Annual Report of the Committee on Graduate Studies to the Faculty of Arts and Sciences December 5 , 1995

After the Plan: Retrospect and Prospect of Graduate Work in Arts and Sciences

The Committee on Graduate Studies reports annually to the Faculty of Artsand Sciences. The report includes: (A). An overview and assessment on the state of graduate work; (B). A report on program evaluation; (C). A statistical summary. This year we focus on the significance of the College's Strategic Plan, Into the Fourth Century, for the continuing development of graduate work in Arts and Sciences at this university.

(A). Overview and Assessment.

I. The Plan

Adopted in 1994, the College's Strategic Plan directs the university to: a) concentrate resources on those graduate and professional programs with the greatest potential for achieving high quality and national and international reputation; b) reduce the number of master's programs; c) focus and leverage available resources by encouraging clusters of mutually supportive and complementary graduate programs; d) "initiatite only those new graduate programs for which adequate resources...have been identified....[with] preference... given to those programs that have a clear relationship to one of the College's academic clusters."

II. Implementing the Plan

Over the years, this committee has operated on the assumption that funds to support graduate work would grow, however modestly, over time. We assumed that we could sustain existing masters and doctoral programs while at the same time adding new programs in areas of unusual opportunity. However, as the Plan makes clear, the College, like other institutions of higher education in Virginia and across the nation, has entered into a new fiscal environment, one in which we simply will not have the funds to achieve excellence in all that we had set out to do. In this new environment, the Plan calls for the elimination of some master's programs and cost savings elsewhere so that investments can be made to support doctoral programs at nationally competitive levels and funds can be used to invest in promising initiatives under academic clusters. Specifically, the Plan calls for the elimination of master's programs in English, Government, Mathematics, andSociology.

a. Sociology and Government. For the 1995-96 year, the Departments of Government and Sociology elected not to accept new students. Provisions have been made to support enrolled students in completing their degree programs. To explore ways to promote increased faculty involvement in Public Policy, the Dean's Office funded a May Seminar focused on curriculum. Further, in response to a directive from the Strategic Plan, this issue was explored by an internal committee set up to review the Master of Public Policy Program as well as by the Policy Studies Committee set up by the Strategic Plan. As a result of these activities, faculty from Government and Sociology are developing enhanced relationships with the graduate program in Public Policy.

b. English. The Department of English admitted its final class for the 1995-96 academic year. Since graduate courses in American literature, literary theory, women's studies, and cultural criticism formerly offered by the English Department's graduate program no longer will be available to students in American Studies, the Department has set up a committee to review its relationship with American Studies. This committee is developing formal mechanisms to allow faculty from English to participate in American Studies. The report of this committee, chaired by Professor John Conlee, will be considered both by the American Studies Program and by the English Department early next semester.

c. Mathematics. The graduate program in Mathematics Department deals exclusively with operations research (OR), a discipline that is typically found in schools of engineering or business administration. It is unusual to find this discipline housed in a traditional mathematics department. Yet, the field of OR is an important one and the College has unusual strengths in it. Reflecting the cluster concept, OR faculty already collaborate in research with colleagues in the Computer Science Department. Some of this research is directly relevant to problems being pursued in the Applied Science Department. After extensive discussions involving the Dean's Office and the Departments of Mathematics, Computer Science, and, Applied Science, plans have been made to move the teaching of OR to the applied mathematics and modelling track of the Applied Science Department. Graduate students from this track will serve as teaching assistants within the Mathematics Department. We are convinced that this restructuring will bring efficiencies and benefits to all parties. Certain courses formerly taught by the Mathematics Department for OR students have been eliminated because comparable classes are available in Computer Science. Students enrolling in the OR track will be required to learn the standard programing language in Computer Science, thus making it possible for them to take courses in the department. Students interested in earning a Ph.D. in Computer Science will be able to apply much of their master's work to requirements for the doctorate in that discipline. At the same time, the placement of OR courses within Applied Science will strengthen that rapidly developing Department. In the past, some master's graduates of the OR program have enrolled in Applied Science for doctoral work. The new arrangement will encourage additional students to follow that pathway.

III. In Context: The Plan and Historical COGS Policies

In addition to its directive to invest in doctoral education, the Plan also calls for the development of flexible curricular and programmatic structures to promote distinctive interdisciplinary programs. The Plan recognizes the opportunities to "leverage" our resources by cooperating with such external agencies as CEBAF, Colonial Williamsburg, and NASA-Langley. Under the leadership of Graduate Deans John Selby, Rolf Winter, and Robert Scholnick, the Committee on Graduate Studies long has followed such a strategy. Over the past decade, we have initiated three Ph.D. programs: Computer Science (1986); American Studies (1988); and Applied Science (1990). Further, we added the two-year Public Policy Program (1992). New resources were directed at supporting these new initiatives. As a consequence, stipends for existing master's programs remained constant--and actually declined when one takes inflation into account. Thus, the Committee on Graduate Studies has followed a disciplined investment policy, one which allowed us to focus new resources on our new doctoral programs and Public Policy, fields carefully selected because of the opportunities to leverage internal resources through new combinations with external agencies. With the exception of Computer Science, each of the new programs is interdisciplinary in scope. Computer Science, in turn, is giving particular attention to the interdisciplinary field of computational science, a subject discussed in section II.2 of the 1994 Annual Report of this committee.

Further, we have taken the lead in developing productive relationships with the professional schools. Public Policy has developed joint degree programs with both Law and Business, and has developed a coordinated program with marine science. We have continued to enhance cooperation with VIMS in areas ranging from cell biology to atmospheric science. The American Studies Program and the Law School have developed a joint M.A.-J.D. program. The Strategic Plan, through the Cluster Concept, provides formal mechanisms for Arts and Sciences graduate programs to extend and deepen such productive relationships. We find articulated in Into the Fourth Century planning principles that long have guided our work.

IV. The Future

As mentioned above, this Committee had not foreseen the fiscal constraints that have been with us over the last half-decade. Operationally, however, we have increasingly felt these constraints. When adjusted for inflation, graduate stipends for master's students have been eroded by inflation. Especially in History and American Studies, doctoral stipends had fallen significantly below the national standards. We are pleased that a plan has been adopted by the College administration to bring stipends to national levels for our doctoral students. We still must address the needs at the master's level.

As we look ahead, we recognize that many of the same fiscal realities that have shaped the Strategic Plan at William and Mary are at work throughout the economy. These constraints hold significant implications for the employment prospects for our graduates--in academia, industry, government, and research. Where only five or six years ago experts were decrying a looming shortage of Ph.D.s in many fields, today studies warn of an oversupply. Fiscal constraints have prevented colleges and universities from filling vacancies with full-time faculty members. Since the Federal government, the primary funder of both basic and applied research, is under pressure to eliminate deficit spending, funds for many research programs funded by agencies such as NASA, Department of Defense, and Department of Energy are being cut or are falling behind when inflation is factored in. As a result, labor markets where traditionally graduate students have found employment have grown particularly tight. We face the challenge--for our programs individually and for this committee--of continually reexamining the way we train graduate students in light of the rapidly changing job markets and fundamental transformations in the international economy. Consequently, we are working hard to strengthen the preparation of our students as teachers; seek out internships for students; and encourage students to supplement rigorous training in their disciplines with courses in cognate fields. Our goal is to instill in our students certain principles that have guided and will continue to guide us in the development of our graduate programs: a commitment to work at the forefront of our academic disciplines; the ability to make use of interdisciplinary and transdisciplinary approaches; the ability to connect the work of the academy with real world problems; a strategic approach, which prepares students to live in a fast-changing world; the ability to work productively with others; the ability to create new educational programs and structures to meet new needs. We look forward to the challenges of the future with confidence.

(B). Program Evaluations

During the academic year, the committee conducted evaluations of the graduate programs in biology and chemistry. During the current academic year, we are evaluating the graduate programs in public policy, physics, and psychology. The Committee on Graduate Studies is coordinating these evaluations with the assessment of the undergraduate programs in physics and psychology.

C. STATISTICAL SUMMARY

1. ADMISSIONS - Fall Semester 1995

DEPARTMENT	[1]NUMBER APPLICANTS	[2]NUMBER ACCEPTED	NUMBER MATRICULATED
AMERICAN STUDIES	106	33	26
ANTHROPOLOGY	56	12	12
APPLIED SCIENCE	27	3	2
BIOLOGY	31	15	14
CHEMISTRY	9	6	5
COMPUTER SCIENCE	249	29	22
ENGLISH	75	22	19
GOVERNMENT	4	0	0
HISTORY	165	25	22
MATHEMATICS	44	14	10
PHYSICS	203	12	11
PSYCHOLOGY	103	13	12
PUBLIC POLICY	97	27	24
SOCIOLOGY	2	0	0
TOTALS	1,171	211	179
PSY.D. PROGRAM[3]	147	24	11

[1]Figures based on completed applications for fall admission as reported by each graduate department.

[2]Figures include all applicants offered admission as reported by each graduate department.

[3]Total in Consortium.

2. AVERAGE UNDERGRADUATE GRADE POINT AVERAGE OF ENTERING STUDENTS (4.0 SCALE)

DEPARTMENT	FALL 1993	FALL 1994	FALL 1995
AMERICAN STUDIES	3.15 (19 of 22)	3.58	2.99 (23 of 26)
ANTHROPOLOGY	3.55	3.23	3.41
APPLIED SCIENCE	3.29	3.36	3.68
BIOLOGY	3.16	3.12 (18 of 19)	2.90
CHEMISTRY	2.78	2.98	3.14 (3 of 5)
COMPUTER SCIENCE	3.43 (19 of 20)	3.45	3.30 (19 of 22)
ENGLISH	3.52	3.30	3.43 (18 of 19)
GOVERNMENT	3.18	3.37	-----
HISTORY	3.42 (24 of 26)	3.35 (20 of 23)	3.54 (20 of 22)
MATHEMATICS	3.43	3.46 (8 of 9)	3.63
PHYSICS	3.30 (5 of 6)	3.48 (7 of 8)	3.52 (9 of 11)
PSYCHOLOGY	3.17	3.48	3.48
PSY.D. PROGRAM	3.58	3.47	3.36
PUBLIC POLICY	3.19 (15 of 16)	3.08	3.34
SOCIOLOGY	3.35 (8 of 9)	3.12	-----

3. AVERAGE GRADUATE RECORD EXAMINATION SCORES OF ENTERING STUDENTS[1]

DEPARTMENT	FALL 1994 VERB	MATH	ANALY	ADV	FALL 1995 VERB	MATH	ANALY	ADV
AMERICAN STUDIES	644	538	630	---	590 (23 of 26)	557 (23 of 26)	619 (23 of 26)	---
ANTHROPOLOGY	583 (13 of 14)	534 (13 of 14)	588 (13 of 14)	---	619	595	669	---
APPLIED SCIENCE	588 (9 of 11)	666 (9 of 11)	670 (9 of 11)	---	490 (1 of 2)	800 (1 of 2)	630 (1 of 2)	---
BIOLOGY	583 (18 of 19)	622 (18 of 19)	655 (18 of 19)	698 (16 of 19)	541	626	619	652 (12 of 14)
CHEMISTRY	546 (5 of 9)	606 (5 of 9)	596 (5 of 9)	---	576 (3 of 5)	713 (3 of 5)	666 (3 of 5)	527 (3 of 5)
COMPUTER SCIENCE	566	704	650	683 (4 of 14)	540	715	665	660 (4 of 22)
ENGLISH	664	535	635	585	619 (18 of 19)	577 (18 of 19)	636 (18 of 19)	539 (18 of 19)
GOVERNMENT	628	679	683	557 (3 of 8)	---	---	---	---
HISTORY	627 (22 of 23)	568 (22 of 23)	643 (22 of 23)	519 (16 of 23)	608 (21 of 22)	572 (21 of 22)	640 (21 of 22)	486 (7 of 22)
MATHEMATICS	514 (8 of 9)	713 (8 of 9)	671 (8 of 9)	600 (2 of 9)	489	708	676	620 (1 of 10)
PHYSICS	546	721	626	691	537	719	673	622 (10 of 11)
PSYCHOLOGY	562	648	638	605 (4 of 5)	565	569	619	604 (11 of 12)
PSY.D.	587	617	615	589	606	605	645	609
PUBLIC POLICY	590 (16 of 18)	634 (16 of 18)	648 (16 of 18)	---	585 (23 of 24)	605 (23 of 24)	622 (23 of 24)	---
SOCIOLOGY	534	563	574	---	---	---	---	---

[1]Table includes all regular and provisional students. Scores on the advanced portion of the GRE are not reported unless at least 70% of the enrolling students took the test.

4. REGISTERED REGULAR & PROVISIONAL GRADUATE STUDENTS[1]
Fall 1993 to Fall 1995

DEPARTMENT	FALL 1993	SPRING 1993	FALL 1994	SPRING 1995	FALL 1995
AMERICAN STUDIES	54	49	40	38	56
ANTHROPOLOGY	18	13	23	19	22
APPLIED SCIENCE	37	37	44	47	41
BIOLOGY	24	27	37	32	34
CHEMISTRY	6	4	10	10	9
COMPUTER SCIENCE	65	57	56	59	69
ENGLISH	22	24	21	21	23
GOVERNMENT	19	14	13	12	3
HISTORY	64	61	60	58	65
MATHEMATICS	18	11	16	8	18
PHYSICS	52	50	48	46	53
PSYCHOLOGY	17	16	14	13	16
PUBLIC POLICY	37	36	32	31	43
SOCIOLOGY	20	16	16	14	10
A & S TOTALS	453	415	430	408	462
PSY.D. PROGRAM[2]	60	54	55	50	56

[1]Totals include both full-time and part-time registration.

[2]Total in Consortium.

5. GRADUATE DEGREES CONFERRED 1994-95

DEPARTMENT	DEGREE	AUGUST 1994	DECEMBER 1994	MAY 1995	TOTAL
AMERICAN STUDIES	M.A.	2	4	3	9
	Ph.D.	0	1	0	1
ANTHROPOLOGY	M.A.	1	3	6	10
APPLIED SCIENCE	M.A.	0	0	1	1
	M.S.	2	0	3	5
	Ph.D.	0	1	3	4
BIOLOGY	M.A.	7	1	5	13
CHEMISTRY	M.A.	0	2	0	2
	M.S.	0	0	0	0
COMPUTER SCIENCE	M.S.	0	1	11	12
	Ph.D.	1	1	1	3
ENGLISH	M.A.	4	8	3	15
GOVERNMENT	M.A.	2	8	2	12
HISTORY	M.A.	5	6	5	16
	Ph.D.	1	0	0	1
MATHEMATICS	M.A.	0	0	0	0
	M.S.	0	8	1	9
PHYSICS	M.A.	0	0	0	0
	M.S.	2	2	5	9
	Ph.D.	1	3	2	6
PSYCHOLOGY	M.A.	1	0	4	5
	Psy.D.	7	3	3	13
PUBLIC POLICY	M.P.P.	1	1	12	14
SOCIOLOGY	M.A.	0	2	0	2
TOTALS	M.A.	22	34	29	85
	M.S.	4	11	20	35
	M.P.P.	1	1	12	14
	Ph.D.	3	6	6	15
	Psy.D.	7	3	3	13

5. GRADUATE DEGREES CONFERRED 1994-95 (cont'd.)

TOTAL NUMBER OF DOCTORATES CONFERRED
AUGUST 1994 THROUGH MAY 1995

Arts and Sciences	-	15 Ph.D., 13 Psy.D.
Education	-	12 Ed.D.
Marine Science	-	14 Ph.D.

M.A. IN EDUCATION[1]

Secondary School Teaching - 23

[1]Degree candidates for the M.A. in Education (Secondary School Teaching) take 12 hours of course work in Arts and Sciences.

6. GRADUATE DEGREES AWARDED DURING THE LAST 10 YEARS[1]

(August - June)

DEPARTMENT	PROGRAM INITIATED	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	8/95	TOTAL SINCE AUG. 1985
AMERICAN STUDIES	1982-MA	5	2	3	4	11	14	8	12	10	9	1	79
	1988-PhD				0	0	0	0	1	2	1	0	4
ANTHRO-POLOGY	1979-MA	4	8	4	8	9	8	7	5	12	10	3	78
APPLIED SCIENCE	1970-MA/MS	2	0	0	0	0	1	1	1	2	6	1	14
	1990-PhD						0	0	1	1	4	1	7
BIOLOGY	1963-MA	7	2	7	5	10	4	5	7	8	13	4	72
CHEMISTRY	1964-MA/MS	5	5	4	5	7	4	5	7	11	2	1	56
COMPUTER SCIENCE	1984-MS	10	19	10	15	19	15	13	23	16	12	1	153
	1986-PhD		0	1	0	3	0	3	2	4	3	0	16
ENGLISH	1970-MA[2]	5	8	9	10	9	18	11	15	17	15	3	120
GOVERNMENT	1966-MA	5	3	6	8	8	9	10	4	7	12	1	73
HISTORY	1955-MA	5	14	13	7	16	13	10	10	7	16	4	115
	1967-PhD	1	4	1	1	5	2	9	6	4	1	2	36
MATHEMATICS	1961-MA/MS	4	7	2	9	5	10	6	8	9	9	0	69
PHYSICS	1959-MA/MS	9	5	8	6	14	8	10	8	11	9	1	89
	1964-PhD	6	4	5	3	6	6	7	7	7	6	4	61
PSYCHOLOGY	1953-MA	5	4	6	3	11	5	7	7	9	5	3	65
	1978-PsyD	8	8	8	10	14	8	7	5	6	13	2	89
PUBLIC POLICY	1991-MPP							0	18	17	14	1	50
SOCIOLOGY	1967-MA	2	3	4	6	5	5	5	2	6	2	3	43
A&S TOTALS:	MA-MS-MPP	68	80	76	86	124	114	98	127	142	134	27	1076
	PhD	7	8	7	4	14	8	19	17	18	15	7	124
	PsyD	8	8	8	10	14	8	7	5	6	13	2	89

[1]See Table E for M.A. in Education degrees.
[2]Earlier Program suspended in 1963.