

# NYU's Participation in the National Research Council (NRC) Research Doctorate Programs Study

## Background

The National Research Council (NRC) is the operating arm of the National Academies of Sciences, of Engineering, and the Institute of Medicine. One of its responsibilities is to organize studies of doctoral education. The first study was conducted in 1982, another in 1995. For the current study the NRC revised the methodology of the 1995 study to replace reputational ratings with quantitative ratings and to update the taxonomy of disciplinary fields.

As in prior studies, New York University participated in the current NRC Research Doctorate Programs Study. Data were collected in the 2006-07 academic year. NYU's participation in the study has been guided by leadership from the NYU NRC Advisory Committee, Steering Committee, and Rapid Response Team<sup>1</sup>.

## Information about the Study and Study Results

The study included:

- (i.) **An institutional survey.** This questionnaire was completed by NYU's Office of Institutional Research.
- (ii.) **Surveys of individual doctoral programs.** NYU submitted data for 46 programs in Courant, GSAS, IFA, Nursing, Sackler, Steinhardt, Tisch, and Wagner, that mapped to the fields in the NRC taxonomy. Of the programs for which NYU submitted data, NRC ultimately chose not to rate or rank eight programs, either because there were too few Ph.D.s granted nationally or because there were too few Ph.D.s granted at NYU during the five year period of data covered in the study.
- (iii.) **A faculty survey.** "Core", "new", and "associated" faculty in programs included in the study were invited to complete a questionnaire. (These terms are defined below.)
- (iv.) **A student survey.** Doctoral students in departments selected by NRC—English, Economics, Physics, and Neuroscience/ Neurobiology—were invited to complete the questionnaire.

The NRC is releasing information from the study in two stages. The [methodology guide](#) was released July 9, 2009. Release dates for the final project report and the full database were not announced as of March 1, 2010. NRC plans to post its database on a web site to enable authorized users to conduct their own analyses.

Many questions can be answered by visiting the study web site at:

<http://sites.nationalacademies.org/pga/Resdoc/index.htm>

For any questions with respect to the study at NYU, please email [nrc.study@nyu.edu](mailto:nrc.study@nyu.edu)

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<sup>1</sup> See p. 5 for list of members of NYU NRC Advisory Committee, Steering Committee and Rapid Response Team.

## FAQ

### **How many disciplinary fields did the NRC study include in its taxonomy?**

The NRC identified 61 main fields within Life Sciences, including Agricultural Sciences; Physical Sciences, Mathematics, and Engineering; Social and Behavioral Sciences; and Arts and Humanities. The NRC also identified 14 emerging fields that do not currently meet the standards of degree production established for the study, but are perceived to be of interest or importance in the future. Programs mapped to emerging fields will be referenced in the NRC report, but will not be rated or ranked. “Main fields” must have produced at least 500 Ph.D.s over the most recent 5 years nationally and be offered in at least 25 universities. A few fields in the humanities that did not meet the threshold requirement were nevertheless included because they had been included in previous studies.

### **What were NRC criteria for including programs in its study?**

Each eligible program satisfied at least three out of the following four criteria: 1) it enrolls students as a program to which students explicitly apply; 2) it has a designated faculty; 3) it has a curriculum for doctoral study; and 4) it recommends students for the award of a doctoral degree. However, a program was ineligible if it produced fewer than five Ph.D.s during the period 2001-02 to 2005-06.

### **Given the NRC taxonomy, which NYU programs participated in the study?**

It is important to stress that the NRC study included only those doctoral programs that mapped onto its taxonomy. The NYU programs that met the NRC requirements for inclusion were American Studies (GSAS), Anthropology (GSAS), Applied Mathematics (GSAS), Cell and Developmental Biology (GSAS), Cellular & Molecular Biology (Sackler), Chemistry (GSAS), Cinema Studies (Tisch) (emerging), Classics (GSAS), Comparative Literature (GSAS), Computer Science (Courant), Culture and Communications (Steinhardt), Developmental Genetics (Sackler), Developmental Psychology (Steinhardt), Economics (GSAS), English and American Literature (GSAS), Environmental Health Science (GSAS), French (GSAS), Genetics, Genomics and Bioinformatics (GSAS), German (GSAS), Hebrew and Judaic Studies (GSAS), History (GSAS), History & Middle Eastern Studies (GSAS), History of Art and Architecture (IFA), Institute for French Studies (GSAS), Italian Studies (GSAS), Linguistics (GSAS), Mathematics (GSAS), Medical Parasitology (Sackler), Microbiology (Sackler), Middle Eastern and Islamic Studies (GSAS), Molecular Oncology & Immunology (Sackler), Molecular Pharmacology (Sackler), Music (GSAS), Neural Science (GSAS), Neuroscience and Physiology (Sackler), Nursing (Dental), Nutrition (Steinhardt), Performance Studies (Tisch), Philosophy (GSAS), Physics (GSAS), Politics (GSAS), Psychology (GSAS), Public Administration (Wagner), Sociology (GSAS), Spanish and Portuguese (GSAS), Structural Biology (Sackler).

### **Which of the participating NYU programs were neither rated nor given a range of rankings?**

Programs in Italian Studies, French Studies, Middle Eastern and Islamic Studies, Hebrew and Judaic Studies, and History and Middle Eastern Studies were not rated/ranked (though their program information will still be included in the database) because there weren't enough programs nationally to produce meaningful rankings.

Classics, Nutrition, and Structural Biology were not rated/ranked because each program awarded fewer than five doctorates at NYU in the requisite time span.

Cinema Studies was not rated/ranked because it is an “emerging field.”

### **Which faculty members qualified to participate in the study?**

*Core program faculty:* Faculty members who had served (or were serving) as a Chair or member of a program dissertation committee at the time of the study (2006-2007) or in the prior five academic years (2001-2002 through 2005-2006), or who were serving as a member of the graduate admissions or curriculum committee at the time of the study (2006-2007). It was further required that the faculty member be formally designated as faculty in the program at the time of the survey, and that he/she did not serve only as an outside reader who did not contribute substantially to the development of the dissertation(s). Adjunct faculty could not be classified as core faculty. In general emeritus faculty were excluded, except for those who, within the three years prior to the study (2003-2004 through 2005-2006), had either chaired a dissertation committee (i.e., been the PhD supervisor) or been the primary instructor for a doctoral course listed in the catalog for credit.

*New program faculty:* Faculty members who were hired in tenured or tenure-track positions in the academic years 2003-2004 through 2005-2006, and who were expected to become involved in the graduate program subsequently.

*Associated faculty:* Faculty who had chaired (or were chairing) or had served (or were serving) on program dissertation committees at the time of the study (2006-2007) or in the prior five years (2001-2002 through 2005-2006), but who were not designated either core or new faculty in the program. Outside readers or faculty currently employed at other universities could not be included. Faculty who were not employed by the University (nor at any other university) may still have been considered associated faculty for a program as long as they held some type of university appointment at NYU (i.e., a faculty member with an adjunct appointment who also worked in industry or at a national lab) and had served on a dissertation committee in the prior five years. In general, emeritus faculty were not to be included except for those who met the same criteria required to be considered “core”.

### **How did the NRC determine program ratings and rankings?**

The NRC hoped to get beyond the subjective rankings in such lists as that produced by U.S. News and World Report that are primarily based on “reputations” that may be long out of date. Instead, it sought to measure fairly objective indicators, ranging from publications per faculty member to gender and ethnic diversity among the student body to awards won. The NRC finally settled on 20 quantitative variables for each program, (19 for programs in the humanities.)

Each variable was assigned a relative importance (a weight) and the weighted sum of all the variables for a given program resulted in an initial score, referred to as a rating. Given ratings for all the programs (institutions) in a particular field, a range of rankings of the programs in the field was determined. Such rankings are considered more objective since they are obtained directly from the quantitative, objectively measured variables. Putatively, the only subjective element in these scores and rankings came into play via the determination of weights attributed to each variable, which are the same for each program in a given field (see below).

### **How was the relative importance of each variable (its weight) determined?**

In each field the NRC asked a representative group of faculty for a pilot subjective ranking of a subset of 50 programs and then adjusted the weights to predict those subjective rankings using a statistical procedure called “multiple regression”. In this procedure each variable was weighted in importance for the overall rating by its relative strength in reproducing the subjective rankings of that subset of 50 programs in the field.

**How were ranges of rankings obtained?**

Since not all faculty members at all institutions were asked to rank programs and since not all programs were included in the statistical analysis, the results obtained were subject to sampling error: if a different sample of fifty programs had been drawn, or a different set of faculty queried, the estimated weights used in assigning scores would have been different due to chance. Thus, to account for random error inherent in any such statistical process, and to obtain a more robust range of ratings and rankings, the NRC deployed a technique called “half-sample sampling.” In this method the predictive regression procedures were performed on 25 of the original 50 programs. The aim was to determine the relative importance (i.e. the weight) of each variable, based on how well the objective measures predicted the subjective ratings for those 25 programs.

In other words, imagine that you have a giant alphabet soup with one of each letter in the broth and that each time you dip your ladle you randomly obtain exactly half of those letters per serving. You jot down those letters: that’s one “half” sample. Then you dump the soup back into the pot, stir and ladle again. For each of these ladled “servings,” you predict a subjective score by assigning an appropriate weight to each variable. In one sample the faculty-to-student ratio might matter one-tenth as much as faculty publications; in another sample it could matter equally. This provides a range across the 500 samples for each variable’s weight.

Once this first step of “half-sample sampling” was done (separately for each field since different disciplines may value different variables to a greater or lesser extent), the "subjective" survey rankings were discarded. The next step involved applying those weights to the variable values for all the programs in the field — that is, those that were listed in the original subset of 50 that was used to determine the weights, as well those that were not in that original subset. The results of plugging in these values produced 500 possible rankings of all the programs in a given field. For any given program what was reported was the statistical sample that produced the 125th best ranking for that program (i.e. the 75th percentile) and that of the 375th best ranking (i.e. the 25th percentile). This is the "range" of possible rankings for the program in question.

**Is it useful to compare rankings from the current NRC study with those from the previous NRC study?**

Results from the current study cannot be fully compared to the results from 1995, as the methodology was completely different for the current study.

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# List of NYU NRC Committee Members (2010)

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## NYU NRC Rapid Response Team

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