Memorandum

Date: February 24, 2011

To: Shelly Martinez, Desk Officer
             Office of Management and Budget

From: Lynda T. Carlson, Division Director
             National Center for Science and Engineering Statistics
             National Science Foundation

Via: Suzanne Plimpton, Reports Clearance Officer
             National Science Foundation

Subject: Request for Approval of Methodological Work on the NSF-NIH Survey of Graduate Students and Postdoctorates in Science and Engineering (GSS)

The National Science Foundation requests approval of methodological work for the GSS to determine: (1) institutions' eligibility for the survey and (2) the best procedures to use to efficiently screen potentially eligible institutions. Approximately 500 institutions, primarily master-level institutions, have been identified using Integrated Postsecondary Education Data System (IPEDS) completions data and other sources as offering graduate degrees that may be eligible for the GSS. Eligibility will be determined for the branch campuses and separately organized schools that offer eligible graduate degree programs at the 500 institutions.

Background

The target population for the GSS is defined as U.S. academic institutions that offer graduate degree-credit programs in the sciences and engineering (as defined by NSF) and in health-related fields (as defined by NIH) in the U.S., including post-baccalaureate programs. An institution is considered eligible, or in-scope, if it meets at least one of the following criteria:

- Grants at least one master's or doctoral degree in at least one program listed in selected NCES Classification of Instructional Programs (CIP) codes.
- Has at least one postdoctoral appointee or non-faculty research staff member conducting research in at least one of the following broad areas: agricultural sciences, computer sciences, engineering, environmental sciences, life sciences (biological and health), mathematical sciences, physical sciences, psychology, and social sciences.

The initial determination of the 500 institutions' eligibility for the GSS was based on a review of the institutions' websites for information pertaining to the CIP codes of graduate degree completions reported to IPEDS. While determining the institutions' eligibility, the survey contractor also identified additional graduate programs that may have been eligible. The review resulted in assigning a code to each institution as "likely to be eligible", "unlikely to be eligible", or "undetermined" based on the eligibility of the graduate degree programs listed on the institutions' website. The results of the initial eligibility determination after the QC review are displayed in Table 1 below.

Table 1. Eligibility codes based on reviews of institutions' websites

Code	Value	Number of institutions
2	Likely to be Eligible	219
3	Unlikely to be Eligible	270
4	Undetermined	41
5	Ineligible (School reported by existing GSS institution)	20
6	Ineligible (School closed)	2
7	Ineligible (No GSS-eligible programs identified at school)	6
	Total	558

We had originally planned to base the decision of whether or not to add institutions to the GSS only on the results of the website reviews. Given degree program variability within and across institutions and their schools, we decided that further screening is necessary to confirm and verify the eligibility of the degree programs offered.

Proposed methodology

Within institutions, schools will be contacted and asked to complete a short screener questionnaire via the web. The initial contact will be with the institutional research office with additional contacts to other offices (such as the graduate school) if the institutional research office contact cannot be identified. Large schools and schools that do not complete the web survey will be asked to complete the screener questionnaire by phone.

For most GSS-eligible fields of study, the screening process will confirm that a graduate degree identified in the IPEDS completion data and the institution website review is offered in that field. However, there are three conditions based on field types which will require additional screening to determine eligibility.

1. Some fields have specific practitioner degrees that are excluded from GSS: architecture, anesthesiology, dental sciences, nursing, ophthalmology, pharmaceutical sciences, veterinary science, clinical medicine (not elsewhere classified) and chemistry.

   For these fields, respondents will be asked to list the graduate degree programs offered in the field.

2. In some GSS-eligible fields there are distinctions between research-oriented and practitioner-oriented degrees that are not clear by the name of the degree program. These fields are: nutrition, family and consumer sciences, communication disorders sciences, health-related fields (not elsewhere classified), psychology, political science/public administration.

   For these fields, respondents will be asked to answer 4-5 additional items.

3. In two fields, engineering management and management information systems, there is a distinction between whether the degree is primarily a management degree or a science and engineering degree.

For these fields, respondents will be asked if they would categorize the program as a science and engineering program, management program, or multidisciplinary/interdisciplinary program.

The screener questionnaire and eligibility determination criteria are provided in Attachment 1. Answers to the screener questionnaire will be used to determine eligibility based on the criteria provided in Attachment 1. If there is a conflict between the eligibility statuses determined from the screener questionnaire versus the website review, the institution/school will be contacted to obtain additional information related to eligibility criteria. NSF will review the final recommendations made by the survey contractor concerning institutions' eligibility and will decide which institutions to include in the 2011 GSS.

Results of the screening process will be analyzed to determine the best procedures for screening potentially eligible institutions/schools in future GSS cycles. For example, we will investigate whether there are CIP codes for which the degree program eligibility status was the same across all sources (IPEDS completion, institution website review, and screening survey). This will allow us to streamline the future screening process and increase efficiency.

The tentative schedule for this methodological work is as follows:

Proposed Date	Activity or Deliverable
February 24, 2011	OMB submission for approval
March 10, 2011	OMB clearance
March 22, 2011	Finalize instrument and send letters to presidents of potentially new institutions
March 28, 2011	Send emails to contact persons at potentially new institutions to begin eligibility screening survey data collection
April 11, 2011	Begin phone prompts, answer questions
May 23, 2011	End eligibility screening survey data collection
June 15, 2011	Preliminary institution database and methodology report available to NSF
July 8, 2011	Final database and report available to NSF
August 5, 2011	NSF approval of eligible institutions to be included in 2011 GSS

Response Burden

We estimate approximately 250 burden hours for this methodological work: a 15 minute survey for approximately 1,000 departments in 500 institutions. Approximately 15 minutes per department should provide sufficient time for completing the screening questionnaire. This estimate is covered by the current GSS clearance which includes 360 burden hours for future testing needs.

Contact Person

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Attachment 1

I. Eligibility Screening Questions for GSS Frame Expansion

Introduction Questions (asked of all school respondents)

1. On behalf of NSF and NIH, we would like to ask you a few questions about some of your graduate programs and degrees to determine if <SCHOOLNAME> is eligible to participate in the Survey of Graduate Students and Postdoctorates in Science and Engineering (GSS).

2. Please answer 'Yes' or 'No' to indicate whether <SCHOOLNAME> offers <u>graduate</u> degrees in each of the following academic fields of study listed below.

   [List academic field names identified from IPEDS and during school website review]

   (YES/NO)

3. In addition to the academic fields of study that you reported in the previous question, please review the list below and select any fields in which <SCHOOLNAME> is offering graduate degrees.

   Do not include certificate programs that <u>only</u> award professional degrees, such as AuD, DCS, DDS, DN, DNP, DO, DPM, DPT, DScPT, EdD, JD, MD, ND, OD, OTD, PharmD, PsyD, or master's in biomedical technology/technician, dental hygiene/hygienist, pharmacy, pharmaceutical sciences/administration, OT, PT, or nursing (<u>except</u> nursing science).

   [List GSS eligible fields from Attachment 2]

FOR EACH FIELD REPORTED AS "YES" IN Q2, FOLLOWED BY EACH FIELD SELECTED IN Q3, ASK:

4. a) Please provide the name of the department at <SCHOOLNAME> that grants <u>graduate</u> degrees in <u><GSSCODE></u>. [ONLY ASKED ONCE] If you have more than one department that awards graduate degrees in this field, please enter the first of those departments.

   (ENTER DEPT NAME)

   b) What is the highest degree offered within this department?

   (Master's degree, Doctoral degree, Other degree-specify)

   c) Please list all graduate degree programs offered by this department.

   (ENTER DEGREE PROGRAM NAME: e.g., PhD in Clinical Psychology, Master's in Organizational Psychology)

THE GSS FIELDS HIGHLIGHTED IN BLUE IN ATTACHMENT 2 WILL BE SCREENED FURTHER USING THE ADDITIONAL QUESTIONS BELOW.

THE GSS FIELDS HIGHLIGHTED IN YELLOW (COMPUTER SCIENCE AND ENGINEERING MANAGEMENT) WILL BE SCREENED USING ONLY THE INTRODUCTION QUESTIONS 1-4 ABOVE AND THE QUESTION HIGHLIGHTED IN YELLOW BELOW.

Questions for master's degree programs[1] [Asked IF 4b=Master's degree]

M1.a) Is the master's degree program in the <DEPARTMENT NAME> designed to prepare students to pursue a research doctorate?   (YES/NO)

b) [IF YES:] Over the last 3 years, approximately what percentage of students in the master's program in <DEPARTMENT NAME> have gone on to pursue a research doctorate?

(Less than 25%, 25-50%, Over 50%, DK)

c) [IF DK:] What is your best guess?   (Less than 25%, 25-50%, Over 50%, DK)

M2. a) Is the master's degree program in the <DEPARTMENT NAME> designed to prepare students for research-oriented careers?   (YES/NO)

b) [IF YES:] Over the last 3 years, approximately what percentage of graduates from the master's degree program in <DEPARTMENT NAME> found jobs in research-oriented careers?

(Less than 25%, 25-50%, Over 50%, DK)

c) [IF DK:] What is your best guess?   (Less than 25%, 25-50%, Over 50%, DK)

M3. a) Does the master's degree program in <DEPARTMENT NAME> include a research requirement that students need to complete before obtaining their degree, for example, a research-based thesis?   (YES/NO/OPTIONAL)

b) [IF YES:] What is the requirement?   (OPEN ENDED RESPONSE)

M4. a) Does the master's degree program in <DEPARTMENT NAME> lead to professional licensure?

(YES/NO/OPTIONAL)

b) [IF YES/OPTIONAL:] Over the past 3 years, approximately what percent of graduates of the master's degree program in <DEPARTMENT NAME> took the licensing exam?

(Less than 25%, 25-50%, Over 50%, DK)

c) [IF DK:] What is your best guess?   (Less than 25%, 25-50%, Over 50%, DK)

M5. Finally, what type of work or study do the graduates with master's degree in <DEPARTMENT NAME> typically pursue after obtaining their degree?   (OPEN ENDED RESPONSE)

M6. [ASK ONLY FOR COMPUTER SCIENCE/MIS AND ENGINEERING MANAGEMENT DEGREE PROGRAMS] Would you categorize the master's degree program in [engineering management/management information systems or information sciences systems] as a:
[PROVIDE A CHECK BOX NEXT TO EACH CATEGORY BELOW SO MORE THAN ONE RESPONSES CAN BE SELECTED]

a)   science and engineering program,
b)   management program, or
c)   multidisciplinary/interdisciplinary program?

Questions for doctorate-level programs [Asked IF 4b=doctoral degree:]

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[1] If respondents indicate the degree offered is "other" in Q5, they will be asked the same questions as for master's degree programs, replacing the word "master's" with "graduate". Questions will be asked about "other" programs only if the respondent lists no doctoral or masters programs.

D1. a) Is the doctoral degree program in <DEPARTMENT NAME> designed to prepare students for research-oriented careers?   (YES/NO)

b)   [IF YES:] Over the last 3 years, approximately what percentage of graduates from the doctorate program in <DEPARTMENT NAME> found jobs in research-oriented careers?

(Less than 25%, 25-50%, Over 50%, DK)

c) [IF DK:] What is your best guess?   (Less than 25%, 25-50%, Over 50%, DK)

D2. a) Does this doctorate program in <DEPARTMENT NAME> include a research requirement that students need to complete before obtaining their degree, for example, a research-based thesis?

(YES/NO/OPTIONAL)

b) [IF YES:] What is the requirement?   (OPEN ENDED RESPONSE)

D3. a) Does the doctoral degree program in <DEPARTMENT NAME> lead to professional licensure?

(YES/NO/OPTIONAL)

b) [IF YES/OPTIONAL:] Over the past 3 years, approximately what percent of graduates of the doctoral degree program in <DEPARTMENT NAME> took the licensing exam?

(Less than 25%, 25-50%, Over 50%, DK)

c.) [IF DK:] What is your best guess?   (Less than 25%, 25-50%, Over 50%, DK)

D4. Finally, what type of work or study do the graduates with doctoral degree in <DEPARTMENT NAME> typically pursue after obtaining their doctorate?   (OPEN ENDED RESPONSE)

D5. [ASK ONLY FOR COMPUTER SCIENCE/MIS AND ENGINEERING MANAGEMENT DEGREE PROGRAMS] Would you categorize the doctoral degree program in [engineering management/management information systems or information sciences systems] as:
[PROVIDE A CHECK BOX NEXT TO EACH CATEGORY BELOW SO MORE THAN ONE RESPONSES CAN BE SELECTED]

a) science and engineering program,
b) management program, or
c) multidisciplinary/ interdisciplinary program?

5. Is there another department that grants graduate degrees in <GSSCODE>?   (YES/NO)

IF YES: GO BACK TO Q4a.

IF NO: LOOP IS REPEATED FOR THE NEXT FIELD.

II. Eligibility Determination Criteria for Selected Fields That Require Additional Screening Questions

1. A **program eligibility variable** will be constructed using the initial questions in the research/practice question series (QM1a – QM3a/QD1a-QD2a). Degree programs that have yes answers to 2 of these questions will be considered eligible, although their status will be reviewed if the respondent also answered yes to the professional licensing question (QM4a/QD3a). Degree programs that have a yes answer to only 1 of these questions will be reviewed using information from the school website review the followup questions (QM5/QD4). Degree programs with all no answers to the first question series will be considered ineligible.

2. A **response quality variable** will also be constructed using each of the follow-up sub-questions in the research/practice series. If the degree programs are research oriented (Yes to QM1a/QM2a/QD1a), cases would get a code of 100 if they said that 50%+ of their students pursue a research doctorate (QM1b), and another 100 if they said that 50%+ work in research oriented fields (QM2b/QD1b), and an additional 100 if they provided valid research requirements (QM3b/QD2b). Lower points (10 each) would be given if less than 50% pursued research doctorates or work in research oriented fields, and 1 point would be given for don't know responses. The point values should not be considered weights; the values are assigned to make sure that unique patterns of response are captured in the variable. These response quality variables will be summed to create a Total Quality Response Variable for each degree program.

3. A crosstab will be run on the program eligibility variable by the response quality variable. Programs deemed to be eligible that have values of less than 200 on the Total Quality Response variable will be reviewed for further determination.

One of the reasons the follow-up sub-questions are included although qualitative in nature is that the school respondents, when asked about whether their students pursue research careers/study, sometimes over-report such instances.

Algorithm for determining final eligibility:

1. Program eligibility

   Count the number of Yes answers to QM1a, QM2a/QD1a, and QM3a/QD2a.
   - If TotalYes = 2 or 3, and QM4/QD3 = No then Program = Eligible.
   - If TotalYes = 2 or 3, and QM4/QD3 = Yes then Program = Eligible unless degree exclusions apply.
   - If TotalYes = 1 and QM4/QD3 = No then review QM5/QD4 responses and decide eligibility.
   - If TotalYes = 1 and QM4/QD3 = Yes then review QM5/QD4 responses and decide eligibility.
   - If TotalYes = 0 then Program = Ineligible.

2. Response quality
   - Recode RQM1: 100 if QM1a=1 and (QM1b or QM1c)>50%; 10 if QM1a=1 and (QM1b or QM1c)>50%; or 1 if QM1a=1 and (QM1b or QM1c)=DK.
   - Recode RQM2/RQD1: 100 if QM2a/QD1a=1 and QM2b/QM2c/QD1b/QD1c >50%; 10 if QM2a/QD1a=1 and QM2b/QM2c/QD1b/QD1c < 50%; or 1 if QM2a/QD1a=1 and QM2c/QD1c=DK.
   - Recode RQM4/RQD3: 100 if QM4a/QD3a=1 and QM4b/QD3b/QM4c/QD3c >50%; 10 if QM4a/QD3a=1 and QM4b/QM4c/QD3b/QD3c< 50%; or 1 if QM4a/QD4a=1 and QM4c/QD3c=DK.
   - Recode RQM3/RQD2: 100 if QM3a/QD2a=1 and QM3b/QD2b = valid research requirements; 10 if QM3a/QD2a=1 and QM3b/QD2b =invalid research requirements; or 1 if QM3a/QD2a=1 and QM3b/QD2b=DK.

3. Total quality response

   For master's program: Sum (RQM1, RQM2, RQM3, RQM4);
   For doctorate program: Sum (RQD1, RQD2, RQD3)

Attachment 2

2010 Survey of Graduate Students and Postdoctorates in Science and Engineering (GSS)

Complete List of Eligible Fields and Codes

Contents:

Please <u>do not</u> include certificate programs <u>or</u> units that only award professional degrees, such as AuD, DDS, DN, DNP, DO, DPM, DPT, DScPT, JD, MD, ND, OD, OTD, PharmD, or PsyD.

Field	GSS code	Additional Program Titles	
Agricultural Science Fields (see also 102)			
Agricultural Economics	901	Natural Resource Economics	
Agricultural Sciences	501	Agricultural and Horticultural Plant Breeding	Horticultural Science
		Agricultural Animal Breeding	International Agriculture
		Agriculture, Agriculture Operations and Related Sciences	Land Use Planning and Management/Development
		Agronomy and Crop Science	Livestock Management
		Animal Health	Natural Resources Management and Policy
		Animal Nutrition	
		Animal Sciences	Natural Resources/Conservation
		Dairy Science	Ornamental Horticulture
		Environmental Science	Plant Protection and Integrated Pest Management
		Environmental Studies	
		Fishing and Fisheries Sciences and Management	Plant Sciences
			Poultry Science
		Food Science	Range Science and Management
		Food Science and Technology	
		Food Technology and Processing	Soil Chemistry and Physics
		Forest Management/Forest Resources Management	Soil Microbiology
			Soil Science and Agronomy
		Forest Resources Production and Management	Soil Sciences
			Urban Forestry
		Forest Sciences and Biology	Water, Wetlands, and Marine Resources Management
		Forestry	Wildlife and Wildlands Science and Management

Field	GSS code	Additional Program Titles	
Architecture Fields			
Architecture (exclude MArch, DArch., and DED)	940		
Biological Science Fields			
Anatomy	601		
Biochemistry	602	Biochemistry/Biophysics and Molecular Biology	
Biology	603	Biological Sciences	
Biometry and Epidemiology	604	Bioinformatics Biomathematics Biometry/Biometrics	Biostatistics Medical Informatics
Biophysics	605		
Botany	606	Plant Biology Plant Molecular Biology	Plant Pathology/Phytopathology Plant Physiology
Cell and Molecular Biology	607	Cell Biology and Anatomy Cell/Cellular and Molecular Biology Cell/Cellular Biology and Histology Developmental Biology and Embryology	Molecular Biochemistry Molecular Biophysics Neuroanatomy Photobiology Structural Biology
Ecology	608		
Entomology and Parasitology	609		
Genetics	610	Animal Genetics Evolutionary Biology Human/Medical Genetics	Microbial and Eukaryotic Genetics Molecular Genetics Plant Genetics
Microbiology, Immunology, and Virology	611	Medical Microbiology and Bacteriology Mycology	
Neuroscience	950		
Nutrition[i]	612	Foods, Nutrition Human Nutrition	Nutrition Science
Pathology	613	Experimental Pathology	
Pharmacology	614	Environmental Toxicology Molecular Pharmacology Molecular Toxicology	Neuropharmacology Pharmacology and Toxicology Toxicology
Physiology	615	Cell Physiology Exercise Physiology Molecular Physiology Neurobiology and Neurophysiology	Oncology and Cancer Biology Physiology, Pathology, and Related Sciences Reproductive Biology Vision Science/Physiological Optics
Zoology	616	Animal Behavior and Ethology Animal Biology	Animal Physiology Wildlife Biology

Field	GSS code	Additional Program Titles	
Biosciences, not elsewhere classified	617	Aquatic Biology/Limnology Bioethics/Medical Ethics Biological and Life Sciences, Other Biomedical Sciences Biotechnology Conservation Biology	Ecology, Evolution, Systematics and Population Biology Environmental Biology Medical Illustration Population Biology Systematic Biology/Biological Systematics

Communication Fields

Field	GSS code	Additional Program Titles	
Communication	930	Communication and Media Studies Communication Studies/Speech Communication and Rhetoric Digital Communication and Media/Multimedia	Health Communication Mass Communication/Media Studies Organizational Communication Political Communication

Computer Science Fields

Field	GSS code	Additional Program Titles	
Computer Science (exclude DCS)	401	Artificial Intelligence and Robotics Computer and Information Sciences Computer and Information Systems Security Computer Graphics Computer Systems Analysis/Analyst	Computer Systems Networking and Telecommunications Data Modeling/Warehousing and Database Administration Information Science/Studies Information Technology Management Information Systems Management Science

Earth, Atmospheric, and Ocean Science Fields

Field	GSS code	Additional Program Titles	
Atmospheric Sciences	301	Atmospheric Chemistry and Climatology	Atmospheric Physics and Dynamics Meteorology
Geosciences	302	Geochemistry Geochemistry and Petrology Geology/Earth Science	Geophysics and Seismology Hydrology and Water Resources Science Paleontology
Ocean Sciences	303	Marine Biology and Biological Oceanography	Oceanography, Chemical and Physical
Earth, Atmospheric, and Ocean Sciences, not elsewhere classified	304		

Engineering Fields

Field	GSS code	Additional Program Titles	
Aerospace Engineering	101	Aeronautical Engineering	Astronautical Engineering
Agricultural Engineering	102	Bioengineering	Biological Engineering
Biomedical Engineering	103	Biomedical/Medical Engineering	Biomedical Technology/Technician (exclude master's)
Chemical Engineering	104	Polymer/Plastics Engineering	Wood Science and Wood Products/Pulp and Paper Technology
Civil Engineering	105	Architectural Engineering Environmental/Environmental Health Engineering Geotechnical Engineering Structural Engineering	Surveying Engineering Transportation and Highway Engineering Water Resources Engineering

Field	GSS code	Additional Program Titles	
Electrical Engineering	106	Communication Engineering Computer Engineering Computer Hardware Engineering	Computer Software Engineering Electronics Engineering
Engineering Science & Physics	107	Engineering Physics	Engineering Science
Industrial/Manufacturing Engineering	108	Operations Research	Systems Engineering
Engineering Fields - continued next page			
Engineering Fields – continued			
Mechanical Engineering	109	Engineering Mechanics	
Metallurgical and Materials Engineering	110	Ceramic Sciences and Engineering Materials Science	Textile Science Textile Sciences and Engineering
Mining Engineering	111	Geological/Geophysical Engineering	Mineral Engineering
Nuclear Engineering	112		
Petroleum Engineering	113		
Engineering, not elsewhere classified	114	Construction Engineering Forest Engineering	Naval Architecture and Marine Engineering Ocean Engineering
Family and Consumer Sciences/Human Sciences Fields			
Family and Consumer Sciences/Human Sciences	920	Adult Development and Aging Business Family and Consumer Sciences/Human Sciences Child Development Consumer Economics	Family Systems Housing and Human Environments Human Development and Family Studies
Health Fields (see also 103)			
Anesthesiology	701	Nurse Anesthetist (exclude master's)	
Cardiology	702	Cardiovascular Science	Cardiovascular Diseases
Communication Disorders Sciences	723	Audiology/Audiologist and Hearing Sciences (exclude AuD) Audiology/Audiologist and Speech Language Pathology/ Pathologist	Communication Disorders Sciences and Services, Other Speech-Language Pathology/Pathologist
Dental Sciences	718	Advanced/Graduate Dentistry and Oral Sciences, Other (exclude DDS) Dental Clinical Sciences, General Dental Hygiene/Hygienist (exclude master's) Dental Materials Dental Public Health and Education	Endodontics/Endodontology Oral Biology and Oral Pathology Oral/Maxillofacial Surgery Orthodontics/Orthodontology Pediatric Dentistry/Pedodontics Periodontics/Periodontology Prosthodontics/Prosthodontology
Endocrinology	704	Pediatric Endocrinology	
Gastroenterology	705		
Hematology	706	Pediatric Hematology	
Neurology	707		
Nursing Science (research master's & PhD only)	719		
Health Fields - continued next page			

Field	GSS code	Additional Program Titles	
Health Fields (see also 103) – continued			
Nursing (exclude master's, ND & DNP)	719	Adult Health Nurse/Nursing (exclude master's) Clinical Nurse Specialist (exclude master's) Critical Care Nursing (exclude master's) Family Practice Nurse/Nurse Practitioner (exclude master's) Maternal/Child Health and Neonatal Nurse/Nursing (exclude master's) Nurse Midwife/Nursing Midwifery (exclude master's) Nursing – Registered Nurse Training (exclude master's) Nursing Administration (exclude master's)	Nursing, Other (exclude master's) Occupational and Environmental Health Nursing (exclude master's) Pediatric Nurse/Nursing (exclude master's) Perioperative/Operating Room and Surgical Nurse/Nursing (exclude master's) Psychiatric/Mental Health Nurse/Nursing (exclude master's Public Health/Community Nurse/Nursing (exclude master's)
Obstetrics and Gynecology	708		
Oncology/Cancer Research	703	Pediatric Oncology	
Ophthalmology (exclude OD)	709		
Otorhinolaryngology	710		
Pediatrics	711	Prematurity & Newborn	
Pharmaceutical Sciences (exclude PharmD)	720	Clinical and Industrial Drug Development Industrial and Physical Pharmacy and Cosmetic Sciences Medicinal and Pharmaceutical Chemistry Natural Products Chemistry and Pharmacognosy Pharmaceutics and Drug Design	Pharmacoeconomics/ Pharmaceutical Economics Pharmacy Administration/Policy/ Regulatory Affairs (exclude master's) Pharmacy, Pharmaceutical Sciences, and Administration, Other (exclude master's)
Preventive Medicine and Community Health	712	Environmental Health Health Services/Allied Health/Health Sciences Health/Medical Physics International Public Health/ International Health	Maternal and Child Health Occupational Health and Industrial Hygiene Public Health Education and Promotion Public Health Public Health Medicine
Psychiatry	713	Behavioral Medicine (clinical)	Child Psychiatry
Pulmonary Disease	714		
Radiology	715	Radiation Biology/Radiobiology Radiation Oncology/Therapeutic Radiology	Radiation Protection/Health Physics Technician
Surgery	716	Orthopedics/Orthopedic Surgery	
Health Fields - continued next page			

Field	GSS code	Additional Program Titles	

Health Fields (see also 103) – continued

Field	GSS code	Additional Program Titles	
Veterinary Sciences (exclude DVM)	721	Comparative and Laboratory Animal Medicine Large Animal/Food Animal & Equine Surgery/Medicine Small/Companion Animal Surgery and Medicine Veterinary Anatomy Veterinary Biomedical and Clinical Sciences Veterinary Biomedicine and Clinical Sciences	Veterinary Infectious Diseases Veterinary Medicine Veterinary Microbiology and Immunobiology Veterinary Pathology and Pathobiology Veterinary Physiology Veterinary Preventive Med Epidemiology/Public Health Veterinary Toxicology and Pharmacology
Clinical Medicine, not elsewhere classified (exclude DN, OD, DO, DPM, & MD)	717	Aerospace Medicine Allergy Clinical Laboratory Medicine Clinical Laboratory Science/Medical Technology/Technologist Clinical/Medical Laboratory Science and Allied Professions, Other (exclude master's) Complementary and Alternative Medicine Connective Tissue Diseases Critical Care Medicine Dermatology Diabetes Emergency Medicine	Family Medicine Infectious Diseases Internal Medicine Gene Therapy HIV/AIDS Liver Diseases Medical Scientist (exclude MD) Metabolic diseases Nephrology Neurology/Neurosurgery Occupational Medicine Palliative Care Physical Medicine and Rehabilitation/Physiatry Trauma Urology
Health-Related, not elsewhere classified	722	Assistive/Augmentative Technology and Rehabilitation Engineering Athletic Training/Trainer - Sports Medicine Exercise Science/Physiology and Movement Studies	Health Professions and Related Clinical Sciences, Other (exclude master's) Occupational Therapy/Therapist (exclude master's and OTD) Physical Therapy/Therapist (exclude master's, DPT, and DScPT)

Interdisciplinary - see Multidisciplinary/Interdisciplinary Studies on page 8

Mathematical Science Fields

Field	GSS code	Additional Program Titles	
Mathematics and Applied Mathematics	402	Algebra and Number Theory Analysis and Functional Analysis Computational Mathematics	Geometry/Geometric Analysis Topology and Foundations
Statistics	403	Actuarial Science Business Statistics	Mathematical Statistics and Probability

Multidisciplinary - see Multidisciplinary/Interdisciplinary Studies on page 8

Physical Science Fields

Field	GSS code	Additional Program Titles	
Astronomy	201	Astrophysics	Planetary Astronomy and Science
Biochemistry	602	Biochemistry/Biophysics and Molecular Biology	

Physical Science Fields - continued next page

Field	GSS code	Additional Program Titles	
Physical Science Fields – continued			
Chemistry (exclude ChemD)	202	Analytical Chemistry Chemical Physics Inorganic Chemistry Organic Chemistry	Physical and Theoretical Chemistry Polymer Chemistry
Physics (see also 605)	203	Acoustics Atomic/Molecular Physics Elementary Particle Physics Nuclear Physics Optics/Optical Sciences	Plasma and High-Temperature Physics Solid State and Low - Temperature Physics Theoretical and Mathematical Physics
Physical Sciences, not elsewhere classified	204		
Psychology Fields			
Clinical Psychology (exclude PsyD)	803	Clinical Child Psychology	
Psychology, Combined	801	Psychology, General	
Psychology, except Clinical	802	Art Therapy (exclude master's) Cognitive Psychology and Psycholinguistics Community Psychology Comparative Psychology Counseling Psychology Developmental and Child Psychology Educational Psychology Environmental Psychology Experimental Psychology Family Psychology Forensic Psychology	Geropsychology Health Psychology Industrial and Organizational Psychology Personality Psychology Physiological Psychology/Psychobiology Psychology, Other Psychometrics and Quantitative Psychology Psychopharmacology School Psychology Social Psychology
Social Science Fields			
Agricultural Economics	901	Natural Resource Economics	
Anthropology (Cultural and Social)	902	Archeology	Physical Anthropology
Economics	903	Applied Economics Business/Managerial Economics Development Economics and International Development	Econometrics and Quantitative Economics International Economics
Geography	904	Cartography	
History and Philosophy Of Science (combined program)	905	History and Philosophy of Science/Technology	
Linguistics	906	Linguistics of ASL, and Other Sign Languages	
Political Science/Public Administration	907	American Government and Politics Canadian Government and Politics	International Relations and Affairs Political Science and Government Public Policy Analysis
Social Science Fields - continued next page			

Field	GSS code	Additional Program Titles	

Social Science Fields – continued

Field	GSS code	Additional Program Titles	
Sociology	908	Demography and Population Studies	
Sociology/Anthropology (combined program)	909		
Social Sciences, not elsewhere classified	910	African Studies African-American/Black Studies American Indian/Native American Studies American/United States Studies/Civilization Area Studies Asian Studies/Civilization Asian-American Studies Balkans Studies Baltic Studies Canadian Studies Caribbean Studies Central/Middle and Eastern European Studies Chinese Studies Commonwealth Studies Criminal Justice/Safety Studies Criminalistics and Criminal Science Criminology East Asian Studies Ethnic, Cultural Minority, and Gender Studies, Other European Studies/Civilization Forensic Science and Technology French Studies Gay/Lesbian Studies	German Studies Hispanic-American, Puerto Rican, Mexican American Studies Italian Studies Japanese Studies Korean Studies Labor Studies Latin American Studies Near and Middle Eastern Studies Organizational Behavior Studies Pacific Area/Pacific Rim Studies Polish Studies Regional Studies (US, Canadian, Foreign) Russian Studies Scandinavian Studies Slavic Studies South Asian Studies Southeast Asian Studies Spanish and Iberian Studies Tibetan Studies Ukraine Studies Ural-Altaic and Central Asian Studies Urban Affairs/Studies Western European Studies Women's Studies

Multidisciplinary/Interdisciplinary Studies

Field	GSS code	Additional Program Titles	
Multidisciplinary/ Interdisciplinary Studies	980	Accounting and Computer Science (combined program) Behavioral Sciences Biological and Physical Sciences Biopsychology Cognitive Science Gerontology Holocaust and Related Studies Intercultural/Multicultural and Diversity Studies International/Global Studies	Mathematics and Computer Science (combined program) Natural Sciences Peace Studies and Conflict Resolution Science, Technology and Society Systems Science and Theory

[i] THE GSS FIELDS HIGHLIGHTED IN BLUE AND YELLOW WILL BE ASKED ADDITIONAL SCREENING QUESTIONS AS INDICATED IN ATTACHMENT 1.