

2010 NRC Survey

“A Data-Based Assessment of Research-Doctorate Programs in the United States

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“The Book”

A Data-Based Assessment of Research-Doctorate Programs in the United States

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Participation

- 4,838 doctoral program
- 212 universities (72% public) + 9 university combinations that offer joint programs (e.g., RU and UMDNJ)
- 62 fields of study [NOTE: for a field of study to be included, there had to have been at least 500 Ph.D.s awarded between '99-'04 by at least 25 universities]
- 236,417 doctoral students at the time of the study; RU ranked #35, with an average of 254 Ph.D. students between '02-'06
- Each university paid between \$5-\$20K to have its data listed in this study

Data Collection from Primary Sources

- Institutional questionnaire – asked for list of doctoral programs and asked about institution-specific practices
- Questionnaire to each grad program – list of faculty, and asked about student, faculty and program characteristics
- Individual faculty questionnaire (87,515 respondents – 88% response rate) – asked about educational, work, research and publication history
- Student questionnaire sent to advanced doctoral students – focused on student educational background, experiences while in the program, including research activities, and post-graduation plans.

Data Collection from Secondary Sources

- Publications and citations (all fields except humanities)
- Data from Science Citation Index; citation count from '00-'06 for pubs from '81-'06
- Humanities pubs and books from '96-'06 taken directly from c.v.'s
- Faculty honors from 224 scholarly societies representing all fields. Highly prestigious awards differentiated from other recognitions.
- Survey of Earned Doctorates (completed by Ph.D. candidates)

20 Dimensional Measures - Research

- Publications
- Average citations per publication
- Percent of program faculty holding grants
- Honors and awards per faculty member
- Interdisciplinarity as measured by the percent of associated faculty, i.e., members of the graduate program who are outside the graduate program's department [NOTE: *this presented problem for RU*]

20 Dimensional Measures – Student Funding and Outcomes

- Average GRE '04-'06 (verbal for humanities, quantitative for other fields)
- Percent of students with full support in first year
- Percent of first year students with external funding
- Average annual Ph.D.s graduated '02-'06 (program size – *comment on its effect on R vs. S*)
- Average completions (8 yrs humanities; 6 yrs other fields)
- Time to degree for full- and part-time students
- Percent Ph.D.s with definite plans for academic positions (including postdocs) '01-'05 [based on SED]

20 Dimensional Measures – Student Funding and Outcomes (cont'd)

- Student workspace (+1 if 100% have work space; -1 if <100% have work space)
- Health insurance (+1 if health insurance provided; -1 if health insurance not provided)
- Student activities (orientation, international student orientation, language screening, writing instruction, statistics instruction, awards provided for teaching/research, proposal prep assistance, on-campus conferences, research integrity training, grad student association, posted grievance procedure, mtgs with GPDs, annual review, teaching improvement assistance, travel support for prof mtgs)

20 Dimensional Measures - Diversity

- Percent non-Asian minority core or new faculty
- Percent female core or new faculty
- Percent non-Asian minority students
- Percent female students
- Percent international students

NRC Approach to Rankings

The committee was keenly aware of the complexity of assessing quality in doctoral programs and chose to approach it in two separate ways. The first, the **general survey (S) approach**, was to present faculty in a field with characteristics of doctoral programs and ask them to identify the ones they felt were the most important to doctoral program quality. The second, the **rating or regression (R) approach**, was to ask a sample of faculty to provide ratings (on a scale of 1 to 5) for a representative sample of programs and then to ascertain how, statistically, those ratings were related to the measurable program characteristics. In many cases the rankings that could be inferred from the S approach and the R approach were very similar, but in some cases they were not. Thus the committee decided to publish both the S-based and R-based rankings and encourage users to look beyond the range of rankings on both measures.

Characteristics Included in the Weighting Process

CATEGORY I—Program Faculty Quality

- a. Number of publications (books, articles, etc.) per faculty member
- b. Number of citations per faculty member
- c. Receipt of extramural grants for research
- d. Involvement in interdisciplinary work
- e. Racial and ethnic diversity of the program faculty
- f. Gender diversity of the program faculty
- g. Reception by peers of a faculty member's work, as measured by honors and awards

Characteristics Included in the Weighting Process (cont'd)

CATEGORY II—Student Characteristics

- a. Median GRE scores of entering students
- b. Percentage of students receiving full financial support
- c. Percentage of students with portable fellowships
- d. Number of student publications and presentations
- e. Racial and ethnic diversity of the student population
- f. Gender diversity of the student population
- g. A high percentage of international students

Characteristics Included in the Weighting Process (cont'd)

CATEGORY III—Program Characteristics

- a. Average number of Ph.D.'s granted over the previous five years
- b. Percentage of entering students who complete a doctoral degree
- c. Time to degree
- d. Placement of students after graduation
- e. Percentage of students with individual work space
- f. Percentage of health insurance premiums covered by the institution or program
- g. Number of student support activities provided at either the institutional or program level

Faculty Importance Weights by Broad Field

	Faculty Productivity (%)	Student Support and Outcomes (%)	Program Diversity (%)
Agricultural Sciences	45.2	30.5	25.1
Biological and Health Sciences	45.1	31.9	23.7
Physical and Mathematical Sciences	48.9	29.7	22.2
Social and Behavioral Sciences	49.1	28.2	23.6
Humanities	46.4	28.9	25.6
Engineering	46.5	31.8	22.5

Faculty Importance Weights - Research

	Publications per Faculty	Cites per Publication	Percent of Faculty with Grants	Awards per Faculty
Agricultural Sciences	0.349	0.175	0.348	0.128
Biological and Health Sciences	0.314	0.192	0.377	0.118
Physical and Math Sciences	0.281	0.258	0.294	0.167
Social & Behav Sciences	0.376	0.250	0.216	0.158
Humanities	0.591	n/a	0.124	0.284
Engineering	0.291	0.238	0.304	0.167

Faculty Importance Weights – Student Outcomes

	Full Support - First Year	Percent Completion – 6 or 8 Yrs	Time to Degree	Percent Grads in Academic Positions
Agricultural Sciences	0.304	0.231	-0.109	0.357
Biological and Health Sciences	0.259	0.264	-0.135	0.342
Physical and Math Sciences	0.306	0.221	-0.114	0.359
Social & Behav Sciences	0.291	0.229	-0.110	0.370
Humanities	0.316	0.245	-0.102	0.337
Engineering	0.346	0.200	-0.099	0.356

Faculty Importance Weights - Diversity

	Non-Asian Minority Faculty	Female Faculty	Non-Asian Minority Students	Female Students	Internat. Students
Agricultural Sciences	0.101	0.124	0.348	0.231	0.196
Biol and Health Sciences	0.115	0.173	0.362	0.235	0.115
Physical and Math Sciences	0.059	0.144	0.200	0.318	0.279
Social & Behav Sciences	0.156	0.150	0.298	0.166	0.230
Humanities	0.172	0.212	0.212	0.192	0.213
Engineering	0.083	0.107	0.281	0.295	0.234

General Conclusions from the R and S Weightings

- Indicators of research activity are of the greatest importance to faculty in determining program quality by means of the S measures, which are based on the program characteristics that faculty say explicitly are important. In many cases program size is very important when quality is measured by the regression-based, or R measures.
- Of the student support and outcome characteristics, placement in an academic position and support in the first year are highly weighted. Completion rates and time to degree are not.
- Faculty view student diversity as important, when considered with other diversity measures, but not as a direct predictor of overall program quality.

Correlation between R and S

Correlation of medians > 0.75 for all fields except:

- Animal Science
- Ecology and Evolution
- Pharmacol, Toxicol, Enviro Health
- Civil & Enviro Engin
- Mechanical Engin
- Operations Res, Systems Engin, Industrial Engin
- Communication
- Comparative Lit
- French
- Philosophy
- Spanish
- Statistics
- Linguistics
- Sociology

NRC Methodology – S Ratings

- Ask faculty to rate how important 20 characteristics are to program quality in their field [NOTE: ~40-50 raters/program]
- Randomly draw half of faculty importance ratings 500 times to produce 500 ‘direct’ weights
- Match the direct weights to 500 randomly adjusted sets of normalized program data to rank each program 500 times – these are the overall **‘Survey of Faculty’** ratings (a/k/a the S ratings)

NRC Methodology – R Ratings

- Ask faculty to rate the quality of a sample of specific programs in their field
- Randomly draw half of faculty program ratings 500 times to produce 500 ‘regression-based’ weights [NOTE: both principal components and regression analyses were used]
- Match the regression-based weights to 500 randomly adjusted sets of normalized program data to rank each program 500 times – these are the overall **‘Regression Analysis’** ratings (a/k/a the R ratings)

Highly Ranked RU Programs – 5th P'tile < 20

Program	S Ranking	R Ranking	Research Ranking
Philosophy	1	1	1
History	9	12	13
Compar Lit	20		
English	16	7	
Art History		10	18
Linguistics		4	
French			19
Anthropology		17	
Sociology		12	
Geography			17
Mathematics	14	12	10
Statistics			11

Highly Ranked RU Programs – 5th P'tile < 20

Program	S Ranking	R Ranking	Research Ranking
Indust Syst Engineer	20		12
Biomed Engineer		16	
Entomology	11	18	4
Food Science	9	2	2
Nutrition	9	15	5
Ecology & Evolution		20	
Plant Science		6	
Animal Science			18
Microbiol & MolGen	17	2	12
Physiology	13	19	
Oceanography	13		
Planning & Pub Pol	15	20	12
Communication		1	12

This is probably something that we shouldn't do, but

- If you do an ordinal ranking of all universities according to the NUMBER of grad programs at each university that rank in the 5th percentile (S or R rankings) at 10 or better, then Rutgers ranks at #45 (with 11 programs)
- If you do an ordinal ranking of all universities according to the PERCENTAGE of grad programs at each university that rank in the 5th percentile (S or R rankings) at 10 or better, then Rutgers ranks at #81 (at 23.4%)

School of Arts and Sciences

School of Arts & Sciences (Humanities) S Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
History of Art	58	30	43	36.5	13
Compar Lit	46	20	38	29	18
English L&L	119	16	44	30	28
French	43	24	37	30.5	13
History	137	9	24	16.5	15
Linguistics	52	27	41	34	14
Philosophy	90	1	5	3	4
Spanish	60	35	57	46	22

School of Arts & Sciences (Humanities) R Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
History of Art	58	10	33	21.5	23
Compar Lit	46	21	36	28.5	15
English L&L	119	7	29	18	22
French	43	30	40	35	10
History	137	12	19	15.5	7
Linguistics	52	4	29	16.5	25
Philosophy	90	1	3	2	2
Spanish	60	31	50	40.5	19

School of Arts & Sciences (Humanities) Research Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
History of Art	58	18	31	24.5	13
Compar Lit	46	12	27	19.5	15
English L&L	119	25	52	38.5	27
French	43	19	31	25	12
History	137	13	31	22	18
Linguistics	52	28	40	34	12
Philosophy	90	1	8	4.5	7
Spanish	60	36	47	41.5	11

School of Arts & Sciences (Humanities) Student Outcomes Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
History of Art	58	40	51	45.5	11
Compar Lit	46	15	35	25	20
English L&L	119	39	87	63	48
French	43	27	37	32	10
History	137	15	65	40	50
Linguistics	52	17	33	25	16
Philosophy	90	3	28	15.5	25
Spanish	60	33	52	42.5	19

School of Arts & Sciences (Humanities) Diversity Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
History of Art	58	9	25	17	16
Compar Lit	46	4	17	10.5	13
English L&L	119	7	36	21.5	29
French	43	1	9	5	8
History	137	4	10	7	6
Linguistics	52	13	31	22	18
Philosophy	90	21	42	31.5	21
Spanish	60	3	19	11	16

School of Arts & Sciences (Social Sciences) S Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Anthropology	82	39	63	51	24
Economics	117	62	81	71.5	19
Geography	49	33	47	40	14
Political Sci	105	47	67	57	20
Psychology	236	55	98	76.5	43
Sociology	118	31	54	42.5	23

School of Arts & Sciences (Social Sciences) R Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Anthropology	82	17	47	32	30
Economics	117	62	94	78	32
Geography	49	21	41	31	20
Political Sci	105	23	48	35.5	25
Psychology	236	36	82	59	46
Sociology	118	12	25	18.5	13

School of Arts & Sciences (Social Sciences) Research Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Anthropology	82	26	49	37.5	23
Economics	117	55	77	66	22
Geography	49	17	39	28	22
Political Sci	105	53	72	62.5	19
Psychology	236	50	89	69.5	39
Sociology	118	22	37	29.5	15

School of Arts & Sciences (Social Sciences) Student Outcomes Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Anthropology	82	69	79	74	10
Economics	117	65	99	82	34
Geography	49	41	47	44	6
Political Sci	105	37	72	54.5	35
Psychology	236	134	198	166	64
Sociology	118	65	98	81.5	33

School of Arts & Sciences (Social Sciences) Diversity Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Anthropology	82	20	40	30	20
Economics	117	2	14	8	12
Geography	49	3	12	7.5	9
Political Sci	105	36	63	49.5	27
Psychology	236	92	165	128.5	73
Sociology	118	39	74	56.5	35

School of Arts & Sciences (Phys & Math Sci) S Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Chemistry	178	69	139	104	70
Computer Sci	126	66	102	84	36
Earth Sci	140	72	111	91.5	39
Mathematics	127	14	41	27.5	27
Phys & Astro	160	42	105	73.5	63
Statistics	61	23	42	32.5	19

School of Arts & Sciences (Phys & Math Sci) R Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Chemistry	178	63	128	95.5	65
Computer Sci	126	46	81	63.5	35
Earth Sci	140	45	75	60	30
Mathematics	127	12	36	24	24
Phys & Astro	160	30	70	50	40
Statistics	61	27	48	37.5	21

School of Arts & Sciences (Phys & Math Sci) Research Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Chemistry	178	41	115	78	74
Computer Sci	126	42	96	69	54
Earth Sci	140	47	101	74	54
Mathematics	127	10	30	20	20
Phys & Astro	160	29	103	66	74
Statistics	61	11	28	19.5	17

School of Arts & Sciences (Phys & Math Sci) Student Outcomes Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Chemistry	178	87	161	124	74
Computer Sci	126	56	105	80.5	49
Earth Sci	140	66	113	89.5	47
Mathematics	127	36	96	66	60
Phys & Astro	160	50	122	86	72
Statistics	61	32	54	43	22

School of Arts & Sciences (Phys & Math Sci) Diversity Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Chemistry	178	46	98	72	52
Computer Sci	126	19	51	35	32
Earth Sci	140	77	116	96.5	39
Mathematics	127	55	89	72	34
Phys & Astro	160	45	100	72.5	55
Statistics	61	11	38	24.5	27

School of Engineering

School of Engineering S Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Biomed Engin	74	34	62	48	28
Chem Engin	106	52	88	70	36
Civil & EnviroEng	131	62	121	91.5	59
ECE	136	59	106	82.5	47
Mater Sci Engin	84	74	82	78	8
Mechanical Engin	128	86	113	99.5	27
Syst Engin & Oper Res	74	20	42	31	22

School of Engineering R Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Biomed Engin	74	16	32	24	16
Chem Engin	106	41	68	54.5	27
Civil & EnviroEng	131	50	106	78	56
ECE	136	50	94	72	44
Mater Sci Engin	84	46	67	56.5	21
Mechanical Engin	128	58	90	74	32
Syst Engin & Oper Res	74	34	61	47.5	27

School of Engineering Research Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Biomed Engin	74	29	65	47	36
Chem Engin	106	30	72	51	42
Civil & EnviroEng	131	43	118	80.5	75
ECE	136	29	81	55	52
Mater Sci Engin	84	63	79	71	16
Mechanical Engin	128	67	111	89	44
Syst Engin & Oper Res	74	12	37	24.5	25

School of Engineering Student Outcomes Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Biomed Engin	74	22	61	41.5	39
Chem Engin	106	46	95	70.5	49
Civil & EnviroEng	131	37	86	61.5	49
ECE	136	99	122	110.5	23
Mater Sci Engin	84	44	71	57.5	27
Mechanical Engin	128	91	106	98.5	15
Syst Engin & Oper Res	74	6	24	15	18

School of Engineering Diversity Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Biomed Engin	74	26	53	39.5	27
Chem Engin	106	20	50	35	30
Civil & EnviroEng	131	57	108	82.5	51
ECE	136	8	43	25.5	35
Mater Sci Engin	84	29	56	42.5	27
Mechanical Engin	128	13	29	21	16
Syst Engin & Oper Res	74	12	35	23.5	23

School of Environmental and Biological Sciences

SEBS S Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Animal Science	60	31	55	43	24
Ecol & Evol	94	48	73	60.5	25
Entomology	28	11	25	18	14
Earth Sci (Enviro Sci)	140	36	87	61.5	51
Food Science	49	9	24	16.5	15
Nutrition	44	9	26	17.5	17
Plant Science	116	23	76	49.5	53

SEBS R Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Animal Science	60	39	55	47	16
Ecol & Evol	94	20	46	33	26
Entomology	28	18	28	23	10
Earth Sci (Enviro Sci)	140	50	90	70	40
Food Science	49	2	17	9.5	15
Nutrition	44	15	26	20.5	11
Plant Science	116	6	47	26.5	41

SEBS Research Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Animal Science	60	18	46	32	28
Ecol & Evol	94	29	65	47	36
Entomology	28	4	21	12.5	17
Earth Sci (Enviro Sci)	140	28	84	56	56
Food Science	49	2	18	10	16
Nutrition	44	5	23	14	18
Plant Science	116	23	85	54	62

SEBS Student Outcomes Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Animal Science	60	29	51	40	22
Ecol & Evol	94	44	80	62	36
Entomology	28	19	25	22	6
Earth Sci (Enviro Sci)	140	71	113	92	42
Food Science	49	30	31	30.5	1
Nutrition	44	3	23	13	20
Plant Science	116	11	52	31.5	41

SEBS Diversity Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Animal Science	60	6	19	12.5	13
Ecol & Evol	94	38	66	52	28
Entomology	28	16	22	19	6
Earth Sci (Enviro Sci)	140	22	49	35.5	27
Food Science	49	10	20	15	10
Nutrition	44	11	26	18.5	15
Plant Science	116	44	71	57.5	27

Interunit Life Science Programs

Life Sciences (Interunit Programs) S Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Biochem, Biophys, Struc Biol	159	36	100	68	64
Cell Devel Biol	122	44	102	73	58
Microbiology	74	17	45	31	28
Pharmacol, Toxicol, Enviro Health	116	80	110	95	30
Physiology	63	13	43	28	30

Life Sciences (Interunit Programs) R Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Biochem, Biophys, Struc Biol	159	27	75	51	48
Cell Devel Biol	122	79	114	96.5	35
Microbiology	74	2	18	10	16
Pharmacol, Toxicol, Enviro Health	116	24	85	54.5	61
Physiology	63	19	56	37.5	37

Life Sciences (Interunit Programs) Research Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Biochem, Biophys, Struc Biol	159	27	101	64	74
Cell Devel Biol	122	36	103	69.5	67
Microbiology	74	12	47	29.5	35
Pharmacol, Toxicol, Enviro Health	116	26	94	60	68
Physiology	63	28	56	42	28

Life Sciences (Interunit Programs) Student Outcomes Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Biochem, Biophys, Struc Biol	159	63	125	94	62
Cell Devel Biol	122	24	91	57.5	67
Microbiology	74	32	63	47.5	31
Pharmacol, Toxicol, Enviro Health	116	105	115	110	10
Physiology	63	5	35	20	30

Life Sciences (Interunit Programs) Diversity Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Biochem, Biophys, Struc Biol	159	9	23	16	14
Cell Devel Biol	122	15	49	32	34
Microbiology	74	11	31	21	20
Pharmacol, Toxicol, Enviro Health	116	25	69	47	44
Physiology	63	13	33	23	20

Other Programs

Other Programs S Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Oceanogr & Atmos Sci	50	13	44	28.5	31
Communic	83	33	61	47	28
Pub Affairs, Pub Policy, Pub Admin	54	15	31	23	16
Music	63	46	59	52.5	13

Other Programs R Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Oceanogr & Atmos Sci	50	22	41	31.5	19
Communic	83	1	83	42	82
Pub Affairs, Pub Policy, Pub Admin	54	20	35	27.5	15
Music	63	31	52	41.5	21

Other Programs Research Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Oceanogr & Atmos Sci	50	9	44	26.5	35
Communic	83	12	23	17.5	11
Pub Affairs, Pub Policy, Pub Admin	54	12	25	18.5	13
Music	63	21	40	30.5	19

Other Programs Student Outcomes Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Oceanogr & Atmos Sci	50	27	45	36	18
Communic	83	75	81	78	6
Pub Affairs, Pub Policy, Pub Admin	54	19	36	27.5	17
Music	63	43	51	47	8

Other Programs Diversity Rankings

Field	Number of Programs	5 th P'tile	95 th P'tile	Interp. Median	90% Range
Oceanogr & Atmos Sci	50	5	19	12	14
Communic	83	31	60	45.5	29
Pub Affairs, Pub Policy, Pub Admin	54	26	37	31.5	11
Music	63	40	53	46.5	13

Comparisons of Graduate Programs

<http://graduate-school.phds.org/about/rankings>

General Conclusions

Program size is positively associated with most measures of the research productivity of doctoral programs, even when productivity is measured on a per capita basis. As for student characteristics, the larger programs are also more likely to have higher average GRE scores, except in the humanities. There is a size difference for median time to degree; students in the larger programs take about half a year longer to complete their degrees. In the physical and social sciences a significantly greater percentage of large programs collect outcomes data for their students. Interestingly, size, analyzed within broad fields, does not appear to be associated systematically with the percentage of students with support in their first year, which is high across the board, or completion rates, or the percentage of students who plan on a position in academia (including postdoctoral study) after graduation.

How Can We Assist You?

- Rob Heffernan has produced numerous tables that analyze the NRC data. These are available.
- Comparisons of Rutgers program-specific variables against mean/std dev for all other grad programs in the same field (viz., publications per allocated faculty member, citations per publication, percent of faculty with grants, awards per allocated faculty member, faculty interdisciplinarity, percent first year students with full support, completion rate, time to degree, percent underrepresented minority faculty, percent female faculty, percent underrepresented minority students, percent female students, percent international students, number of students who graduated, GRE scores, number of student activities

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Other Helpful Websites

- <http://graduate-school.phds.org/about/ranges>
- http://graduate-school.phds.org/about/quality_scores
- http://chronicle.com/article/New-Doctoral-Program-Rankings-124634/?sid=at&utm_source=at&utm_medium=en
- http://chronicle.com/page/2010-Rankings-Doctoral/321/?sid=pm&utm_source=pm&utm_medium=en
- <http://chronicle.com/article/New-Doctoral-Program-Rankings-124634/>

Supplemental Slides

Data Collection from Primary Sources

- Institutional questionnaire – asked for list of doctoral programs and asked about institution-specific practices (viz., health benefits, collective bargaining, definition of A.Y., doctoral student representation [race/ethnicity] in 5 broad categories [life sci., phy. sci. & math, engin., soc. sci., humanities])

Data Collection from Primary Sources (cont'd)

- Questionnaire to each grad program (4,838 programs) – list of faculty, and asked about student, faculty and program characteristics
- English (hum.), ChemE (engin.), Econ (soc.sci.), Physics (phys.sci.) and Neuroscience (life sci.) were asked to provide list of advanced doctoral students
- Faculty were divided into Core, New and Associated – *NRC definition presented problem for RU*

Data Collection from Primary Sources (cont'd)

- Grad program questionnaire (cont'd) – info collected on faculty and student gender, race/ethnicity, number of students in program, number of doctoral degrees awarded per year, time to degree completion, admits/enrolled, definition of full-time status, candidacy requirements, GRE scores, whether TA experience is required, TA obligations, employment assistance and outcomes, availability of workspace for each student, financial support.

Data Collection from Primary Sources (cont'd)

- Individual faculty questionnaire (87,515 respondents – 88% response rate) – asked about educational, work, research and publication history
- Important part of this questionnaire was section that asked faculty to identify those factors which they thought were critical to the quality of doctoral education in their field
- Faculty were also asked if they would be willing to rate other programs within their field
- If a faculty member participates in more than one grad program, the faculty member was allocated according to the number of dissertations supervised in each program; effort could not exceed 100%

Data Collection from Primary Sources (cont'd)

- Student questionnaire sent to advanced doctoral students (i.e., admitted to candidacy) in the fields noted above (11,888 responses – 73% response rate) – focused on student educational background, experiences while in the program, including research activities, and post-graduation plans.
- Rating questionnaire sent to a stratified sample of faculty who agreed to be raters of doctoral programs in their field.

