


**The Graduate Program in the Department of Agronomy
Purdue University**

**The Graduate Committee
Department of Agronomy
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**Then: Recommendations/(Actions) from the 2002 Review of
the Graduate Program**

Opportunity 1: The graduate curriculum should reflect Departmental strengths and be flexible (*Curriculum Committee has been formed to review and suggest changes to the graduate curriculum*)

Opportunity 2: Create a systematic program for graduate students to learn about the breadth of discovery underway in the department (*Departmental seminar has been created and students are strongly encouraged to attend*)

Opportunity 3: Faculty should provide graduate students with more training in writing grant proposals (*referred to the Curriculum Committee for considerations: Already done in AGRY 605; AGRY 515, but resource intense*)




**Then: Recommendations/Actions from the 2002 Review
of the Graduate Program**

Opportunity 4: Identify graduate degrees that reflect concentrations areas as a potential benefit to students entering a competitive marketplace (*both the Curriculum Committee and Graduate Committee will review current offerings to assure appropriateness*)

Opportunity 5: Diverse areas like environmental sciences could benefit from additional programmatic organization (*ESE leadership, Linda Lee and others, has emerged to coordinate this program*)


Opportunity 6: Ensure that all students have adequate training in the basics of scientific communication (*Curriculum Committee will evaluate the effectiveness of the seminar series; graduate seminar has been revamped to include Extension*)



**Then: Recommendations/Actions from the 2002 Review
of the Graduate Program**

Opportunity 7: The mixing of graduate students with undergraduate students in 500-level courses was a concern expressed by graduate students (*the Curriculum Committee has been asked to evaluate the 500-level courses and develop solutions, including teaching of additional 600-level courses exclusively for graduate students*)


Opportunity 8: The review team was concerned that 60% of the faculty had one or fewer graduate students and that there were few post-docs (*information on graduate student and post-doc numbers, funding, lab space, an other resources will be benchmarked against peer institutions to understand the reasons for uneven distribution of graduate students; barriers will be removed and incentives put in place to encourage greater participation in graduate education*)



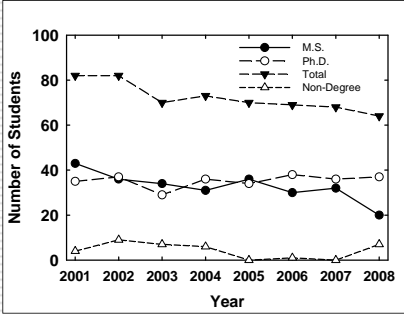
**Then: Recommendations/Actions from the 2002 Review
of the Graduate Program**

Opportunity 9: The graduate programs should be reviewed in light of Indiana's Life Sciences Initiative because of emerging opportunities in value-added agriculture (*the Graduate Committee will review the graduate program in light of new initiatives on campus and in the state make recommendations to the faculty. Cluster groups have been formed to discuss collaborative research and funding opportunities*)


Opportunity 10: Faculty need to be credited appropriately for their mentoring and support of graduate students, including those in other departments and interdisciplinary programs (*the Dept. Head will be encouraged to recognize and value faculty for their involvement in graduate education. Faculty will be asked to detail their involvement in graduate education in their promotion and tenure documents*)



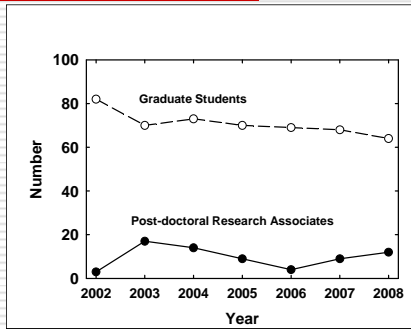
**Now: The total number of graduate students has
declined, especially those seeking and MS Degree**



Year	M.S.	Ph.D.	Total	Non-Degree
2001	45	35	80	5
2002	35	35	70	10
2003	30	30	60	10
2004	35	35	70	5
2005	35	35	70	5
2006	30	35	65	5
2007	35	35	70	5
2008	20	35	55	10

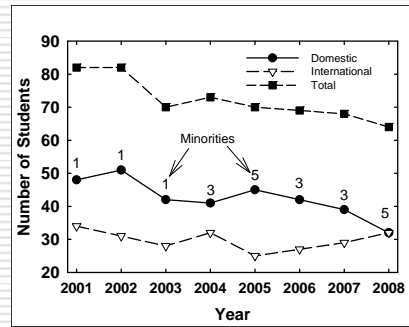


Now: The number of post-docs increased from 2002 to 2003, and except for 2006, has remained relatively constant thereafter.



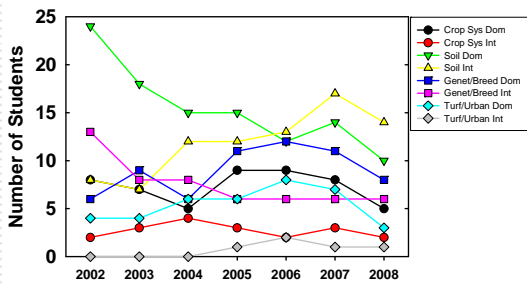
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Now: Since 2005 the number of domestic graduate students has declined, while the number of international students has increased. Minority enrollment has increased since 2001, but still remains low.



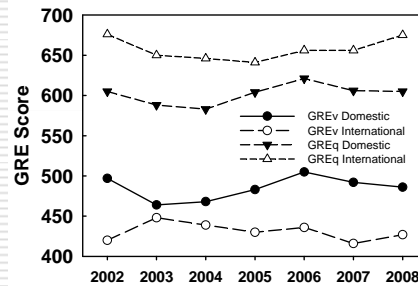
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Now: Enrollment Trends for Domestic (Dom) and International (Int) Graduate Students by Area of Study May Reflect Hiring Patterns



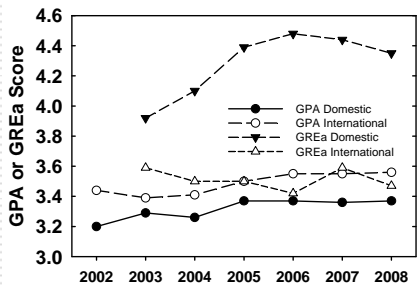
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Trends in Verbal GRE Scores (GREv) and Quantitative GRE Score (GREq) for Domestic and International Graduate Students



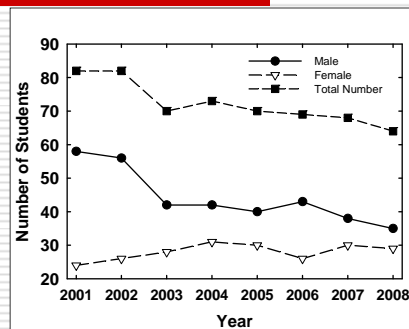
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Trends in Grade Point Average (GPA) and Analytical GRE Score (GREa) for Domestic and International Graduate Students



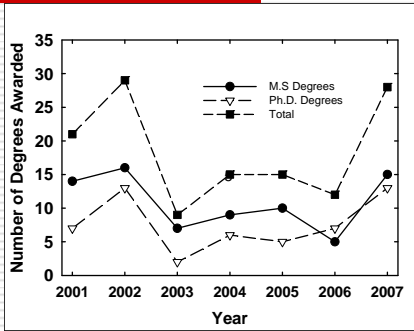
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Now: The number of male graduate students has declined since 2001, while the number of female graduate students has increased.

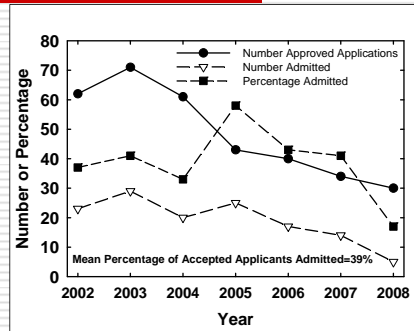


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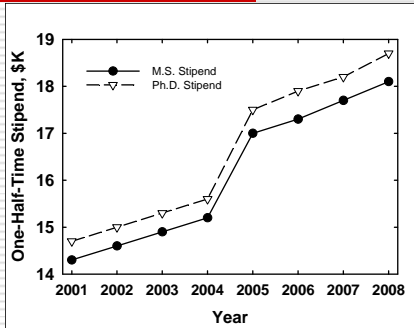
Now: The total number of M.S. and Ph.D. degrees awarded from 2001 to 2007



Now: The number of approved applications has declined since 2003, and we admit approximately 40% of students approved for study. Lack of funding often limits admission of qualified applicants.



Now: Stipends were increased markedly in 2005 in an effort to keep them in the upper 25% of stipends provided by our peer institutions.



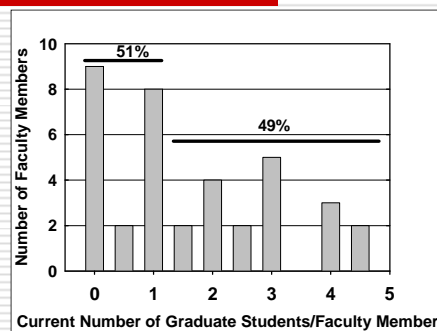
Now: Exit Interview Responses for Students Graduating June 2001- October 2008 (n=73)

	Responses as # of Students					
	SA	A	U	D	SD	NA
A. My major professor was available to discuss my research results on a regular basis.	44	24	1	2	2	
B. My major professor was timely in reviewing my thesis and other written material.	35	27	7	1	2	1
D. My major professor provided career counseling.	32	15	14	5	2	5
E. My advisory committee members made time available to discuss my research results.	28	31	8	3	1	2
F. The Agronomy Department values graduate students.	27	35	10		1	
F. The Agronomy Department provided resources to support my graduate education.	31	36	6			
O. I feel it takes too long to finish a graduate degree in the Agronomy Dept.	2	10	12	28	19	2
R. I value the education I received from the Agronomy Department.	50	22	1			
T. The education I received in graduate school at Purdue has made me better at:						
Understanding concepts and principles	37	27	5	1		3
Problem-solving skills	32	33	3	1		4
Leadership skills	20	29	14	4		6
Written communication skills	37	29	4	1		2
Oral communication skills	39	26	4			4
Teaching skills	22	17	14	3		17
Job search skills	8	20	20	7	3	15

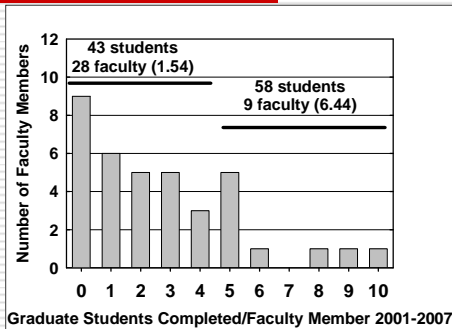
Now: Fifteen 600-level courses are offered, however, most of these courses are taught infrequently and some have not been taught since 2002. This was a consistent concern expressed in student exit interviews.

Current Courses	Course Title	Number of Students Enrolled by Semester and Year											
		2007		2006		2005		2004		2003		2002	
Listed		Sum	Fall	Spr	Sum	Fall	Spr	Sum	Fall	Spr	Sum	Fall	Spr
AGRY 600	Genomics				16								
AGRY 605	Adv. Plant Breeding				5			7					1
AGRY 611	Quantitative Genetics												
AGRY 615	Statistical Genetics												
AGRY 625	Physiology & Biochem of Crop Imp.						2				2		
AGRY 635	Micrometeorology					1		1		1		2	
AGRY 640	Metabolic Plant Physiology												
AGRY 649	Molec. Microbial Ecol.	11			7		8		6		4		
AGRY 650	Clay Mineralogy		3					4				11	
AGRY 655	Soil Genesis Classif.			2				9					
AGRY 660	Chem. & Fertility Soils												
AGRY 670	Phys. Chem. of Soils												
AGRY 675	Advanced Soil Physics												3
AGRY 690	Seminar Atmos. Sci												
AGRY 696	Agron Grad Seminar		7		9		13		5		12		3

Now: Currently one-half of the faculty have one or fewer graduate students. Five faculty currently have 4 or more graduate students (total of 21 students; one-third of the total)



Now: Involvement of faculty in graduate education is uneven. Nine faculty completed 58 students between 2001-2007, while the remaining 28 faculty completed 43 students between 2001-2007.



Now: Other Activities that Impact Graduate Education in Agronomy at Purdue University

- The Integrated BS/MS Program in the College of Agriculture
- Learning outcomes, activity schedules, and rubrics for our Ph.D. degree program have been developed recently as we go through the North Central Accreditation process
- Learning outcomes, activity schedules, and rubrics for our MS degree program have been developed recently as we go through the accreditation process.
- Review of the Ph.D. Credit Requirement and Creation of a Competency-based Ph.D. Program

Issue: stated need for more graduate-level course work

- With significant gaps in our curriculum identified by the graduate students, and with many untaught 600-level courses on the books, there is a need to evaluate our graduate course offerings.
- We proposed that the faculty conduct a comprehensive review of the curriculum focused on 500- and 600-level courses to ensure advanced knowledge is readily available through coursework that meets student needs.
- Coordination of this effort with review of the undergraduate courses (100- to 400-level) is recommended so educational objectives and content is provided in a seamless/logical manner.



Issue: uneven distribution of graduate advising amongst faculty

- Several faculty are heavily involved in education of graduate students.
- However, there is a significant number of faculty who are not participating in graduate education.
- In order to grow our graduate program, and meet the high demand for our graduates, greater faculty involvement in graduate education is necessary.
- How do we engage more faculty in the education of graduate students?



Issue: declining graduate student enrollment

- Funding is a clear limitation for most faculty wanting to mentor additional graduate students.
- Fee remissions and costs associated with graduate education have increased making cost of a graduate student on-par with that of a post-doc.
- What strategies should be used to increase the number and duration of fellowships and assistantships?



Issue: Fellowship Funding of Ph.D. Students

- The Ross Fellowship: For recruitment of outstanding Ph.D. students. Each fellowship provides a four-year package to the fellow, which includes one-year of support from the Graduate School and a commitment by the graduate program of three additional years of support.
- The Andrews Fellowship: For recruitment of outstanding Ph.D. students. Each fellowship provides a four-year package to the fellow, which includes two-years of support from the Graduate School and a commitment by the graduate program of two additional years of support.



Ross Fellowship Funding of Ph.D. Students

	Graduate School	Program
Year 1	\$15,288	\$3710+0+10,000
Year 2	\$0	\$19,000+8,349+ 10,000
Year 3	\$0	\$19,000+8,933+10,000
Year 4	\$0	\$19,000+9,557+10,000
Total	\$15,288	\$127,549

The Ross Fellowship Program Contributes 12% of the Total Cost

