RESEARCH Notes
University System of Georgia Board of Regents -- Office of Strategic Research and Analysis

Doctorate Degrees Awarded in the University System of Georgia and the Nation

Introduction

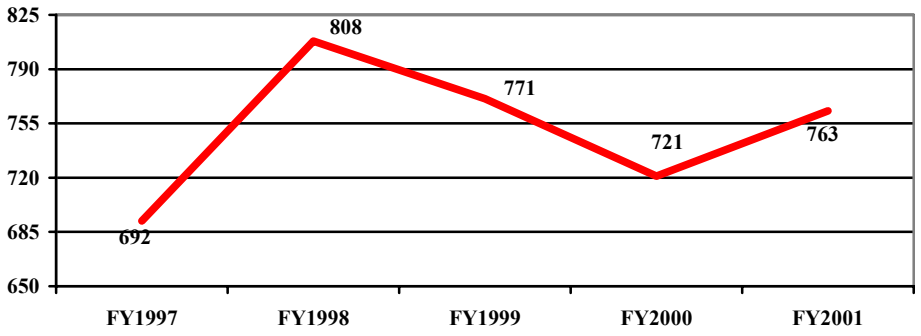
In most fields, doctorate degrees represent the top or "terminal" level of academic achievement in higher education. Doctorate programs are generally more time- and resource-intensive than programs at other degree levels. They are also a measure of the amount and kind of top-level scholarship being produced by an institution or university system.

In the case of the University System of Georgia, the production of doctorate degrees reveals changing trends in the preferences of doctoral level students and in doctoral level academic programming. The distribution of doctoral degrees by gender and race provides further insights into their impact on the State of Georgia and its citizens. In addition, comparative data on the conferral of doctorates in the University System and the nation provide a broader perspective on scholarship and degree production in the University System.

USG and U.S. Doctorate Degrees

In Fiscal Year 2001, University System of Georgia institutions awarded 763 doctorate degrees, a one-year increase of 5.8 percent, or 42 more doctorate degrees than in FY 2000. The number of doctorates awarded by USG institutions has increased by 35 percent since 1990. The highest total in USG history was awarded in FY 1998, followed by two years of decreasing doctorate production. The following chart illustrates the most recent five-year trend in the University System.

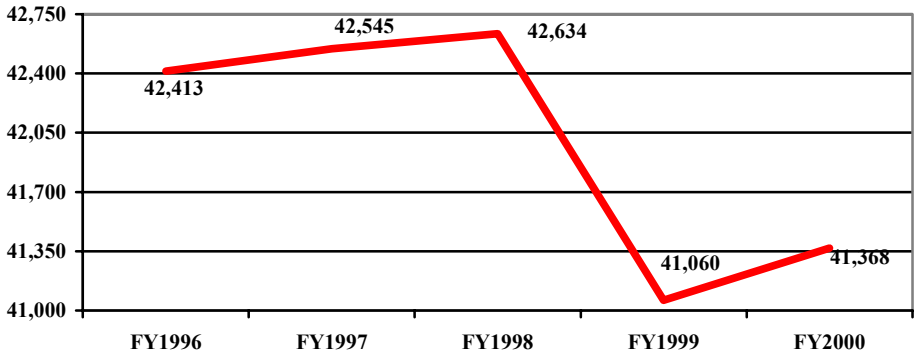
Figure 1
Total USG Doctorate Degrees Awarded
Five-Year Trend



Source: FY2001 USG data are from the annual *Student Information Reporting System* degree completions data, as reported to IPEDS.

The most recent comparable national trend data (1996 to 2000) are shown in Figure 2. The national data have one notable similarity to the USG pattern: the highest national level of doctorate degree production also occurred in FY1998, followed by a sharp decline in FY 1999. The 1998 to 1999 decline was smaller nationally (-3.7 percent) than in the USG (-4.6 percent) and was followed by a modest increase in 2000 rather than a further decrease as in the USG (-6.5 percent). That USG decrease may have been an "echo" from semester conversion, which occurred in FY 1999. In FY 2000, the latest year for which comparative U.S. data are available, the USG produced approximately 2 percent of all doctorates awarded nationally.

Figure 2
Total U.S. Doctorate Degrees Awarded
Five-Year Trend



Source: The most recent available national data are for FY2000 from the *Summary Report 2000, Survey of Earned Doctorates* (National Center for Education Statistics).

The State of Georgia ranked 14th nationally in total doctorate degrees awarded in 2000, with more than 79 percent of that total awarded by USG institutions. University of Georgia conferred the largest number of doctorates, followed in second place by Georgia Institute of Technology and by Georgia State University in fourth place (Emory University was third). In addition, Georgia Institute of Technology ranked fourth in the number of engineering doctorates and 26th in math/computer science in the nation, and UGA ranked 5th in education and in psychology and 17th in doctorates in the social sciences.

The Top Ten University System of Georgia and National Doctorate Degree Fields

Table 1 compares the ten most popular degree fields for the University System of Georgia with those for the United States as a whole.

Table 1 Top Ten Doctorate Degree Fields – USG and U.S.	
University System of Georgia	**United States**
1. Engineering	1. Education
2. Education	2. Biological Sciences
3. Biological Sciences	3. Engineering
4. Physical Sciences	4. Physical Sciences
5. Psychology	5. Psychology
6. Social Sciences	6. Social Sciences
7. Health Sciences	7. Language and Literature
8. Language and Literature	8. Health Sciences
9. Business	9. Agricultural Sciences
10. Mathematics	10. Business
Sources: The most recent available national data are for FY2000 from the *Summary Report 2000, Survey of Earned Doctorates* (National Center for Education Statistics); USG data are for FY2001 from the annual *Student Information Reporting System* degree completions data, as reported to IPEDS.	

Nine of the ten most productive doctorate degree fields are the same for both the University System of Georgia and the United States, even appearing in closely similar order in both groupings. The two fields that are not shared by both lists are mathematics, which is the 10th most productive doctorate degree field in the USG, and agricultural sciences, which ranks 9th on the national list. Both the first ranking of engineering doctorates and the number ten ranking of mathematics on the USG list are attributed to the strong doctoral mission of Georgia Institute of Technology in those fields.

More than 88 percent of all doctorate degrees awarded in the USG in FY 2001 were in the ten disciplines shown above. The corresponding U.S. percentage is 73 percent, indicating that doctorate degrees are awarded in a greater diversity of fields nationally than in the USG.

Changes Over Time

Figures 3 and 4 provide a closer look at the ten most popular doctorate degree fields in the USG, showing five-year trends in degrees awarded.

Figure 3 shows that the two most frequently awarded doctorate degrees in the USG, engineering and education, have converged over the last five years following a sharp rise in the number of education doctorates awarded in FY 1998. Physical sciences has declined at the doctorate level since 1998, and biological sciences declined from 1998 to 2000 but showed an increase in doctorates in the last year.

Figure 3
1st to 5th Most Popular USG Doctorate Degree Fields
Five-Year Trends

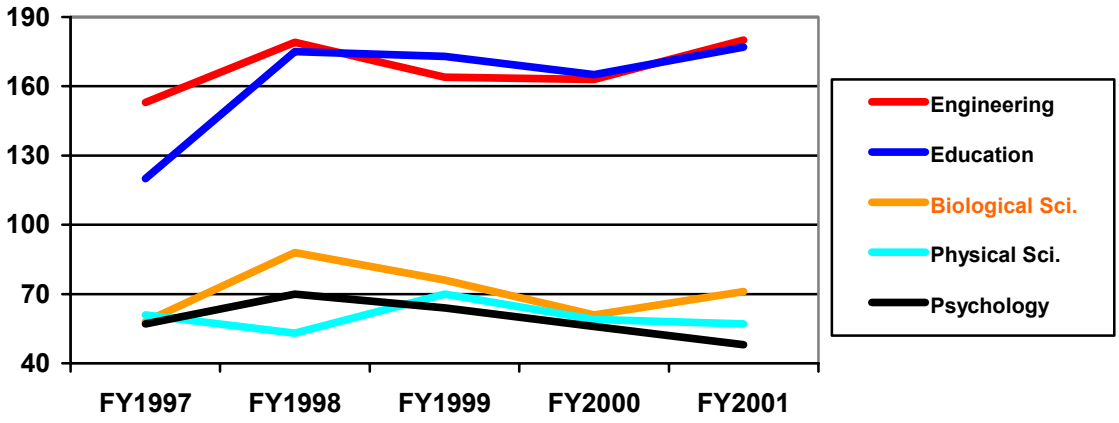
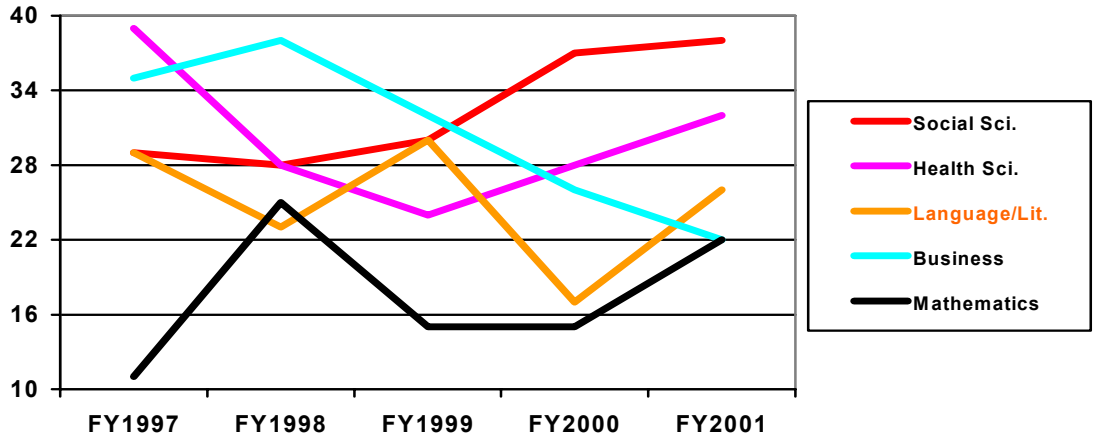


Figure 4 shows that the most dramatic growth in USG doctorate degree production has occurred in the social sciences, which went from 8th to 6th most productive doctoral discipline over the five years shown. Business doctorates have declined over the last three years, but health sciences and language/literature are showing end-of-period growth.

Figure 4
6th to 10th Most Popular USG Doctorate Degree Fields
Five-Year Trends



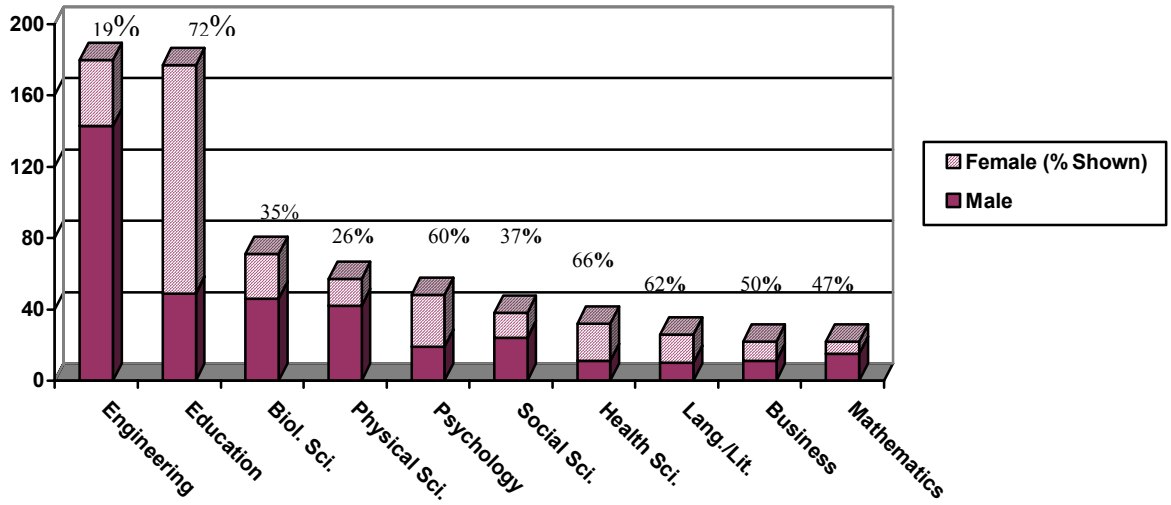
Source: Figures 3 and 4 - FY2001 USG data are from the annual *Student Information Reporting System* degree completions data, as reported to IPEDS.

Doctorate Degree Awards by Gender

Historically, some fields have been dominated by males, such as engineering and business, while females have dominated education and health sciences. Such patterns, which are in gradual

transition, have implications for academic planning, gender equity, and other socio-economic issues. Figure 5 shows the relative proportions of doctorate degrees conferred on females and males in the ten most popular doctorate degree fields, overall, in the USG.

Figure 5
Doctorate Degrees Awarded By Gender
Top Ten USG Doctoral Degree Fields - FY 2001



Source: FY2001 USG data are from the annual *Student Information Reporting System* degree completions data, as reported to IPEDS.

In four of the top ten USG doctoral fields, education, psychology, health sciences, and language and literature, females earned over half the degrees awarded in FY 2001. In business, another of the top ten fields, both females and males earned eleven doctorates.

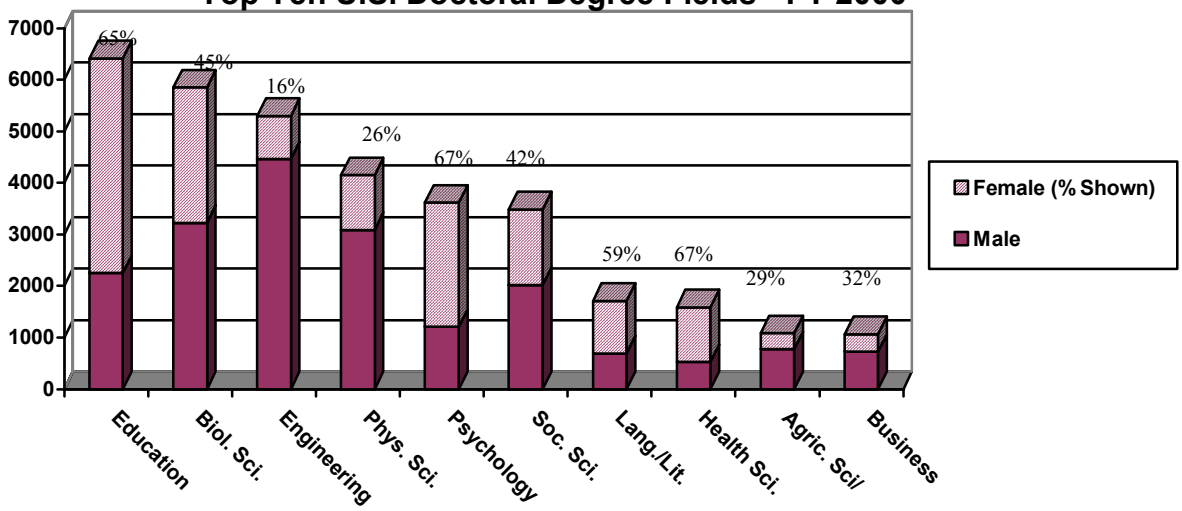
The majority of doctorates in the remaining five fields, engineering, physical sciences, mathematics, biological sciences and social sciences, were awarded to males.

The following chart shows the corresponding female/male degree award pattern at the national level. Again, females receive the majority of degrees in education, psychology, health sciences, and language and literature, but nationally, they were not on a par with males in the field of business. As was the case in the University System, males also dominated engineering, the physical and social sciences, and agriculture, which is in the national but not the USG top ten doctorate fields.

Comparative USG-U.S. Degree Preferences Within Gender

Comparing USG and U.S. degree preferences *within* gender is as informative and relevant as comparisons between genders. The following page contains tables showing the ten most prevalent doctoral level programs for females in the USG and nationally and the corresponding programs for males, permitting female-to-female and male-to-male comparisons between the two contexts.

Figure 6
Doctorate Degrees Awarded By Gender
Top Ten U.S. Doctoral Degree Fields - FY 2000



Source: FY2000 U.S. data are from the *Summary Report 2000, Survey of Earned Doctorates* (National Center for Education Statistics).

Females: Nine of the ten most popular doctorate degree fields for females in the USG are also among the ten most prevalent female doctorate fields nationally. The field unique to female doctorate recipients in the USG is home economics, whereas nationally it's general humanities. Education is the most prevalent doctorate degree and business the tenth most frequently awarded to females on both lists. However, engineering ranks second in the University System for females compared to ninth in the U.S., and social sciences is fifth nationally compared to eighth rank in the USG.

Table 2
Top Ten Doctorate Degree Fields for Females in the USG and U.S.

USG Females	U.S. Females
1. Education	1. Education
2. Engineering	2. Biological Sciences
3. Psychology	3. Psychology
4. Biological Sciences	4. General Humanities
5. Health Sciences	5. Social Sciences
6. Language/Literature	6. Physical Sciences
7. Physical Sciences	7. Health Sciences
8. Social Sciences	8. Language/Literature
9. Home Economics	9. Engineering
10. Business	10. Business

Sources: FY2001 USG data are from annual *Student Information Reporting System* degree completions data, as reported to IPEDS. FY2000 U.S. data are from the *Summary Report 2000, Survey of Earned Doctorates* (National Center for Education Statistics).

Males: Eight of the ten most prevalent doctorate degrees awarded to males are the same at the USG and the national levels. The two doctorate fields unique to the USG top ten list for males are computer sciences and health sciences. Nationally, the unique doctorate degrees for males are general humanities and agricultural sciences. The most notable difference in doctorate rank between the two lists is education, second on the USG list and fourth nationally.

Table 3
Top Ten Doctorate Degree Fields for Males in the USG and U.S.

USG Males	U.S. Males
1. Engineering	1. Engineering
2. Education	2. Biological Sciences
3. Biological Sciences	3. Physical Sciences
4. Physical Sciences	4. Education
5. Social Sciences	5. General Humanities
6. Psychology	6. Social Sciences
7. Computer Science	7. Psychology
8. Mathematics	8. Mathematics
9. Health Sciences	9. Agricultural Sciences
10. Business	10. Business

Sources: FY2001 USG data are from the annual *Student Information Reporting System* degree completions data, as reported to IPEDS. FY2000 U.S. data are from the *Summary Report 2000, Survey of Earned Doctorates* (National Center for Education Statistics).

Doctorate Degrees Awarded by Student Classification

Figures 7 and 8 on the next page analyze doctorate degree recipients by the following racial-ethnic and citizenship categories: black non-Hispanic, white non-Hispanic (i.e., US citizens) and non-resident aliens (i.e., permanent residents, not broken down by race). They show that the USG awarded virtually the same proportion of doctorates to white non-Hispanic recipients as was awarded nationally, larger proportions to black non-Hispanic and non-resident alien recipients than nationally, and about one-third the percentage to recipients in "other" racial-ethnic and citizenship classifications that earned doctorates nationally.

Figure 7
Distribution of USG Doctorate Degrees by Classification of Recipients

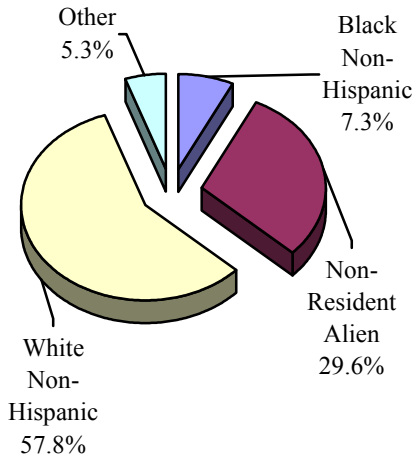
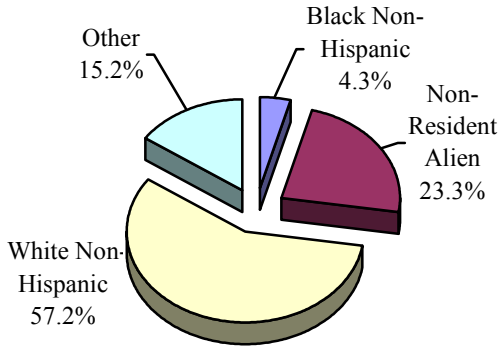


Figure 8
Distribution of U.S. Doctorate Degrees by Classification of Recipients



Sources: FY2001 USG data are from the annual *Student Information Reporting System* degree completions data, as reported to IPEDS. FY2000 U.S. data are from the *Summary Report 2000, Survey of Earned Doctorates* (National Center for Education Statistics).

Conclusion

The data show that the University System of Georgia's six doctorate degree-granting institutions play a predominant role in the state's ranking of 14th among the 50 states in doctorate degree production. Approximately four out of five doctorates awarded in Georgia are conferred by USG institutions.

The strong USG contribution to this important accomplishment is led by Georgia Institute of Technology's national rankings of 4th in engineering, and 26th in math/computer science and the University of Georgia's rankings of 5th in education, 5th in psychology and 17th in the social sciences. Because of Georgia Institute of Technology, both engineering and mathematics play a stronger role at the doctorate level in Georgia than those fields do nationally.

For females, engineering produced the second greatest number of doctorate degrees in the USG, compared to the 9th most doctorates earned by females nationally. Home economics doctorates appeared only on the USG top ten list for females, while general humanities appeared only on the corresponding U.S. list.

For male doctorate recipients, education was a more prominent doctorate field in the USG than it was nationally, and computer sciences and health sciences were unique to the USG list of top ten doctorates awarded to males. The two unique fields on the corresponding national list were agricultural sciences and general humanities.

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