ANNUAL REPORT OF THE COMMITTEE ON GRADUATE STUDIES TO THE FACULTY OF ARTS AND SCIENCES

October 21, 1987

As is customary, this report is divided into three sections: I. Comments, II. Data on Students and Degrees, and III. Curriculum Changes.

I. COMMENTS

New Doctoral Programs

In December of 1986 the State Council of Higher Education informed the College of its approval of the College's proposal for a Ph.D. in American Studies, to be initiated in August 1988. Under the direction of Professor Bruce McConachie, the American Studies Committee is preparing for the initiation of doctoral work. A national search is underway for a program director.

The State Council also encouraged the College to submit a proposal for a Ph.D. program in Applied Science. During the 1986-87 academic year an ad hoc committee developed a preliminary proposal for the program. The committee is working with outside consultants to refine the proposal and intends to submit it to the faculty in the spring. If approved by the State Council, the program will be initiated in 1990.

New Master's Program

A committee chaired by Professor James Livingston, Religion, completed work on a proposal for a program leading to the degree of Master of Liberal Studies (M.L.S.). A number of distinguished institutions, including Johns Hopkins, Duke, and Dartmouth, offer similar programs. The proposed program would be an extension to the graduate level of William and Mary's traditional commitment to liberal education for its own sake. In April 1987 the College administration recommended that the proposal not be submitted to the faculty at this time since there did not seem to be strong support for such a program at SCHEV. If initiated, then, the program would have to draw resources from existing programs. The Committee on Graduate Studies expresses its appreciation to Professor Livingston and the members of his committee, William Cobb, James Whittenburg, John McKnight, and Edgar Williams, for developing an excellent proposal.

Program Evaluations

Program evaluations are scheduled so that each program is evaluated about every six years. Since the last report, evaluations of the graduate programs in the Department of History has been completed, and the Committee on Graduate Studies will consider the report on the Anthropology program at its November meeting. Plans are underway for an evaluation of the Computer Science program. Reports on all completed evaluations are available in the Swem Library archives and in the graduate office.

Graduate Stipends

The standard stipend has been raised to $5,300. Through special arrangements, departments in such high-demand fields as computer science and physics are able to award a larger stipend. Nevertheless, in many fields the award at William and Mary remains significantly below that offered by institutions with which we compete for able students. Raising student stipends to competitive levels is essential if the College is to attract the best students.

Special Notes

Professor Alan Ward of the Government Department served as Acting Dean of Graduate Studies during Robert Scholnick's research leave in the spring semester and summer. The Committee on Graduate Studies is grateful to Professor Ward for his strong and effective leadership and wish him much success at his new post as chair of the Government Department.

Two William and Mary doctoral students, Thomas Wren, History, and Christopher Kenney, Physics, were among 13 graduate students in Virginia universities selected by SCHEV as Commonwealth Fellows. In the selection process, the maximum number of nominations allowed each university was based on a formula reflecting the number of Virginia doctoral students enrolled in each. Allocations and recipients are as follows:

University	Nominees	Recipients
George Mason University	5	1
Old Dominion University	4	1
University of Virginia	9	4
Virginia Commonwealth University	6	1
Virginia Polytechnic Institute	13	4
William and Mary	4	2

The College's other distinguished nominees were Randall P. Meyer, Computer Science, and Gail Terry, History. It is a tribute to the quality of our students and to the quality of our doctoral programs that William and Mary led the state in the percentage of students selected.

II. DATA ON STUDENTS AND DEGREES

A. ADMISSIONS - Fall Semester 1987

DEPARTMENT	*NUMBER APPLICANTS	NUMBER ACCEPTED	NUMBER MATRICULATED
AMERICAN STUDIES	36	16	10
ANTHROPOLOGY	19	12	9
APPLIED SCIENCE	0	0	0
BIOLOGY	40	12	10
CHEMISTRY	11	9	8
COMPUTER SCIENCE	100	51	22
ENGLISH	59	38	17
GOVERNMENT	41	16	7
HISTORY	111	23	23
MATHEMATICS	27	24	7
PHYSICS	74	26	11
PSYCHOLOGY	45	9	9
SOCIOLOGY	15	8	8
TOTALS	578	244	141
PSY.D. PROGRAM**	273	24	11

*Number of graduate applications received in the graduate office and application fees paid or waived, for September admission only.

**Total in Consortium.

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

DEPARTMENT	FALL 1985	FALL 1986	FALL 1987
AMERICAN STUDIES	3.31 (8 of 12)	3.29	3.13
ANTHROPOLOGY	3.16	2.76 (9 of 11)	3.28 (6 of 9)
APPLIED SCIENCE	----	----	----
BIOLOGY	3.10	2.90	3.02
CHEMISTRY	2.75	2.90	3.04
COMPUTER SCIENCE	2.90	3.16 (24 of 25)	3.09
ENGLISH	3.35	3.10 (11 of 12)	3.51 (16 of 17)
GOVERNMENT	3.74 (2 of 3)	3.19 (4 of 6)	3.21
HISTORY	3.44 (20 of 21)	3.52 (19 of 23)	3.45 (22 of 23)
MATHEMATICS	3.16	3.24	3.06 (6 of 7)
PHYSICS	3.25 (5 of 8)	2.97	3.14 (10 of 11)
PSYCHOLOGY	3.41	3.56	3.36
PSY.D. PROGRAM	3.23	3.48	3.36
SOCIOLOGY	2.77	2.98	3.35

C. AVERAGE GRADUATE RECORD EXAMINATION SCORES OF ENTERING STUDENTS

DEPARTMENT	FALL 1986 VERB	FALL 1986 MATH	FALL 1986 ADV	FALL 1987 VERB	FALL 1987 MATH	FALL 1987 ADV
AMERICAN STUDIES	627 (9 of 10)	563 (9 of 10)	---	635 (6 of 10)	507 (6 of 10)	---
ANTHROPOLOGY	587 (6 of 11)	482 (6 of 11)	---	592 (6 of 9)	525 (6 of 9)	---
APPLIED SCIENCE	---	---	---	---	---	---
BIOLOGY	580 (7 of 8)	601 (7 of 8)	657 (61%) (7 of 8)	586	585	673 (65%)
CHEMISTRY	575 (2 of 4)	665 (2 of 4)	600 (45%) (1 of 4)	500 (1 of 8)	670 (1 of 8)	---
COMPUTER SCIENCE	540 (23 of 25)	663 (23 of 25)	653 (68%) (4 of 25)	533	684	657 (68%) (9 of 22)
ENGLISH	631 (11 of 12)	511 (11 of 12)	554 (60%) (11 of 12)	619 (16 of 17)	529 (16 of 17)	537 (54%) (15 of 17)
GOVERNMENT	570 (5 of 6)	602 (5 of 6)	560 (85%) (2 of 6)	564	544	455 (45%) (2 of 7)
HISTORY	625 (22 of 23)	579 (22 of 23)	543 (67%) (21 of 23)	653	592	553 (73%)
MATHEMATICS	543 (4 of 5)	663 (4 of 5)	525 (14%) (2 of 5)	488 (4 of 7)	660 (4 of 7)	---
PHYSICS	520 (7 of 10)	740 (7 of 10)	655 (57%) (6 of 10)	536 (9 of 11)	716 (9 of 11)	616 (48%) (8 of 11)
PSYCHOLOGY	556	546	590 (67%) (6 of 8)	600	580	576 (63%) (5 of 9)
PSY.D. PROGRAM	611	586	624 (79%)	603	600	621 (78%)
SOCIOLOGY	490	452	460 (60%) (1 of 5)	533 (6 of 8)	530 (6 of 8)	590 (91%) (1 of 8)

D. REGISTERED REGULAR & PROVISIONAL GRADUATE STUDENTS* Fall 1985 to Fall 1987

DEPARTMENT	FALL 1985	SPRING 1986	FALL 1986	SPRING 1987	FALL 1987
AMERICAN STUDIES	16	17	18	19	17
ANTHROPOLOGY	13	12	14	11	13
APPLIED SCIENCE	1	1	1	1	1
BIOLOGY	20	19	23	24	24
CHEMISTRY	9	10	9	8	11
COMPUTER SCIENCE	56	53	67	58	69
ENGLISH	21	16	16	20	22
GOVERNMENT	5	7	9	9	12
HISTORY	46	43	51	49	56
MATHEMATICS	11	9	12	9	12
PHYSICS	38	36	41	38	42
PSYCHOLOGY	16	15	14	14	16
SOCIOLOGY	7	8	8	6	9
A & S TOTALS	259	246	283	266	304
PSY.D. PROGRAM**	57	53	59	50	54

*Totals include both full-time and part-time registration.

**Total in Consortium.

NOTE: The Computer Science department now enrolls most of the students listed previously under Applied Science. The Applied Science program now enrolls interdisciplinary students in the sciences.

E. GRADUATE DEGREES CONFERRED 1986-87

DEPARTMENT	DEGREE	AUGUST 1986	DECEMBER 1986	MAY 1987	TOTAL
AMERICAN STUDIES	M.A.	0	1	1	2
ANTHROPOLOGY	M.A.	0	2	6	8
APPLIED SCIENCE	M.S.	0	0	0	0
BIOLOGY	M.A.	0	1	1	2
CHEMISTRY	M.A.	4	1	0	5
	M.S.	0	0	0	0
COMPUTER SCIENCE	M.S.	6	7	6	19
ENGLISH	M.A.	1	5	2	8
GOVERNMENT	M.A.	1	0	2	3
HISTORY	M.A.	1	2	11	14
	Ph.D.	1	2	1	4
MATHEMATICS	M.A.	0	0	1	1
	M.S.	0	3	3	6
PHYSICS	M.A.	0	0	0	0
	M.S.	0	0	5	5
	Ph.D.	0	4	0	4
PSYCHOLOGY	M.A.	1	1	2	4
	Psy.D.**	1	7	0	8
SOCIOLOGY	M.A.	0	2	1	3
TOTALS	M.A.	8	15	27	50
	M.S.	6	10	14	30
	Ph.D.	1	6	1	8
	Psy.D.**	1	7	0	8

*M.A. IN EDUCATION
(Secondary School Teaching)

Biology	4
Classical Studies	0
English	2
History	1
Mathematics	2
Museum Education	3
Social Studies	2
Physical Education	1

TOTAL NUMBER OF DOCTORATES CONFERRED
AUGUST 1986 THROUGH MAY 1987

Arts and Sciences	- 8 Ph.D., 8 Psy.D.**
Education	- 23 Ed.D.
Marine Science	- 10 Ph.D.

*Degree candidates for the M.A. in Education (Secondary School Teaching) take 12 hours of course work in Arts and Sciences.
**Total in the Consortium.

F. GRADUATE DEGREES AWARDED DURING THE LAST 10 YEARS*
(August - June)

DEPARTMENT	PROGRAM INITIATED	77-78	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	AUG. 1987	TOTAL SINCE AUG. 1977
AMERICAN STUDIES	1982-M.A.						0	1	4	5	2	1	13
ANTHROPOLOGY	1978-M.A.		0	0	2	2	3	5	1	4	8	0	25
APPLIED SCIENCE	1970-M.S.	13	6	7	14	9	9	10	1	2	0	0	71
BIOLOGY	1963-M.A.	9	7	10	9	11	6	5	8	7	2	1	75
CHEMISTRY	1964-M.A./M.S.	3	0	2	2	6	1	2	9	5	5	3	38
COMPUTER SCIENCE	1984-M.S. 1986-Ph.D.								9	10	19	1	39
ENGLISH	1970-M.A.**	7	14	2	13	9	6	7	9	5	8	0	80
GOVERNMENT	1966-M.A.	4	5	3	4	5	6	1	1	5	3	3	40
HISTORY	1955-M.A. 1967-Ph.D.	6 3	11 1	8 3	5 1	6 3	10 2	7 3	11 2	5 1	14 4	2 1	85 24
MATHEMATICS	1961-M.A./M.S.	2	4	3	5	3	5	6	6	4	7	0	45
PHYSICS	1959-M.A./M.S. 1964-Ph.D.	5 4	12 6	3 2	9 2	6 5	5 7	10 6	11 5	9 6	5 4	0 1	75 48
PSYCHOLOGY	1953-M.A. 1978-Psy.D.***	5	1	3	5	5	7 5	2 9	9 4	5 8	4 8	3 6	49 40
SOCIOLOGY	1967-M.A.	4	4	4	4	4	6	2	5	2	3	1	39
A & S TOTALS:	M.A./M.S.	58	64	45	72	66	64	58	84	68	80	15	674
	Ph.D.	7	7	5	3	8	9	9	7	7	8	2	72
	Psy.D.***						5	9	4	8	8	6	40

*See Table E for M.A. in Education degrees.
**Earlier program suspended in 1963.
***Total in the Consortium.

III. CURRICULUM CHANGES
Approved 1986-87

AMERICAN STUDIES

NEW COURSES:

570. Topics in American Studies. Fall and Spring (3).

Advanced study of topics in selected areas of American cultural experience. Subjects, prerequisites, and instructors will vary. May be taken more than once.

ANTHROPOLOGY

CHANGES:

Change in title and course description:

567-568. Archaeological Conservation. Fall and Spring (3). Mr. Moyer.

An introduction to the theory and practice of conservation, including systems of deterioration, treatment, and storage. Students will receive practical experience in laboratory treatment of artifacts from 17th to 19th century archaeological sites.

COMPUTER SCIENCE

NEW COURSES:

526. Simulation. Fall or Spring (3).

Introduction to simulation. Discrete and continuous stochastic models, random number generation, elementary statistics, simulation of queueing and inventory systems, Monte Carlo simulation, point and interval parameter estimation.

566. Discrete Event Simulation. Fall or Spring (3).

Methods of discrete event simulation. Steady state queueing theory. Input and output data analysis. Multi-server queues and networks of queues. Markov and Poisson processes. Survey of simulation languages.

576. Discrete Linear Systems. Fall or Spring (3).

Modeling and analysis of discrete linear systems. The sampling theorem, Nyquist frequency and aliasing. Digital filters. Convolution, the discrete and fast Fourier transform. Data compression, coding, transmission and reconstruction. Information theory, signal-to-noise ratio and noise suppression. Selected applications.

COMPUTER SCIENCE (cont'd.)

NEW COURSES:

577. Digital Image Processing. Fall or Spring (3).

Single-image statistics. Image enhancement by gray level transformation. Multi-image statistics, the principal component transformation. clustering and classification. The discrete 2-D Fourier transform. Image enhancement by linear and non-linear spatial filtering. Linear image restoration.

592. Theory of Programming Languages. Fall or Spring (3).

Theory of context-free grammars, including LL parsing, LR parsing, machine equivalence theorems and transformation algorithms. Formal semantic models including attribute grammars and denotational semantics. Language classes including procedural, object-oriented, applicative, and parallel languages.

656. Topics in Systems Simulation. Fall or Spring (1, 2, or 3 credits depending on material).

A treatment of doctoral-level topics in simulation not routinely covered in existing courses.

DELETE:

556. Systems Simulation I.

566. Systems Simulation II.

RENUMBER:

552. Semantics of Programming Languages; now listed as 612.

HISTORY

CHANGES:

Change in title and description:

607, 608. Introduction to Historical Archaeology and Material Culture for Historians. Fall, Spring (3,3). Mr. Brown

This course serves as an introduction for historians to Historical Archaeology and Material Culture. It surveys the development of the field, current theory and methods, as well as significant research on the cultural aspects of the colonization, industrialization, and ubanization of North America. Emphasis is placed on broad issues, practical skills, and on historical archaeology and material culture in a museum setting.

PSYCHOLOGY

NEW COURSES:

625. Independent Research. Fall and Spring (3).

This course constitutes the research apprenticeship for all students in the first year of the M.A. program. Students design and conduct research with a faculty advisor of their choice.

CHANGES:

Change in title:

606. Proseminar in Developmental Psychology; now listed as Proseminar in Lifespan Developmental Psychology.

Change in credit hours:

670. Interviewing Practicum. (3); now listed as 4 credits.
693. Practicum. (3-6); now listed as 4-6 credits.

SOCIOLOGY

RENUMBER:

550. Contemporary Sociological Theory; now listed as 572.

551. Sociological Research; now listed as 550.

(Course #551 no longer exists.)

Committee on Graduate Studies:

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