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State of New Jersey

GLASSBORO STATE COLLEGE  
GLASSBORO, NEW JERSEY 08028

OFFICE OF THE VICE PRESIDENT  
FOR ACADEMIC AFFAIRS

July 24, 1980

TO: Members of Physical Science Department  
Dr. Lee Dinsmore, Chairperson

SUBJECT: Curriculum Proposal: Advanced Courses in Physical Science.

FROM: Lawson J. Brown, Vice President for Academic Affairs

*LJB*

For a few days I have had under study the proposal for adding a considerable number of upper level undergraduate courses and graduate courses to the Physical Science Programs. Because of some of the concerns I have and Dr. Chamberlain's expertise in the physical science discipline, I consulted with him. In giving approval to the courses I do so with the following conclusions and statements of limitations.

1. The courses as courses seem to be well developed and therefore, should be subject to only the usual careful review by the faculty of new courses being offered.
2. The structuring of a continuous undergraduate to graduate curriculum seems to be straining principles of curriculum structure.

The graduate program is a teacher education program only. It is not a M.A. in the Physical Sciences. The undergraduate program is not primarily focused on subject matter for teaching although at Glassboro we believe that the basic degree in science is the proper preparation for teaching when supplemented with some additional work. However, there should be a turning point in the criteria for the selection of the subject matter for the graduate courses in the teacher education program. These courses may not, to the extent conveyed in your proposal, be identical to an extension of the undergraduate courses appropriate for people going into areas other than teaching or graduate study. You may have taken this into consideration but we cannot see that to be the case.

3. The number of courses proposed are unrealistic when considering the number of students available and the faculty resources available, particularly at the graduate level. You have been trying to develop and increase the undergraduate programs, therefore, you should be cautious in the use of faculty time to try to have a graduate program as broad as the undergraduate. It appears that you took a good idea, that is, structure the courses so as to utilize some of the resources at both the undergraduate and graduate level and exploited the idea to

July 24, 1980

the extent that it is not feasible.

4. While I have no problem in approving the individual courses, I suggest that you will have to be very selective in scheduling and over time eliminate a number of the graduate courses or better still, reconsider the proposal and scale the number of courses down to a realistic number.

LJB/egc

cc: Dr. Dickinson Gardiner,  
Chairperson, Curriculum Committee



State of New Jersey  
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GLASSBORO, NEW JERSEY 08028

OFFICE OF THE VICE PRESIDENT  
FOR ACADEMIC AFFAIRS

February 4, 1980

Dr. Lawrence Delaney  
Department of Physical Sciences  
Glassboro State College

Dear Dr. Delaney:

Your proposal to more clearly define the upper undergraduate and graduate courses in the Physical Sciences as presented in your letter to me dated January 14, 1980 appears to me to be an educationally sound and economically feasible approach. While reserving final judgment until I see the proposal as it emerges from the Curriculum Committee, I urge you to proceed with the development along the lines you indicated.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Lawson J. Brown".

Lawson J. Brown  
Vice President  
for Academic Affairs

LJB/bos



State of New Jersey  
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OFFICE OF THE VICE PRESIDENT  
FOR ACADEMIC AFFAIRS

January 7, 1980

Mr. Lawrence Delaney, Chairman  
Curriculum Committee  
Dept. of Physical Sciences

Dear Larry:

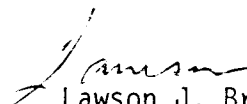
I have looked over the material you sent proposing courses in the Physical Science Department with dual numbering as graduate and undergraduate courses. While it is not proper for me to give a final answer on the question until the Curriculum Committee and the Faculty Senate have acted, I can give you my thinking.

A course has to be either a graduate or undergraduate course. One way to meet the problem would be to develop the courses as bona-fide graduate level courses and allow seniors to enroll providing they have met the prerequisites. Another possibility is that students enrolled in undergraduate work might join with students in graduate work in some activities. Examples would be guest lectures, demonstrations and field trips. Another possibility is to offer the courses as upper level undergraduate and limit the number of such credits to six to be counted toward the M.A. degree, applying the standard 1. b on page 26 of the Graduate Catalog.

You enclose some pages from the University of Delaware catalog. It is not clear from this material what is meant by "maybe offered jointly".

In whatever way you may work out this arrangement, you must be sure that the graduate courses in content and requirements are consistent with what accredited graduate institutions offer.

Sincerely,

  
Lawson J. Brown  
Vice President  
for Academic Affairs

LJB/eac



**State of New Jersey**  
GLASSBORO STATE COLLEGE  
GLASSBORO, NEW JERSEY 08028

OFFICE OF THE VICE-PRESIDENT  
FOR ACADEMIC AFFAIRS

DEC 10 1979

GLASSBORO STATE COLLEGE

PHYSICAL SCIENCE DEPARTMENT

Dr. Lawson Brown  
Vice President for Academic Affairs  
Bole Administration Building  
Glassboro State College  
Glassboro, New Jersey 08028

Dear Lawson:

Please find enclosed a preliminary draft of a curriculum proposal dealing with dual numbering and joint offerings of certain courses offered by this Department.

You will remember that we talked about this briefly one day recently while you were here at Bosshart Hall. As I recall, your reaction at that time was positive, but you did express one or two concerns. These concerns are addressed in the attached proposal.

I would appreciate it very much if you would read the attached draft and let me have any further suggestions or comments. Since the Senate Curriculum Committee requires written evidence of consultations, it would be helpful if you would let me have your comments in written form.

Thank you very much for your help.

*Lawrence Delaney*  
Lawrence Delaney, Chairman  
Curriculum Committee  
Dept. of Physical Sciences

LD/vb  
encl.

P. S. Joint offerings are common at other institutions. Please see copies of several pages from the 1979 University of Delaware Course Catalog attached.

COLLEGE OF ARTS AND SCIENCE

CHEMISTRY

- C 430 Intermediate Organic Chemistry 3**  
Some special classes of organic compounds, primarily heterocyclic systems and natural products. May be offered jointly with C 630. Prereq: C 322 or C 332
- C 433 Advanced Organic Chemistry 3**  
The structure, synthesis and reactions of organic compounds. The modern theories of reaction mechanisms. May be offered jointly with C 633. Prereq: C 332
- C 434 Advanced Organic Chemistry 3**  
Continuation of C 433. May be offered jointly with C 634. Prereq: C 332
- C 435 Glass Blowing 1**  
Laboratory instruction and practice in the construction of specialized chemical equipment. May be offered jointly with C 535.
- C 437 Instrumental Methods 3**  
A study of the principles of design and application of spectrographic and electroanalytical instrumentation in chemical analysis. Prereq: C 332. Coreq: C 443
- C 438 Instrumental Methods Laboratory 1**  
Application of spectrographic and electroanalytical techniques to the solution of chemical problems. Prereq: C334. Coreq: C 445
- C 441 Biochemistry 3**  
Structure and function of proteins, enzymes and coenzymes; carbohydrate metabolism and its regulation; citric acid cycle. May be offered jointly with C 641. Prereq: C 322
- C 442 Biochemistry 3**  
Intermediary metabolism of lipids, amino acids, purines and pyrimidines; nucleic acid chemistry; protein and nucleic acid synthesis; molecular basis of genetic regulation; selected topics. May be offered jointly with C 642. Prereq: C 441
- C 443 Physical Chemistry 3**  
Applications of the principles and methods of mathematics and physics to the quantitative study of chemical problems. May be offered jointly with C 543. Prereq: C 223 or 120, M 242 (M 243 recommended), PS 208 (recommended) or PS 202
- C 444 Physical Chemistry 3**  
Continuation of C 443. May be offered jointly with C 544. Prereq: C 223 or C 120, M 242 (M 243 recommended), PS 208 (recommended) or PS 202.
- C 445 Physical Chemistry Laboratory 1**  
Physical methods for studying properties of matter. To be taken concurrently with or subsequent to C 443-444. May be offered jointly with C 545. Prereq: C 120 or C 220
- C 446 Physical Chemistry Laboratory 1**  
Continuation of C 445. May be offered jointly with C 546. Prereq: C 120 or C 220
- C 451 Advanced Inorganic Chemistry 3**  
Inorganic chemistry: application of the principles of structure and bonding, examples from compounds of both the representative elements and the transition metals. May be offered jointly with C 651. Prereq: C 444, 351
- C 452 Physical Methods in Inorganic Chemistry 3**  
Physical methods, e.g., electronic, vibrational and nuclear resonance spectroscopic techniques; structure and bonding in inorganic compounds. Introduction to the principles of symmetry and group theory. Prereq: C 444, 351
- C 465 Seminar 1**
- C 466 Special Problem 1-6**  
P/F
- C 468 Undergraduate Research 1-6**  
Chemistry research on an assigned subject under the supervision of a member of the staff. P/F (letter grade upon completion of written thesis). Prereq: Consent of instructor
- C 471 Quantum Chemistry 3**  
Basic principles and methods of quantum theory including the wave mechanics of simple systems, angular momentum and the hydrogen atom, and approximate methods applied to atomic and molecular structure. May be offered jointly with C 671. Prereq: C 444

**PHYSICS**

**PS 416 Introduction to Particle Physics 3**

The structure and interactions of elementary particles; strangeness and charm; quark models; weak, electromagnetic and strong interactions; unified theories. May be offered jointly with PS 616. Prereq: PS 421.

**PS 417 Atomic and Nuclear Physics Laboratory 1**

Selected experiments and problems in atomic and nuclear physics. May be offered jointly with PS 617. Prereq: PS 208, M 243.

**PS 418 Atomic and Nuclear Physics Laboratory 1**

Selected experiments and problems in atomic and nuclear physics. May be offered jointly with PS 618. Prereq: PS 208, M 243.

**PS 420 Analytical Mechanics 3**

Particle mechanics, conservation laws, motion under central forces, rigid body dynamics, small vibrations, continuum mechanics, Lagrange's equations. May be offered jointly with PS 620. Prereq: M 302 or consent of instructor.

**PS 421 Modern Physics 3**

A comprehensive description and mathematical treatment of the fundamentals of modern electronic, atomic, molecular, and nuclear physics. May be offered jointly with PS 621. Prereq: PS 209, M 302.

**PS 422 Modern Physics 3**

A comprehensive description and mathematical treatment of the fundamentals of modern electronic, atomic, molecular, and nuclear physics. May be offered jointly with PS 622. Prereq: PS 209, M 302.

**PS 427 Advanced Laboratory Techniques 3**

A series of lectures and experimental projects designed to train basic proficiency for research in experimental physics; machine shop and glass blowing; error and computer data analysis; high vacuum techniques; operational knowledge of some general purpose laboratory equipment; low signal-to-noise ratio experiments. May be offered jointly with PS 627. Prereq: PS 209, M 243.

**PS 431 Acoustics 3**

Vibrations of particles, strings, membranes; acoustic waves; radiation of sound; room acoustics; acoustic measurements. Prereq: M 302 and PS 319 or MEC 212.

**PS 432 Stellar Astrophysics 3**

Introduction to observational and theoretical astrophysics; the sun; physical characteristics of the stars. Spring of odd-numbered years. May be offered jointly with PS 632. Prereq: M 302 plus 14 hours of physics.

**PS 433 Advanced Stellar Astrophysics 3**

Basic equations governing theoretical models of stellar atmospheres and interiors, computer calculations showing the application of these basic principles in numerical modeling. Calculation of absorption line spectra. Stellar structure and evolution.

**PS 436 Galactic Structure 3**

Space distributions and motions of stars, clusters, and interstellar matter within the Milky Way system. Comparison of Milky Way to other galaxies. Spring of even-numbered years. May be offered jointly with PS 636. Prereq: M 302 and 14 hours of physics.

**PS 444 Cosmology 3**

The evolution of the expanding universe. Topics include the big bang, observations of primeval helium and primeval fireball, galaxies, a fairly detailed discussion of various cosmological models, and observations pertaining to the future evolution of the universe. May be offered jointly with PS 644. Prereq: M 302, PS 208 plus 6 hours of physics or engineering.

**PS 449 Introduction to Research 1-6**

Undergraduate research on an assigned problem carried out under the supervision of the staff. A written report is required.

**PS 540 Integrated Circuits in Physics Teaching Laboratories 2**

Applications of integrated circuits, digital and analog, plus other modern solid state devices such as FET's, four-layer diodes, unijunctions, LED's and readouts, in simple apparatus. For use in undergraduate and/or high school physics labs and lecture demonstrations. Prereq: Several semesters of college physics; some familiarity with electronics.

**PS 560 Basic Concepts in Physics 3**

Basic laws of physics. For teachers and for Seniors planning to teach science in the high school. Not for physics major credit.

COLLEGE OF ARTS AND SCIENCE

HISTORY

**H 416 The American Family 1608-1900 3**

The changing shape and function of the American family and its relationship to Old World structure. Seminar reports and papers. May be offered jointly with H 616.

**H 421 American Economic History to 1870 3**

Colonial times to 1870. Emphasis is on the change from an agricultural to an industrial economy. May be offered jointly with H 621.

**H 422 American Economic History Since 1870 3**

The period 1870 to the present. May be offered jointly with H 622.

**H 423 United States Urban History 3**

The process of urbanization in America with special emphasis on the Philadelphia-Wilmington area. May be offered jointly with H 623.

**H 424 United States Urban History 3**

Continuation of H 423/623. May be offered jointly with H 624.

**H 435 Studies in Latin-American History 3**

May be offered jointly with H 635.

**H 440 Studies in Ancient History 3**

May be offered jointly with H 640.

**H 441 Classical Historians 3**

A study of the methods, reliability, and philosophy of Greek and Roman historians from Herodotus to Ammianus Marcellinus. May be offered jointly with H 641.

**442 Studies in Medieval History 3**

Topics include the Church in the early Middle Ages, the Church in the Central Middle Ages, Anglo-Norman England and Capetian France. May be offered jointly with H 642.

**H 444 Studies in Renaissance History 3**

Topics include Renaissance and Reformation cities; women in Europe, 1100-1600; Rome and religion, 1400-1600, and others.

**H 447 European Economic History, 400-1750 3**

The roots of economic growth in Western society from the fall of Rome to the beginnings of the Industrial Revolution. May be offered jointly with H 647.

**H 448 Industrial Revolution in Europe 3**

The origins and spread of rapid, sustained economic growth since 1750. May be offered jointly with H 648.

**H 450 Seminar in European History 3**

**H 451 European Radicalism, 1800-1917 3**

The origins and development of radical ideologies, institutions, movements and revolutions, and their importance for society today. Offered jointly with H 651.

**H 453 Studies in Early Modern European History 3**

May be offered jointly with H 653.

**H 454 Studies in Modern European History 3**

May be offered jointly with H 654.

**H 456 Studies in Modern European Intellectual History 3**

COLLEGE OF ARTS AND SCIENCE

FRENCH

- FR 402 Advanced French Composition 3**  
Prereq: FR 202 or 302
- FR 403 History and Evolution of the French Language 3**  
The development of the French language from Vulgar Latin through Old and Middle French to Modern French. Phonology, morphology, and syntax, illustrated through selected texts. May be offered jointly with FR 603.  
Prereq: FR 401 or 402
- FR 421 French Poetry to 1800 3**  
Great poets from the Middle Ages through the Renaissance and Classicism to Chénier. May be offered jointly with FR 621. Prereq: FR 302.
- FR 422 French Poetry Since 1800 3**  
Great poets from Romanticism through Symbolism and Surrealism to the present. May be offered jointly with FR 622. Prereq: FR 302.
- FR 423 French Medieval Literature 3**  
Survey of French literature to 1500. May be offered jointly with FR 623. Prereq: FR 302
- FR 424 French Renaissance Literature 3**  
Selected works by Rabelais, the poets of the Pleiade, Montaigne and others. May be offered jointly with FR 624. Prereq: FR 302
- FR 437 Seventeenth-Century French Theatre 3**  
Growth of French dramatic literature before 1715 and analysis of the principal plays of Corneille, Racine and Molière. May be offered jointly with FR 637. Prereq: FR 302
- FR 438 Seventeenth-Century French Poetry and Prose 3**  
Representative novelists, poets, critics and moralists from Descartes and Pascal to La Fontaine, Boileau, Mme de La Fayette and others. May be offered jointly with FR 638. Prereq: FR 302
- FR 441 The Eighteenth Century: The Age of Voltaire 3**  
Novels, plays, essays and poetry of such authors as Montesquieu, Marivaux, Prevost and Voltaire. May be offered jointly with FR 641. Prereq: FR 302
- FR 442 The Eighteenth Century: The Age of Rousseau 3**  
Novels, plays, essays and poetry of such authors as Diderot, Rousseau, Beaumarchais and Chénier. May be offered jointly with FR 642. Prereq: FR 302
- FR 445 Nineteenth-Century French Novel 3**  
The novel from Romanticism to Naturalism. Chateaubriand, Balzac, Stendhal, Flaubert, Zola and others. May be offered jointly with FR 645. Prereq: FR 302
- FR 446 Nineteenth-Century French Poetry and Theatre 3**  
Poets and dramatists representative of Romanticism, Realism and the Symbolist movement. May be offered jointly with FR 646. Prereq: FR 302
- FR 451 Twentieth-Century French Theatre 3**  
Main trends from Claudel through Giraudoux and the myth writers to existential drama and the theatre of the absurd. May be offered jointly with FR 651. Prereq: FR 302
- FR 452 Twentieth-Century French Novel and Poetry 3**  
Evolution of the novel from Gide and Proust through Bernanos, Saint-Exupéry, Robbe-Grillet, and others. Analysis of selected poems from Peauy to Ponge. May be offered jointly with FR 652. Prereq: FR 302

November 30, 1979

Preliminary Draft - CURRICULUM PROPOSAL - Preliminary Draft

To: Senate Curriculum Committee  
From: Department of Physical Sciences  
Sponsor: Lawrence Delaney, Chairman of Department Curriculum Committee  
Subject: Dual numbering and joint offerings of certain courses

1. Proposal

It is proposed that:

- a. Courses in the physical sciences, which are designed to serve both advanced undergraduate students and graduate students, be dual numbered, and that
- b. Joint offerings of such pairs of courses be permitted at the option of the Department.

2. Rationale

The 4xx courses offered by the Department of Physical Sciences are designed to serve both advanced undergraduate students majoring in the physical sciences and graduate students working toward master's degrees in the teaching of physical science. But, because many school districts are reluctant to credit teachers with graduate work received in 4xx courses, relatively few graduate students enroll in these courses; even when they are offered during evening hours. This difficulty can be overcome by assigning dual (4xx and 5xx) numbers to such courses. Thus, with the option of jointly offering such pairs of courses, this Department could anticipate increased enrollment in some of its more sparsely attended advanced offerings and more efficient use of faculty load hours.

3. Impact

- a. In order to attract graduate students, joint offerings would be scheduled during evening/Saturday hours. Because such scheduling might, in some cases, have negative impact on undergraduate enrollment, joint offerings would be scheduled only after assessing their probable effect on enrollment.
- b. A student who takes a 5xx course for graduate credit would be held accountable for a higher level of accomplishment than a student who takes the 4xx equivalent.
- c. If a student receives undergraduate credit for a 4xx offering, he would not later be allowed to receive graduate credit for the 5xx equivalent.
- d. When teaching a joint offering, the instructor would receive load credit for only one course.

4. Implementation of the Proposal

Implementation of this proposal would require that the 4xx physical science courses which appear in the Undergraduate Catalog be added to the Graduate Catalog as 5xx courses. Course titles and descriptions would be identical in the two catalogs except for the following additions:

- a. Add to course description in Undergraduate Catalog:  
May be offered jointly with 5xx.
- b. Add to course description in Graduate Catalog:  
May be offered jointly with 4xx, but course requirements are more rigorous than for 4xx. Not open for credit to students who have completed 4xx.

5. Results of Consultations

(to be completed)

November 30, 1979

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(to be completed)

OFFICE OF THE VICE-PRESIDENT  
FOR ACADEMIC AFFAIRS

DEC 10 1979

GLASSBORO STATE COLLEGE



# MEMO

Glassboro State College  
Secondary Education Department

To Larry Delaney, Dept. of Physical Science

Re Preliminary Draft

Date 1/4/80

From Dick Gardiner

Thanks for sharing your draft with me. As I mentioned to you, I am opposed to dual numbering as I see no checking process to insure that "higher levels of accomplishments" are obtained. Frequently, this results in graduate and undergraduate students doing the same things at the same level -- the only different being a different fee.

Joint offerings -- graduate and undergraduate students meeting at the same time -- do occur in some areas, Art for one.

Level changes follow the same approval route as course proposals. Please make your rationale for the changes very clear with all written consultations attached.