in Dept ranges from none to 1, GC: 1
5. Number of FT A/L/V in Dept ranges from none to greater than 6, GC: none
6. Number of TS in Dept ranges from none to 1, GC: none
7. Average Size of Introductory Course in Major ranges from 16 to 100, GC: 31-50

## **MARINE SCIENCE SUMMARY**

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year is greater than 100, GC: greater than 100
2. Approximate Number of Students That Graduate in Dept ranges from 16 to 100, EVEN CONCENTRATIONS: 16-25 & 51-100
3. Number of FT TTF in Dept ranges from 6 to 15, EVEN CONCENTRATIONS: 6-10 & 11-15
4. Number of S/A in Dept is 1, GC: 1
5. Number of FT A/L/V in Dept ranges from 1 to 3, EVEN CONCENTRATIONS: 1 & 2-3
6. Number of TS in Dept ranges from none to 3, EVEN CONCENTRATIONS: none & 2-3
7. Average Size of Introductory Course in Major ranges from 51 to greater than 100, EVEN CONCENTRATIONS: 51-100 & greater than 100

## **MATHEMATICS SUMMARY**

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year ranges from less than 5 to 50, GC: 6-10
2. Approximate Number of Students That Graduate in Dept ranges from less than 5 to 25, GC: 6-10
3. Number of FT TTF in Dept ranges from less than 5 to 10, GC: 6-10
4. Number of S/A in Dept ranges from none to 3, GC: 1
5. Number of FT A/L/V in Dept ranges from none to 3, GC: 1
6. Number of TS in Dept ranges from none to 1, GC: none
7. Average Size of Introductory Course in Major ranges from 16 to 50, GC: 16-30

## **NEUROSCIENCE SUMMARY**

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year ranges from less than 5 to 15, EVEN CONCENTRATIONS: less than 5 & 11-15
2. Approximate Number of Students That Graduate in Dept ranges from 11 to 50, GC: 26-50
3. Number of FT TTF in Dept ranges from less than 5 to 15, EVEN CONCENTRATIONS: less than 5, 6-10, & 11-15
4. Number of S/A in Dept ranges from none to 2, GC: none
5. Number of FT A/L/V in Dept ranges from none to 1, GC: 1
6. Number of TS in Dept ranges from none to greater than 6, EVEN CONCENTRATIONS: none, 1, & greater than 6
7. Average Size of Introductory Course in Major ranges from 16 to 100, EVEN CONCENTRATIONS: 16-30, 31-50, & 51-100

## **PHYSICS SUMMARY**

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year ranges from less than 5 to 25, GC: 6-10
2. Approximate Number of Students That Graduate in Dept ranges from less than 5 to 25, GC: 6-10
3. Number of FT TTF in Dept ranges from less than 5 to 15, GC: less than 5
4. Number of S/A in Dept ranges from none to 2, GC: 1
5. Number of FT A/L/V in Dept ranges from none to 6, GC: none
6. Number of TS in Dept ranges from none to 3, GC: 1
7. Average Size of Introductory Course in Major ranges from less than 15 to 100, GC: 16-30

## **OTHER SUMMARY**

1. Approximate Number of Students Declare Interest in Dept Major Fresman Year ranges from 16 to 50, EVEN CONCENTRATIONS: 16-25 & 26-50
2. Approximate Number of Students That Graduate in Dept ranges from 16 to 50, EVEN CONCENTRATIONS: 16-25 & 26-50
3. Number of FT TTF in Dept is greater than 15, GC: greater than 15
4. Number of S/A in Dept is 3, GC: 3
5. Number of FT A/L/V in Dept is none, GC: none
6. Number of TS in Dept is 2-3, GC: 2-3
7. Average Size of Introductory Course in Major ranges from 16 to 50, EVEN CONCENTRATIONS: 16-30 & 31-50

## MAJOR CORRELATIONS

FY: Freshman Year

Gain/Loss in Major

# of Students Declare FY	< 5 Graduate	6-10 Graduate	11-15 Graduate	16-25 Graduate	26-50 Graduate	51-100 Graduate	> 100 Graduate
< 5 (28)	6	14	3	4	1	0	
6-10 (22)	4	10	4	4	0	0	
11-15 (18)	0	12	4	2	0	0	
16-25 (18)	0	3	6	7	1	1	
26-50 (12)	0	1	0	5	6	0	
51-100 (7)	0	0	0	2	3	2	
> 100 (4)	0	0	0	1	0	3	

Intro Course Size Compared to Student Body Size

Student Body Size	Intro Course <15	Intro Course 16-30	Intro Course 31-50	Intro Course 51-100	Intro Course >100
<1000 (9)	0	6	3	0	0
1001-1500 (36)	1	22	8	5	0
1501-2000 (39)	0	23	9	5	2
2000-2500 (9)	0	6	2	1	0
>2500 (17)	1	7	4	4	1

Average Student to Faculty/Adjuncts/Lecturers/Visitors Ratio

Biology	6.42
Biochemistry	5.00
Chemistry	2.57
Computer Science	3.48
Environmental Science	1.8
Geology	4.08
Marine Science	6.50
Mathematics	2.43
Neuroscience	2.00
Physics	2.46
Other(Natural Science)	2.00

Average Student to Faculty/Secretaries/Assistants/Adjuncts/Lecturers/Visitors/Technical Staff Ratio

Department	AVG SFR
Biology	5.08
Biochemistry	3.60
Chemistry	2.33
Computer Science	3.00
Environmental Science	1.40
Geology	3.54
Marine Science	6.50
Mathematics	2.06
Neuroscience	1.75
Physics	2.05
Other(Natural Science)	2.00

Number of Freshmen Declaring Major Compared to Graduating Seniors

