UNIVERSITY FACULTY SENATE

SUMMARY OF AGENDA

March 1, 1993

I. ADOPTION OF THE AGENDA

II. APPROVAL OF THE MINUTES: February 8, 1993

III. REMARKS BY UNIVERSITY PROVOST PIPES and/or VICE PROVOST ANDERSEN

IV. ANNOUNCEMENTS: Senate President Lomax

ANNOUNCEMENTS FOR CHALLENGE

1. Revision of the major in Agricultural Business Management to create a concentration in Food Marketing
2. Revision of the B.S. in Agriculture:
   a. Entomology/Plant Pathology
   b. Agricultural Business Management
   c. Agricultural Economics and concentrations in Production and Management, and Resource Economics and Rural Development
3. Revision of the B.A.S. in:
   a. Agricultural Engineering Technology
   b. Engineering Technology
4. Revision of the major in Entomology: Concentrations in General Entomology and in Wildlife Conservation
5. New minor in Agricultural Business Management/Agricultural Economics
6. Revision of the B.S. in Accounting
7. Revisions of the majors/minors in the Bachelor of Music degree
8. Revision of the minor in Art History
9. Revision of the minor in Spanish
10. Revision of the B.A. in Mathematical Sciences
11. Revision of the concentrations in the B.S. in Mathematical Sciences:
   a. Mathematics of Computation
   b. Mathematics of Management Science and Operations Research
   c. Physical Mathematics (revise and change name to Mathematical Physics/Applied Mathematics)
12. Revision of the B.S. in Human Resources:
   a. Human Development and Family Processes
   b. Family and Community Services
   c. Coordinated Undergraduate Dietetics
13. Revision of the B.M.E. in Mechanical Engineering
14. Revision of the B.S. in Chemical Engineering

V. OLD BUSINESS - None

VI. NEW BUSINESS

A. Recommendation for the establishment of an option within the M.S. in Nursing (M.S.N.) entitled Family Nurse Practitioner

B. Recommendation for provisional approval of a new major entitled Baccalaureate for the Registered Nurse (BRN)

C. Recommendation for the approval of new Honors Degrees within the Department of Nutrition and Dietetics (B.S. College of Human Resources) in Applied Nutrition; Dietetics; Nutritional Sciences; Coordinated Undergraduate Dietetics; and Hotel, Restaurant and Institutional Management

D. Recommendation for the approval of new Honors Degrees within the Department of Geography (B.A. College of Arts and Science) in Geography and in Geography Education

E. Recommendation for provisional approval of a new major leading to the B.A. degree in Women's Studies

F. Recommendation for provisional approval of three new majors within the B.A. degree: German/Political Science, Spanish/Political Science, French/Political Science

G. Recommendation for the establishment of three International Honors Certificates for students majoring in Political Science, International Relations, or Foreign Languages and Literatures (Spanish Studies, German Studies, and French Studies)

H. Recommendation for provisional approval of a new major leading to the B.A. degree in Classical Studies

I. Recommendation for revision of the Academic Renewal Policy

J. Recommendation for the approval of new Honors Degrees within the Department of Foreign Languages and Literatures (B.A. College of Arts and Science) in existing concentrations and existing Foreign Language Education majors

K. Introduction of new business
VI. New Business

A. Recommendation from the Committee on Graduate Studies (P. Hooper, Chairperson), with the concurrence of the Coordinating Committee on Education (B. Scott, Chairperson), for the establishment of an option within the M.S. in Nursing (M.S.N.) entitled Family Nurse Practitioner. (Attachment 15, note that the option is called a "track" in the proposal.)

RESOLVED, that the Faculty Senate approves provisionally, for four years, the establishment of an option within the M.S. in Nursing (M.S.N.) entitled Family Nurse Practitioner, effective September 1, 1993.

B. Recommendation from the Committee on Undergraduate Studies (M. Keefe, Chairperson), with the concurrence of the Coordinating Committee on Education (B. Scott, Chairperson), for provisional approval of a new major entitled Baccalaureate for the Registered Nurse (BRN). (Attachment 16)

RESOLVED, that the Faculty Senate approves provisionally, for four years, the establishment of a new major entitled Baccalaureate for the Registered Nurse (BRN), effective September 1, 1993.

C. Recommendation from the Committee on Undergraduate Studies (M. Keefe, Chairperson), with the concurrence of the Coordinating Committee on Education (B. Scott, Chairperson), for the establishment of Honors Degrees within the Department of Nutrition and Dietetics (B.S. College of Human Resources) in Applied Nutrition; Dietetics; Nutritional Sciences; Coordinated Undergraduate Dietetics; and Hotel, Restaurant and Institutional Management. (Attachment 17)

RESOLVED, that the Faculty Senate approves the establishment of Honors Degrees within the Department of Nutrition and Dietetics (B.S. College of Human Resources) in Applied Nutrition; Dietetics; Nutritional Sciences; Coordinated Dietetics; and Hotel, Restaurant and Institutional management, effective immediately.

D. Recommendation from the Committee on Undergraduate Studies (M. Keefe, Chairperson), with the concurrence of the Coordinating Committee on Education (B. Scott, Chairperson), for the establishment of new Honors Degrees leading to the Honors B.A. in Geography and in Geography Education in the College of Arts and Science. (Attachment 18)

RESOLVED, that the Faculty Senate approves the establishment of new Honors Degrees leading to the Honors B.A. in Geography and in Geography Education in the College of Arts and Science, effective immediately.
E. Recommendation from the Committee on Undergraduate Studies (M. Keefe, Chairperson), with the concurrence of the Coordinating Committee on Education (B. Scott, Chairperson) for provisional approval of a new major leading to the B.A. degree in Women's Studies. (Attachment 19)

RESOLVED, that the Faculty Senate approves provisionally, for four years, the establishment of a new major leading to the B.A. degree in Women's Studies, effective September 1, 1993.

F. Recommendation from the Committee on Undergraduate Studies (M. Keefe, Chairperson), with the concurrence of the Coordinating Committee on Education (B. Scott, Chairperson) for provisional approval of three new majors within the B.A. degree: German/Political Science, Spanish/Political Science, French/Political Science. (Attachment 20)

RESOLVED, that the Faculty Senate approves provisionally, for four years, the establishment of three new majors within the B.A. degree: German/Political Science, Spanish/Political Science, French/Political Science, effective September 1, 1993.

G. Recommendation from the Committee on Undergraduate Studies (M. Keefe, Chairperson), with the concurrence of the Coordinating Committee on Education (B. Scott, Chairperson), for the establishment of three International Honors Certificates for students majoring in Political Science, International Relations, or Foreign Languages and Literatures (Spanish Studies, German Studies, French Studies). (Attachment 21)

RESOLVED, that the Faculty Senate approves the establishment of three International Honors Certificates for students majoring in Political Science, International Relations, or Foreign Languages and Literatures (Spanish Studies, German Studies, French Studies), effective immediately.

H. Recommendation from the Committee on Undergraduate Studies (M. Keefe, Chairperson), with the concurrence of the Coordinating Committee on Education (B. Scott, Chairperson), for provisional approval of a new major, listed under "Majors in Area Studies," leading to the B.A. degree in Classical Studies. (Attachment 22)

RESOLVED, that the Faculty Senate approves provisionally, for four years, the establishment of a new major leading to the B.A. degree in Classical Studies, effective September 1, 1993.

I. Recommendation from the Committee on Undergraduate Studies (M. Keefe, Chairperson), with the concurrence of the Coordinating Committee on Education (B. Scott, Chairperson), for revision of the Academic Renewal Policy (page 7 of the 1992 - 1993 Undergraduate Catalog).
RESOLVED, that the Faculty Senate approves the revised Academic Renewal Policy to remove the clause "who have been dropped from matriculated status for academic reasons," and change the letter grade "C" to "C-" in the fourth regulation.

Shown below is the policy with proposed revisions, deletions shown in brackets [ ]:

Academic Renewal Policy

Undergraduate students [who have been dropped from matriculated status for academic reasons, and] who return to the University after a separation of at least five calendar years, and who earn at least a C in each course taken for 12 semester hours after returning, may be given the option of requesting a quality point status equivalent to that of a transfer student admitted to the University.

The following regulations will govern this option:

1) consultation with the dean of the college in which the student plans to major is required, and course selection must be approved in writing before the student registers.

2) the option may be exercised after completion of 12 credit hours following return to the University. The student must initiate the procedure; it will not be automatic.

3) all courses and grades will remain on the student’s transcript. Courses set aside under the academic renewal policy will be identified.

4) courses in which grades of [C] C- or better were earned prior to return may be counted toward the degree, but will not be included in the student’s index.

5) the option will be extended only once during the student’s enrollment at the University.

J. Recommendation from the Committee on Undergraduate Studies (M. Keefe, Chairperson), with the concurrence of the Coordinating Committee on Education (B. Scott, Chairperson), for the establishment of new Honors Degrees leading to the Honors B.A. in Foreign Languages and Literatures (all existing concentrations) and in existing Foreign Language Education majors. (Attachment 23)

RESOLVED, that the Faculty Senate approves the establishment of new Honors Degrees leading to the Honors B.A. in Foreign Languages and Literatures and any of the following concentrations: Classics, French Studies, German Studies, Italian Studies, Latin Studies, Russian Studies, Spanish Studies, Three Languages, and Four Languages, and further be it
RESOLVED, that the Faculty Senate approves the establishment of new Honors Degrees leading to the Honors B.A. in Classics Education, French Education, German Education, Latin Education, Russian Education, and Spanish Education, effective immediately.

K. Such items as may come before the Senate. (No motion introduced under new business, except a motion to refer to committee, shall be acted upon until the next meeting of the Senate.)

rg

Attachments: Committee Activities Report
1. Revision of the major in Agricultural Business Management
2. Revision of the B.S. in Agriculture
3. Revision of the B.A.S. in Agricultural Engineering Technology and Engineering Technology
4. Revision of the major in Entomology
5. New minor in Agricultural Business Management/Agricultural Economics
6. Revision of the B.S. in Accounting
7. Revisions of the B.M. degree
8. Revision of the minor in Art History
9. Revision of the minor in Spanish
10. Revision of the B.A. in Mathematical Sciences
11. Revision of the B.S. in Mathematical Sciences
12. Revision of the B.S. in Human Resources
13. Revision of the B.M.E. in Mechanical Engineering
14. Revision of the B.S. in Chemical Engineering
15. Family Nurse Practitioner
16. Baccalaureate for the Registered Nurse
17. Honors Degrees within the Department of Nutrition and Dietetics
18. Honors B.A. in Geography and in Geography Education
19. B.A. degree in Women’s Studies
20. B.A. degree: German/Political Science, Spanish/Political Science, French/Political Science
21. International Honors Certificates
22. B.A. degree in Classical Studies
23. Honors Degrees within the Dept. of Foreign Languages & Literatures
COMMITTEE ACTIVITIES REPORT

Academic Appeals, Committee on (William Nichol)

No activity before the Committee at this time

Budgetary and Space Priorities, Committee on (Henry T. Reynolds)

1. Recommendations to Senate Executive Committee regarding building and space plans
2. Study and discussion of University budget plans and options
3. Discussing "Smoke-free" environment

Education, Coordinating Committee on (Bonnie K. Scott)

1. Review of Hotel, Restaurant and Institutional Management
2. Discussing wording of new policy on Video Education
3. Discussing exam week
4. Discussing Reorganization of College of Nursing
5. Revisions of Majors in Apparel Design and Textiles and Clothing: Merchandising
6. Discussion of University priorities
7. Meeting required courses between colleges

Faculty Welfare and Privileges, Committee on (Reed Geiger)

1. Conducting mediation and hearing of a faculty complaint
2. Discussing revision of "Mediation and Hearing Procedures"

Graduate Studies, Committee on (Paul Hooper)

No meeting held during January. Report submitted on 12/15/92 still applicable, with the exception of Item 9—M.A. Program in Foreign Language Education, which should be dropped from list.

Honorary Degrees, Faculty Advisory Committee on (Carol Hoffecker)

The Committee meets only twice each year. No current business to report.

Instructional, Computing and Research Support Services, Committee on (Suresh Advani)

Formulating questionnaire to identify the computational needs of faculty

Promotions and Tenure, Committee on (Jon Olson)

Reviewing promotion and tenure dossiers
Research, Committee on (Jerold Schultz)

No items currently before Committee

Student and Faculty Honors, Committee on (Michael Rewa)

Processing applications for Honors Day listings

Student Life, Committee on (Robert Bennett)

1. Discussing Exam week practices
2. Discussing status of foreign students in E.L.I. vis-a-vis Student Code of Conduct
3. Discussing definition of plagiarism

Undergraduate Studies, Committee on (Michael Keefe)

1. Undergoing review by Committee on Committees and Nominations
2. Multicultural courses, under review and requests
3. Course Challenge Cycle
4. New B.S. in Athletic Training
5. Revisions to B.F.A.
6. Discussing Exam Week
7. Drafting Guidelines

/wc
MEMORANDUM

DATE: November 24, 1992

TO: Dr. R. D. Shippy, Associate Dean

FROM: Dr. G. L. Cole, Chair

SUBJECT: Food Marketing Concentration

The department of Food and Resource Economics is requesting approval of a new concentration - Food Marketing - under the Agricultural Business Management major. The majority of our departmental majors find jobs in the agribusiness-food marketing area. Several of our current and previous majors have requested that we establish the concentration.

The new concentration will not require that additional courses be taught, either in our department or in the College of Business and Economics. The concentration merely provides greater specificity for a selected group of courses in both our department and the department of Business Administration. In the attached memorandum, Dr. Howard Garland, Chair of Business Administration, has given his department's approval for our students to take a group of BUAD courses for the concentration.

MEMORANDUM

DATE: September 14, 1992

TO: Ulrich C. Toensmeyer, Professor
    Dept. of Food & Resource Economics

FROM: Howard Garland, Chair
       Department of Business Administration

SUBJECT: Food Marketing Concentration

In response to your memorandum of September 10, 1992, I would be willing to support a minimum of 15 students/year in Marketing courses as proposed in your new Food Marketing Concentration.
March 2, 1992

TO:  Dr. Michael Keefe, Chair
     Undergraduate Studies Committee
     Faculty Senate

FROM: R. Dean Shippy, Associate Dean
      College of Agricultural Sciences and
      Chair, College Courses and Curriculum Committee

RE:  Curriculum Proposal from the College of Agricultural Sciences

The Courses and Curriculum Committee of the College of Agricultural Sciences has approved the following proposal and is forwarding it to your committee for action:

1. Addition of a Food Marketing concentration under the existing Agricultural Business Management major. This is a proposal to add a new concentration. The proposal would not require the addition of any new courses in our College or other Colleges. The concentration simply provides greater specificity for a selected group of Food and Resource Economics Department courses and courses in the Business Administration Department.

The attached material contains a rationale letter from Dr. Gerald L. Cole, Chair, Food and Resource Economics where the proposed concentration will be located. You will also find an approval statement from Dr. Howard Garland, Chair Department of Business Administration concerning the three newly required Business & Economics courses.
DEGREE: BACHELOR OF SCIENCE IN AGRICULTURE  
MAJOR: AGRICULTURAL BUSINESS MANAGEMENT  
CONCENTRATION: FOOD MARKETING  

CURRICULUM  

CREDITS

UNIVERSITY REQUIREMENTS  

ENGL 110 Critical Reading and Writing ................................................. 3¹  
Three credits in an approved course or courses stressing ........................ 3¹⁺  
multicultural, ethnic, and/or gender-related content.⁵  

COLLEGE REQUIREMENTS  

Mathematics and Computer Science  
Mathematics course (MATH 115 or higher level) ........................................ 3¹  
Computer Science course (FREC 235 or equivalent) .................................. 3¹

Agricultural and Biological Sciences ..................................................... 9-12¹²  
Minimum of one course outside the student's major in three of the 
following areas: Food and Resource Economics, Food Science, 
Agricultural Engineering, Animal Science, Entomology and Applied 
Ecology, Plant and Soil Sciences, or Biology.

Literature and Arts ................................................................................. 6²  
Six credits selected from the general areas of English, Art, Art History, 
Communication, Music, Theatre, or Foreign Language.

Social Sciences and Humanities ............................................................. 9²  
Minimum of one course in three of the following areas: 
Anthropology, Black American Studies, Criminal Justice, Economics, 
Education, Geography, History, Philosophy, Political Science, 
Psychology, Sociology, or Women's Studies.

Physical Sciences .................................................................................... 8¹  
Minimum of eight credits selected from one of the following areas: 
Chemistry, Physics, Geology, or Physical Science.

¹¹ Superior figures indicate year or years in which the course is normally taken, i.e., ¹freshman year, ²sophomore year, etc.
³² This requirement may be fulfilled through a course taken to complete major, group, breadth, 
³ elective requirements. See page 27.
⁴² MATH 221, MATH 230 and STAT 201 are strongly suggested.
MAJOR REQUIREMENTS

External to the College
ACCT 207  Accounting I ................................................. 3
ACCT 208  Accounting II ................................................. 3
COMM 312  Oral Communication in Business ......................... 3
ENGL 312  Written Communications in Business .................... 3
ECON 151  Introduction to Microeconomics ......................... 3
ECON 152  Introduction to Macroeconomics ......................... 3
BUAD 301  Introduction to Marketing .................................. 3.5
Two additional courses offered by the College of Business and Economics. 6.5

Within the Department
FREC 120  Elementary Agricultural Economics ........................ 3
FREC 125  Elementary Agricultural Economics: Applications ...... 1
FREC 235  Introduction to Data Analysis ................................ 3
FREC 240  Quantitative Methods in Agricultural Economics ...... 3
FREC 406  Agricultural Policy ............................................. 3.5
FREC 465  Seminar .......................................................... 1

Seven courses at the 400 level or above with at least two in each of the following general areas:

1. Marketing/International Trade
FREC 404  Food Marketing .................................................. 3.5
FREC 410  International Agricultural Trade ......................... 3.5
FREC 441  Futures Markets in Agriculture ............................. 4.5

2. Production/Management
FREC 403  Production Economics .......................................... 3.5
FREC 408  Research Methods ............................................... 3.5
FREC 615  Advanced Prices and Statistics .............................. 3.5
FREC 427  Agricultural Finance ............................................. 3.5

3. Resources/Development
FREC 420  Agriculture in Economic Development ................... 3.5
FREC 424  Resource Economics Theory and Policy ................... 3.5
FREC 429  Rural Development Theory and Policy ...................... 3.5
FREC 444  Economics of Environmental Management .................. 3.5

FREC 405, FREC 435, FREC 630, and Independent Study may not be counted in the seven courses.

The requirements for the major in Agricultural Business Management must be met. The following department courses are required for the concentration and may also be used to meet the area requirements for the Agricultural Business Management major.

FREC 404  Food Marketing
FREC 408  Research Methods
FREC 410  International Agricultural Trade
FREC 427  Agricultural Finance
FREC 441  Futures Markets in Agriculture

In addition, the following courses are required:

FREC 405  Food Marketing Management
Three Business Administration courses at the 300 or 400 level in marketing
related areas. These are in addition to BUAD 301 - Introduction to Marketing
and the two additional Business and Economics courses required by the Agricultural
Business Management major.

A maximum of three credits of Independent Study in Food and Resource Economics and
a maximum of six credits of Independent Study in all areas, including Food and
Resource Economics, may be counted toward a degree.

ELECTIVES

Electives ................................................................. 20-24\textsuperscript{1-4}
May include Military Science, Music, or Physical Education.
(Only four credits of activity-type Physical Education and/or four credits
of performing Music organization credit may be counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF ...................................... 130
ENTOMOLOGY-PLANT PATHOLOGY MAJOR

SEPTEMBER JUNE 1992 - suggested revision

The Department of Entomology and Applied Ecology and the Department of Plant and Soil Sciences offer a joint major, Entomology-Plant Pathology (EPP). This combined major allows the student to study both insects and plant diseases in depth and to emphasize one or the other depending on his or her interest. It provides excellent preparation for employment or graduate work in the area of crop protection, or Integrated Pest Management (IPM).

Students majoring in EPP are neither Entomology nor Plant Science majors and therefore are not subject to any special requirements of either department. Following are the requirements for the EPP major:

**University Requirements:** English, ENGL 110; multicultural course (see catalog for list).

**College Requirements:** See University Undergraduate Academic Programs and Policies Catalog.

**General Courses:** Chemistry, CHEM 101, 102 or 103, 104; Biology, BISC 207, 208; Library Skills, AGRI 211; math, MATH 115 or higher.

**Courses in Major:** Entomology, ENTO 205, 305, 406, 408, 411, and 465; Plant and Soil Sciences, PLSC 101, 201, 303, 402, 411, and at least 5 credits from 412, 429, and 616. An additional 16 credits with either ENTO or PLSC prefix, in any combination.

The unspecified ENTO or PLSC credits allow students to emphasize either applied entomology or plant pathology in their programs. Suggested applied entomology courses are ENTO 214, 224, 410, 619, and 622. Suggested plant pathology courses are PLSC 413, 429, and 616. All majors should consider taking the interdisciplinary Integrated Pest Management course (ENTO 613). Students should complete their programs with electives that broaden their views of the world and strengthen their preparation for a career. Students interested in a career in industry are strongly advised to take courses in written and oral communications (such as COMM 255, 312, or 350, ENGL 301, 307, 309, 312, or 410, and THEA 102, 204, or 220) and in business/economics (such as ECON 100 or 151, FREC 120, 125, 153, 201, or 302, and BUAD 301 and 302).

**Fall 1992**

**Suggested Freshman Schedule**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 101 or 103</td>
<td>General Chemistry</td>
</tr>
<tr>
<td>MATH 012, 115, 171 or 221</td>
<td>Intermediate Algebra, Precalculus or calculus (as warranted)</td>
</tr>
<tr>
<td>ENTO 205</td>
<td>Elements of Entomology</td>
</tr>
<tr>
<td>PLSC 101</td>
<td>Botany I</td>
</tr>
</tbody>
</table>

14-17

An additional elective (1-3 cr) in Group C or D may be selected if desired.
ENTOMOLOGY/PLANT PATHOLOGY

Because of mutual interests and problems in the field of plant protection, the Department of Entomology and Applied Ecology and the Department of Plant and Soil Sciences offer a joint major, entomology/plant pathology (EPP). In a world of expanding population and increasing pressure on supplies of food and fiber, both plant pathology and entomology offer the challenge and satisfaction of a career that contributes to human welfare. This combined major allows students to study both insects and plant diseases. It includes courses emphasizing recognition of pests and their symptoms and strategies for pest management compatible with the agricultural system and the environment.

Students majoring in EPP are neither entomology nor plant science majors and therefore are not subject to any special requirements of either department.

DEGREE: BACHELOR OF SCIENCE IN AGRICULTURE
MAJOR: ENTOMOLOGY/PLANT PATHOLOGY

CURRICULUM

CREDITS

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing .................. 3
Three credits in an approved course or courses stressing (may include 3 credits maximum) 3
  multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Mathematics and Computer Science
Mathematics course (MATH 115 or higher level) ........... 3
Computer Science course selected from CISC 105, EGTE 111, FREC 255, or equivalent 3

Agricultural and Biological Sciences .................................. 9-12
Minimum of one course outside the student's major in three of the following areas: Food and Resource Economics, Food Science, Agricultural Engineering, Animal Science, Entomology and Applied Ecology, Plant and Soil Sciences, or Biology.

Literature and Arts .................................................. 6
Six credits selected from the general areas of English, Art, Art History, Communication, Music, Theatre, or Foreign Language.

Social Sciences and Humanities ..................................... 9
Minimum of one course in three of the following areas: Anthropology, Black American Studies, Criminal Justice, Economics, Education, Geography, History, Philosophy, Political Science, Psychology, Sociology, or Women’s Studies.

Physical Sciences .................................................. 8
Minimum of eight credits selected from one of the following areas: Chemistry, Physics, Geology, or Physical Science.

MAJOR REQUIREMENTS

External to the College
BISC 207 Introductory Biology I .......................... 4
BISC 208 Introductory Biology II .......................... 4

CHEM 101 General Chemistry .................................. 4

CHEM 103 General Chemistry .................................. 4

CHEM 109 General Chemistry .................................. 4

CHEM 104 General Chemistry .................................. 4

Within the College
AGRI 211 Literature of the Agricultural and Life Sciences .... 1

Within the Departments
ENTO 205 Elements of Entomology ...................... 3
ENTO 205 Entomology Laboratory ...................... 2
ENTO 406 Insect Identification—Taxonomy ............. 3
ENTO 406 Field Taxonomy ...................... 2
ENTO 411 Economic Entomology ...................... 3
ENTO 463 Seminar .......................... 1
PLSC 101 Botany I .................................. 4
PLSC 101 Botany II .................................. 4
PLSC 305 Introductory Plant Pathology .............. 4

PLSC 412 Diagnostic Plant Pathology ..................... 4

Sixteen credits from Entomology and Applied Ecology 16
  and/or Plant Science (may include 3 credits maximum)

The choice of department in which to complete the remaining credits provides the student with the opportunity to emphasize either applied entomology or plant pathology in his or her program. Students should complete their programs with electives that will provide an education best suited to their goals. Course election should be made in consultation with the academic advisor during the preregistration period of each term. This program should include other courses in agriculture, biology, and physical sciences. A list of suggested courses will be made available in the Department of Entomology and Applied Ecology and in the Department of Plant and Soil Sciences.

ELECTIVES

26-29

Electives

Courses in Agriculture, Biology, and the Physical Sciences are recommended. (Only two credits of activity-type Physical Education and/or two credits of performing Music organization credit may be counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF 124

The curriculum will prepare the student for graduate study in entomology, plant pathology, or related areas or direct entry into various agricultural industries, research, or government service where pest management and plant protection are important. For federal employment, a student must have 16 credits in entomology to qualify for a GS-5 rating as an entomologist. To qualify as a GS-5 as a plant pathologist, a student must have 10 plant pathology credits and 20 credits in basic botany or plant science.

Of Independent Study, Research, and Field Experience

65
MEMORANDUM

TO:        R. Dean Shippy, Associate Dean, Instruction
            College of Agricultural Sciences

FROM:      Gerald L. Cole, Chair
            Food and Resource Economics

DATE:      October 16, 1992

SUBJECT:   Revision of Existing Majors

We are requesting a revision in our existing majors - ABM and AEC. The revision involves deleting FREC 406 from the list of required courses in the department and adding it to the Production/Management section of courses so that it becomes one of a group from which majors select several courses. Also, FREC 615 is being deleted from the selection list of Production/Management courses.

The placement of FREC 406 was an oversight when the curriculum was changed in 1988. FREC 615 is now being taught at the graduate level, primarily for Operations Research students; therefore, it is not appropriate for our undergraduate majors.

GLC: js
FOOD AND RESOURCE ECONOMICS

The study of agricultural economics is concerned with the economics of production and marketing in the agricultural-business complex. Courses and curricula are designed to provide a thorough background in the principles of organization and management of farms and of firms serving agriculture and food processing businesses. Agricultural economics also includes study of financing agricultural business firms, marketing agricultural products, price analyses, economics of land utilization, and agricultural policy.

Two major programs are offered: (a) agricultural business management and (b) agricultural economics. The curricula differ in the amount of emphasis given to agricultural production, business, and economics. Both curricula qualify the student for graduate work.

The curriculum in agricultural business management is offered cooperatively with the College of Business and Economics. The fundamentals of business are combined with a basic background in agriculture. This curriculum prepares the student for a career in management and research in farm-related businesses such as farm credit and financing, food processing, food wholesaling and retailing, feed and fertilizer companies, agricultural chemical companies, and agricultural cooperatives.

The curriculum in agricultural economics emphasizes farm management, production economics, and agricultural marketing, and provides a solid foundation in economics and business. It prepares the student to work in the fields of agriculture, government, teaching, extension, and research. Two concentrations are offered as part of the agricultural economics major. They are Production and Management and Resource Economics and Rural Development.

DEGREE: BACHELOR OF SCIENCE IN AGRICULTURE

MAJOR: AGRICULTURAL BUSINESS MANAGEMENT

CURRICULUM

CREDITS*

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing ........................................ 3
Three credits in an approved course or courses stressing .......................... 3
multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Mathematics and Computer Science

Mathematics course (MATH 115 or higher level) .................................... 3
Computer Science course (FREC 255 or equivalent) ................................ 3

Agricultural and Biological Sciences .................................................. 9-12

Minimum of one course outside the student's major in three of the following areas: Food and Resource Economics, Food Science, Agricultural Engineering, Animal Science, Entomology and Applied Ecology, Plant and Soil Sciences, or Biology.

* Superior figures indicate year or years in which the course is normally taken, i.e., 1 seniors, 2 sophomores, etc.

# This requirement may be fulfilled through a course taken to complete major, breadth, or elective requirements. See page 26.

+ MATH 221, MATH 250 and STAT 201 are strongly suggested.

A maximum of three credits of Independent Study in Food and Resource Economics and a maximum of six credits of Independent Study in all areas, including Food and Resource Economics, may be counted toward the degree.

ELECTIVES

Electives .................................................................................. 52-36

May include Military Science, Music, or Physical Education.

(Only four credits of activity-type Physical Education and/or four credits of performing Music organization credit may be counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF ........................................ 130
MEMORANDUM

TO: R. Dean Shippy, Associate Dean, Instruction
    College of Agricultural Sciences

FROM: Gerald L. Cole, Chair
      Food and Resource Economics

DATE: October 16, 1992

SUBJECT: Revision of Existing Majors

We are requesting a revision in our existing majors - ABM and AEC. The revision involves deleting FREC 406 from the list of required courses in the department and adding it to the Production/Management section of courses so that it becomes one of a group from which majors select several courses. Also, FREC 615 is being deleted from the selection list of Production/Management courses.

The placement of FREC 406 was an oversight when the curriculum was changed in 1988. FREC 615 is now being taught at the graduate level, primarily for Operations Research students; therefore, it is not appropriate for our undergraduate majors.

GLC: js
### Degree: Bachelor of Science in Agriculture
#### Major: Agricultural Economics

#### Curriculum

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>University Requirements</strong></td>
<td></td>
</tr>
<tr>
<td>ENGL 110 Critical Reading and Writing</td>
<td>3</td>
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<tr>
<td>Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content.</td>
<td>3-14</td>
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<thead>
<tr>
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<tbody>
<tr>
<td><strong>College Requirements</strong></td>
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<tr>
<td>Mathematics and Computer Science</td>
<td></td>
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<tr>
<td>Mathematics course (MATH 115 or higher level)</td>
<td>3</td>
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<tr>
<td>Computer Science course (FREC 255 or equivalent)</td>
<td>3</td>
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<tr>
<td><strong>Agricultural and Biological Sciences</strong></td>
<td>9-12</td>
</tr>
<tr>
<td>Minimum of one course outside the student’s major in three of the following areas: Food and Resource Economics, Food Science, Agricultural Engineering, Animal Science, Entomology and Applied Ecology, Plant and Soil Sciences, or Biology.</td>
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<tr>
<td>Literature and Arts</td>
<td>6</td>
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<tr>
<td>Six credits selected from the general areas of English, Art, Art History, Communication, Music, Theatre, or Foreign Language.</td>
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<tr>
<td><strong>Social Sciences and Humanities</strong></td>
<td>9</td>
</tr>
<tr>
<td>Minimum of one course in three of the following areas: Anthropology, Black American Studies, Criminal Justice, Economics, Education, Geography, History, Philosophy, Political Science, Psychology, Sociology, or Women’s Studies.</td>
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<tr>
<td><strong>Physical Sciences</strong></td>
<td>8</td>
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<tr>
<td>Minimum of eight credits selected from one of the following areas: Chemistry, Physics, Geology, or Physical Science.</td>
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Major Requirements</strong></td>
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<tr>
<td>External to the College</td>
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<tr>
<td>COMM 312 Oral Communication in Business</td>
<td>3</td>
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<tr>
<td>ENGL 312 Written Communications in Business</td>
<td>3</td>
</tr>
<tr>
<td>ECON 120 Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 121 Introduction to Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 302 Money, Credit and Banking</td>
<td>3-5</td>
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<tr>
<td>ECON 500 Intermediate Microeconomic Theory</td>
<td>3-5</td>
</tr>
<tr>
<td>ECON 503 Intermediate Macroeconomic Theory</td>
<td>3-5</td>
</tr>
<tr>
<td>Two additional courses offered by the College of Business</td>
<td>5-8</td>
</tr>
<tr>
<td>and Economics at the 500 level or higher.</td>
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<tr>
<th>Requirement</th>
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<tbody>
<tr>
<td><strong>Within the Department</strong></td>
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<tr>
<td>FREC 120 Elementary Agricultural Economics</td>
<td>5</td>
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<tr>
<td>FREC 125 Elementary Agricultural Economics: Applications</td>
<td>1</td>
</tr>
<tr>
<td>FREC 251 Records and Accounts</td>
<td>3</td>
</tr>
<tr>
<td>FREC 255 Introduction to Data Analysis</td>
<td>3</td>
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<tr>
<td>FREC 260 Quantitative Methods in Agricultural Economics</td>
<td>3-2</td>
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<tr>
<td>FREC 300 Agricultural Policy</td>
<td></td>
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<tr>
<td>FREC 465 Seminar</td>
<td>1</td>
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<table>
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<tr>
<th>Requirement</th>
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<tbody>
<tr>
<td>Seven courses at the 400 level or above with at least two in each of the following general areas:</td>
<td></td>
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<tr>
<td>1. Marketing/International Trade</td>
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<tr>
<td>FREC 404 Food Marketing</td>
<td>5-5</td>
</tr>
<tr>
<td>FREC 410 International Agricultural Trade</td>
<td>5-5</td>
</tr>
<tr>
<td>FREC 441 Futures Markets in Agriculture</td>
<td>4-3</td>
</tr>
<tr>
<td>2. Production/Management</td>
<td></td>
</tr>
<tr>
<td>FREC 403 Production Economics</td>
<td>5-5</td>
</tr>
</tbody>
</table>

*Superior figures indicate year or years in which the course is normally taken, i.e., 1 freshman year, 2 sophomore year, etc.

*This requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 26.

*MATH 221, MATH 250 and STAT 201 are strongly suggested.

*Students can qualify for a minor in Economics if they take an additional 400-level Economics course and obtain a grade of C or better in all Economics courses (see “The Minor in Economics” in the College of Business and Economics curricula).
Electives

Educs...…………………………………………………………... 11-15
May includeMilitaryScience, Music, or Physical Education.
(Only four credits of non-elective Physical Education and/or
four credits of performing Music organization credit may be
counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF………………. 150

DEGREE: BACHELOR OF SCIENCE IN AGRICULTURE
MAJOR: AGRICULTURAL ECONOMICS
CONCENTRATION: RESOURCE ECONOMICS AND RURAL
DEVELOPMENT

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing……………………… 3
Three credits in an approved course or courses stressing
multicultural, ethnic and/or gender-related contexts.

COLLEGE REQUIREMENTS

Mathematics and Computer Science
Mathematics course (MATH 115 or higher level)†………………... 3
Computer Science course (FREC 255 or equivalent)…………. 3

Agricultural and Biological Sciences………………………… 9-12
Minimum of one course outside the student's major in three of
the following areas: Food and Resource Economics, Food
Science, Agricultural Engineering, Animal Science,
Entomology and Applied Ecology, Plant and Soil Sciences, or
Biology.

Literature and Arts……………………………………………… 6
Six credits selected from the general areas of English, Art, Art
History, Communication, Music, Theatre, or Foreign
Language.

Social Sciences and Humanities……………………………… 9
Minimum of one course in three of the following areas:
Anthropology, Black American Studies, Criminal Justice,
Economics, Education, Geography, History, Philosophy,
Political Science, Psychology, Sociology, or Women's Studies.

Physical Sciences……………………………………………….. 8
Minimum of eight credits selected from one of the following
areas: Chemistry, Physics, Geology, or Physical Science.

MAJOR REQUIREMENTS

External to the College

COMD 312 Oral Communication in Business…………………… 3
EGO ENGL 312 Written Communications in Business………… 3
ECON 151 Introduction to Microeconomics……………………. 3
ECON 152 Introduction to Macroeconomics……………………. 3
ECON 302 Money, Credit and Banking………………………. 3
ECON 303 Intermediate Microeconomic Theory…………………. 3
ECON 304 Intermediate Macroeconomic Theory…………………. 3

Two additional courses offered by the College of Business
and Economics at the 300 level or higher.ż

For courses at the 400 level or above with at least two in
the following general areas:

Markets/International Trade
EC 404 Food Marketing……………………………………………… 3
EC 410 International Agricultural Trade……………………….. 3

Production Management
EC 405 Production Economics…………………………………….. 3
EC 408 Research Methods………………………………………. 3
EC 415 Advanced Prices and Statistics………………………… 3
EC 425 Agricultural Finance………………………………………… 3

Resources/Development
EC 430 Agricultural Economics…………………………………… 3
EC 440 Resource Economics—Theory and Policy……………… 3
EC 441 Rural Economic Development—Theory and Policy…… 3
EC 444 Economics of Environmental Management……………… 3

... requirements for the major in Agricultural Economics
must be met. In addition, the following courses must be
taken:

EC 350 Farm Management……………………………………… 3
EC 403 Production in Economics………………………………. 3

... courses required for the
Agricultural Economics major may be used to satisfy require-
ments for the Production and Management concentration.

... courses required for the
Agricultural Economics major, the following courses
must be taken:

AD 307 International Business Management…………………… 3
AD 309 Management and Organizational Behavior…………… 3
ON 415 Economic Forecasting…………………………………… 3
NT 201 Introduction to Statistics I………………………………… 3
NT 202 Introduction to Statistics II………………………………… 3

... courses that may be counted in the seven courses.

... credits of Independent Study in Food
... credits of Independent Study in all areas, including Food and Resource
Economics, may be counted toward a degree.

... courses in which the course is normally taken, e.g., freshman year, sophomore year, etc.

... requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 25.

... MATH 251, MATH 250, and STAT 201 are strongly suggested.

... students can qualify for a minor in Economics if they take an additional 400-level Economics course and obtain a grade of C or better in all Economics courses
...

... "The Minor in Economics" in the College of Business and Economics curricula.)
Within the Department

FREC 120 Elementary Agricultural Economics ........................................... 3 1
FREC 125 Elementary Agricultural Economics: Applications ................................ 1 1
FREC 201 Records and Accounts ...................................................................... 3 2
FREC 225 Introduction to Data Analysis .......................................................... 3 1
FREC 240 Quantitative Methods in Agricultural Economics ............................... 3 2
FREC 465 Seminar ......................................................................................... 1 4

Seven courses at the 400 level or above with at least two in each of the following general areas:

1. Marketing/International Trade
   FREC 404 Food Marketing ........................................................................... 3 3 4
   FREC 410 International Agricultural Trade .................................................... 3 3 4
   FREC 441 Futures Markets in Agriculture ..................................................... 4 3 4

2. Production/Management
   FREC 403 Production Economics .................................................................. 3 3 4
   FREC 408 Research Methods .......................................................................... 3 3 4
   FREC 415 Agricultural Finance ....................................................................... 3 3 4

   Resources/Development
   FREC 402 Agriculture in Economic Development ......................................... 3 3 4
   FREC 423 Resource Economics-Theory and Policy ....................................... 3 3 4
   FREC 429 Rural Economic Development-Theory and Policy ......................... 3 3 4
   FREC 444 Economics of Environmental Management .................................... 3 3 4

The requirements for the major in Agricultural Economics must be met. In addition, the following courses must be taken:

   FREC 424 Resource Economics-Theory and Policy ....................................... 3 3 4
   FREC 429 Rural Economic Development-Theory and Policy ......................... 3 3 4
   FREC 444 Economics of Environmental Management .................................... 3 3 4

Agricultural Economics (FREC) courses required for the Agricultural Economics major may be used to satisfy requirements for the Resource Economics and Rural Development concentration.

One course in Geography .................................................................................. 3 1 4

In addition to the Business and Economics courses required for the Agricultural Economics major, four of the following courses, with at least one in each area, must be taken:

1. Political Economy
   ECON 306 Public Choice .............................................................................. 3 3 4
   ECON 311 Economic Growth and Development Policy .................................. 3 3 4
   ECON 408 Economics of Law ........................................................................ 3 3 4
   ECON 411 Economics of Growth and Development .................................... 3 3 4

2. Quantitative Methods
   ECON 415 Economic Forecasting ................................................................. 3 3 4
   ECON 422 Introduction to Econometrics ....................................................... 3 3 4
   ECON 423 Econometric Applications ............................................................ 3 3 4
   ECON 426 Multivariate Statistics .................................................................. 3 3 4

3. Applications
   ECON 433 Economics of the Public Sector .................................................... 3 3 4
   ECON 475 Economics of Natural Resources ................................................ 3 3 4
   ECON 477 Benefit-Cost Analysis .................................................................. 3 3 4

   Additional courses may be selected from the following:
   FREC 405, FREC 435, FREC 630, and Independent Study may not be counted in the seven courses.

   A maximum of three credits of Independent Study in Food and Resource Economics may be counted toward the degree.

   A maximum of six credits of Independent Study in all areas, including Food and Resource Economics, may be counted toward a degree.

ELECTIVES

Credits: ................................................................................................................. 14-18 1-4

May include Military Science, Music, or Physical Education.

(Only four credits of any type Physical Education and/or four credits of performing Music organization credit may be counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF .......................................................... 130

FOOD SCIENCE

The Food Science major is designed to provide students with a broad understanding and professional preparation in areas of food production, processing, evaluation, and distribution. These include positions within the food and allied industries, the government, and independent research institutions. The role of the food scientist in such positions may involve production and process development, engineering, quality control, technical service and sales, and regulatory service, education, or basic research. The food science research program has opportunities for students in three areas: (1) packaging, package product interaction, and food chemistry; (2) biotechnology, fermentations, and food microbiology; and (3) process engineering technology.

Educational and research opportunities in biotechnology are fostered by the department's Biotechnology Group. The rapidly expanding field of biotechnology and food packaging has created both employment opportunities and the need for new research approaches to meet the potentials of genetic engineering, fermentation technology, medical applications, and improved food supplies. Rapid changes in industry processing techniques meet new consumer demands for products. Industry innovation also creates a demand for quality control specialists, food process engineers, and packaging specialists. The program includes coursework in life and chemical sciences, mathematics and engineering, plus independent research work on applied science problems. A minimum of 2.00 GPA is required for graduation. Students may join as members of the Institute of Food Technologists.

DEGREE: BACHELOR OF SCIENCE IN AGRICULTURE
MAJOR: FOOD SCIENCE

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing ......................................................... 3 3
Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content.

CREDITS*
AGRICULTURAL ENGINEERING

Agricultural engineering technology is a part of the broad discipline of agricultural engineering that bridges two fields of applied sciences: agriculture and engineering. Agricultural engineering technology is the application of engineering techniques in such areas as production mechanization, energy, soil and water conservation, plant and animal environments, agricultural waste management, processing and storage, and building construction. This requires a knowledge of physical and natural sciences and technical skills to support engineering activities.

This agricultural engineering technology curriculum is designed to prepare students for engineering-related employment in agricultural industries. A scientific or business background may be obtained according to the student’s interest through the selection of electives in the College of Agricultural Sciences and other colleges of the University. To graduate with a major in agricultural engineering technology, students must attain a 2.0 average in agricultural engineering technology courses. This is in addition to the University requirement for graduation that a 2.0 average be attained in all coursework at the University.

The computer is a heavily used tool throughout the agricultural engineering technology curriculum. Students are urged to purchase a personal computer. Please contact the department chair for further information on computer specifications or the academic program.

DEGREE: BACHELOR OF APPLIED SCIENCE
MAJOR: AGRICULTURAL ENGINEERING TECHNOLOGY
CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing .......................................................... 3
Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Communications ......................................................................................... 6
Six credits selected to provide training in oral and written communications to include:
EGTE 365 Junior Seminar ........................................................................... 1
A second writing course selected from the following:
ENGL 301 Problems in Composition ............................................................... 3
ENGL 302 Advanced Composition ................................................................. 3
ENGL 307 News Writing and Editing ............................................................... 3
ENGL 312 Written Communications in Business .......................................... 3
ENGL 410 Technical Writing ......................................................................... 3
An oral communications course selected from the following:
COMM 250 Introduction to Human Communication Systems .................... 3
COMM 255 Fundamentals of Communication .............................................. 3
COMM 252 Oral Communications in Business ............................................. 3
COMM 250 Public Speaking ......................................................................... 3
COMM 256 Small Group Communication .................................................. 3
Social Sciences and Humanities .................................................................. 15
Fifteen credits selected to provide an appreciation and understanding of our cultural heritage, interpersonal relationships, interrelationships between technology and society and a value system for sound decision making.
Nine credits to be selected from a minimum of three of the following areas: Anthropology, Art, Art History, Black American Studies, Criminal Justice, Economics, Education, English, Foreign Language, Geography, History, Music, Philosophy, Political Science, Psychology, Sociology, Theatre, or Women’s Studies.

Basic Sciences and Mathematics ................................................................. 31
Thirty-one credits selected to provide fundamental knowledge about nature and its phenomena and mathematics including calculus as follows:

Biology, Chemistry and Physics
Biology/Life Science course ........................................................................ 3
CHEM 105 General Chemistry .................................................................... 4
CHEM 104 General Chemistry .................................................................... 4
PHYS 201 General Physics ........................................................................... 4
or
PHYS 207 General Physics .......................................................................... 4
PHYS 202 General Physics .......................................................................... 4
or
PHYS 208 General Physics ........................................................................... 4

Mathematics and Statistics
A minimum of 12 credits in mathematics and statistics is required.
MATH 221 Calculus I .................................................................................. 3
or
MATH 241 Analytic Geometry and Calculus A ........................................... 4
MATH 222 Calculus II .................................................................................. 3
or
MATH 242 Analytic Geometry and Calculus B ........................................... 4
STAT 301 Introduction to Statistics ............................................................... 3
or
MATH 245 Analytic Geometry and Calculus C ........................................... 4

General Mathematics or Statistics Course .................................................. 1

*Superior figures indicate year or years in which the course is normally taken, i.e., 1 freshman year, 2 sophomore year, etc.
#This requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 26.
MAJOR REQUIREMENTS†

Technical Sciences .................................................................................................................. 18

Eighteen credits that deal with the application of engineering science subject matter to include one course in each of the following areas: Electricity, Fluid Mechanics, Statics, and Thermodynamics.

Specific requirements are:

EGTE 218 Fundamentals of Hydraulic Systems ......................................................... 4†
EGTE 234 Electric Circuits for Engineering Technology ........................................ 4†
EGTE 211 Fundamentals of Thermodynamics .......................................................... 4†
EGTE 454 Rural/Light Industrial Buildings ................................................................ 4

In addition, a course must be selected from one of the following areas: Dynamics, Electronics, Materials Technology, or Strength of Materials. The course may be selected from the following:

EGTE 344 Electronics and Microprocessors ............................................................... 3
EGTE 455 Machinist Design and Development .......................................................... 3

Technical Skills†

Twelve credits selected to provide skills and knowledge of appropriate methods, procedures and techniques and may include computer use, graphics, problem solving, processes, construction techniques, instrumentation techniques, production methods, field operations, plant operations, safety and maintenance to include:

Required:

EGTE 111 Computer Applications in Engineering Technology ......................... 3
EGTE 109 Technical Drafting ...................................................................................... 2
EGTE 113 Land Surveying ......................................................................................... 2
EGTE 209 Computer Aided Drafting .......................................................................... 2

Electives:

EGTE 344 Electronics and Microprocessors ............................................................... 3
or
EGTE 443 Instrumentation ............................................................................................ 3
or
EGTE 467 Applied Microprocessor Interfacing .......................................................... 3

Technical Specialization ................................................................................................... 22

Twenty-two credits selected from courses that involve technical design and electives. At least one course that emphasizes use of the computer as a problem-solving tool will be required.

Specific requirements are:

EGTE 355 Power and Machinery Management I ....................................................... 4
EGTE 356 Power and Machinery Management II ...................................................... 4
EGTE 221 Storm Water Management ...................................................................... 4
EGTE 444 Plant Layout and Material Handling ....................................................... 5
EGTE 445 Food Engineering Technology .................................................................. 4
EGTE 456 Fundamentals of HVAC ............................................................................ 3

Technical Support ............................................................................................................... 19

Nineteen credits selected to support the specialization and career interests of the student.

Specific requirement:

PCSC 204 Introduction to Soil Science .......................................................................... 4†

Select one of the following: ......................................................................................... 3†

ENTO 201 Wildlife Conservation .................................................................................. 3
REC 201 Records and Accounts .................................................................................... 3
FOSC 201/211 Food Principles and Lab ................................................................. 2/1
ANS 101 Introduction to Animal Science ................................................................... 3
REC 400 Research Methods ......................................................................................... 3

The remaining twelve credits may be satisfied in part or in total by additional course work in the Agricultural Engineering department or closely related subject matter, a double major within the College of Agricultural Sciences or relevant University-approved minor.

To graduate with a major in Agricultural Engineering Technology, students must attain a 2.0 index in Agricultural Engineering Technology courses.

Electives

Electives .............................................................................................................................. 12

After required courses, sufficient elective credits must be taken to meet the minimum number of 130 credits. May include Military Science, Music, or Physical Education. (Only four credits of survey-type Physical Education and, or four credits of performing Music organization credit may be counted toward the degree.)

CREDITS TOTAL A MINIMUM OF ............................................................................. 130

ANIMAL SCIENCE AND AGRICULTURAL BIOCHEMISTRY

Animal Science encompasses a wide range of disciplines in which the principles of biology, chemistry and biochemistry are applied to animal agriculture. The Animal Science curriculum prepares students for careers or graduate study in the areas of nutrition, breeding and management of livestock and poultry. Instruction is offered in animal nutrition, physiology, and reproduction; in animal health and molecular biology; and in dairy, livestock and poultry management. Students interested in veterinary medicine have the opportunity to obtain pre-veterinary training required for admission to a veterinary school. Suitable courses are also available to students interested in pursuing graduate studies in the animal sciences.

A highly qualified faculty, with expertise in animal and veterinary science, provides curricula to fit the scholastic backgrounds and professional objectives of students. Students are encouraged to participate in a broad realm of research projects under study in the department through independent study/special problems courses. Department faculty foster student involvement in the University Honors Programs through sponsorship of Science and Engineering Scholars and candidates for the Degree with Distinction. The teaching philosophy of the department faculty is to emphasize basic knowledge pertaining to animal science.

The department offers four areas of concentration within the major: pre-veterinary medicine, agricultural

†A course may be applied toward both the major requirements and a college requirement, but credits are counted only once toward the total credits for graduation.

†Note the following guidelines for technical skills:

1. A maximum of thirty semester hours will be permitted in this category.
2. Selection of courses must be consistent with specialization.
3. A maximum of six hours of drafting and one course in Computer-Aided Drafting can be applied toward degree requirements.
4. A maximum of eight hours of surveying and topographic mapping can be applied toward degree requirements.
5. A maximum of six hours of construction, production and other techniques, methods or operations i.e., construction, operation and production techniques, can be applied toward degree requirements.
6. After completion of the program, course work will normally be limited to instrumentation and computer use.
ATTACHMENT 3b

ENTOMOLOGY AND APPLIED ECOLOGY • COLLEGE OF AGRICULTURAL SCIENCES

DEGREE: BACHELOR OF APPLIED SCIENCE
MAJOR: ENGINEERING TECHNOLOGY

CURRICULUM

CREDITS

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing ........................................... 3
Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Communications................................................................. 6
Six credits selected to provide training in oral and written communications to include:

A second writing course selected from the following:
ENGL 301 Problems in Composition ........................................ 3
ENGL 302 Advanced Composition ........................................... 3
ENGL 307 News Writing and Editing ....................................... 3
ENGL 312 Written Communications in Business ......................... 3
ENGL 410 Technical Writing ................................................. 3

An oral communications course selected from the following:
COMM 300 Introduction to Human Communication Systems ............ 3
COMM 255 Fundamentals of Communication ................................ 3
COMM 512 Oral Communications in Business .............................. 3
COMM 350 Public Speaking ................................................... 3
COMM 356 Small Group Communication .................................... 3

Social Sciences and Humanities............................................. 15
Fifteen credits selected to provide an appreciation and understanding of our cultural heritage, interpersonal relationships, interrelationships between technology and society and a value system for sound decision making to include:

ECON 151 Introduction to Microeconomics .................................. 3
ECON 152 Introduction to Macroeconomics ................................ 3

Nine credits to be selected from a minimum of three of the following areas: Anthropology, Art, Art History, Black American Studies, Criminal Justice, Economics, Education, English, Foreign Language, Geography, History, Music, Philosophy, Political Science, Psychology, Sociology, Theatre or Women’s Studies.

Basic Sciences and Mathematics .......................................... 31
Thirty-one credits selected to provide fundamental knowledge about nature and its phenomena and mathematics including calculus as follows:

Biology, Chemistry and Physics

Biology/Life Science course ................................................ 3
CHEM 103 General Chemistry .............................................. 4
CHEM 104 General Chemistry .............................................. 4

PHYS 201 General Physics .................................................... 4
or

PHYS 207 General Physics .................................................... 4
PHYS 202 General Physics .................................................... 4
or

PHYS 206 General Physics .................................................... 4

Mathematics and Statistics

A minimum of 12 credits in mathematics and statistics at the specific requirements are:

200 level or above.

MATH 221 Calculus I .......................................................... 3
MATH 222 Calculus II .......................................................... 3
MATH 242 Analytic Geometry and Calculus B ......................... 4

MAJOR REQUIREMENTS

Technical Sciences ............................................................... 18
Eighteen credits that deal with the application of engineering science subject matter to include one course in each of the following areas: Electricity, Fluid Mechanics, Statics, and Thermodynamics. In addition, a course must be selected from one of the following areas: Dynamics, Electronics, Materials Technology, or Strength of Materials.

Technical Skills ................................................................. 30
Thirteen credits selected to provide skills and knowledge of appropriate methods, procedures and techniques and may include computer use, graphics, problem solving, processes, construction techniques, instrumentation techniques, production methods, field operations, plant operations, safety and maintenance to include:

Instrumentation or microprocessors course .............................. 3
FREC 253 Introduction to Data Analysis .................................. 3
EGTE 111 Computer Applications in Engineering Technology ....... 3

Technical Specialization ....................................................... 9
A minimum of nine credits selected from courses that involve technical design and electives. Students must complete at least 48 semester hours in course work assigned to technical science, technical skills and technical specialization categories. At least one course that emphasizes use of the computer as a problem-solving tool will be required and will be selected from:

EGTE 321 Storm Water Management ..................................... 4
EGTE 335 Power and Machinery Management I ....................... 4
EGTE 456 Fundamentals of HVAC ......................................... 3
EGTE 435 Machinry Design and Development ......................... 3

Technical Management ....................................................... 15
A minimum of fifteen credits selected to enhance the ability to understand the operation and management of companies and/or their production units to include:

FREC 201 Records and Accounts ........................................... 3
or

ACCT 207 Accounting I .................................................... 3
ACCT 208 Accounting II .................................................... 3

Accounting credits cannot exceed six of the fifteen credit hours. FREC 201 will not substitute for ACCT 207. ACCT 207 will substitute for FREC 201.

ELECTIVES

After required courses, sufficient elective credits must be taken to meet the minimum number of 130 credits. May include Military Science, Music, or Physical Education. (Only four credits of activity-type Physical Education and/or four credits of performing Music organization credit may be counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF .................................. 150

Students entering this major are expected to have an associate degree and transfer fifty credits or more.

61
ENTOMOLOGY AND APPLIED ECOLOGY

Entomology is a biological science that emphasizes insects and their relatives: their structure, physiology, behavior, development, ecology, classification, and control. Applied ecology is the use of practical methods to manage interrelationships of organisms with each other and their nonliving environment. Pest management and wildlife conservation are examples of applied ecology.

Entomology is a separate field of biology because insects are the most varied and abundant animals on earth and because they are vitally important to humans. As prey, predators, parasites, and pollinators, they exert profound influences on ecosystems. The variety of insects challenges the inquisitive student to understand how insects tolerate environmental conditions, reproduce successfully, find food, and develop from egg to adult. Insects are studied in many basic areas of biology such as ecology, behavior, physiology, genetics, and evolution. They are of increasing concern to conservation biologists as well.

Some insects attack or damage plants, animals, structures, and stored products that humans value. Others pollinate desirable plants or attack plants and animals that humans consider pests. Still others transmit disease agents. These aspects of insects have prompted a search for ways to manipulate insect populations. Heavy reliance on poisons to limit insect numbers in the past created new problems. Modern applied entomology seeks practical, ecologically sound methods for managing insect populations or coexisting with them.

Wildlife conservation, the broad effort to perpetuate free-living, breeding populations of non-domestic species, offers many career opportunities. Researchers decipher the biology of species and identify threats to their existence. Other professionals use that knowledge to design and execute plans, tempered by economic, political and social realities, to manage ecosystems or populations. Government officials develop and enforce conservation laws and regulations; advocacy groups urge such action. Education and mass communication also play key roles in wildlife conservation.

The Department offers two concentrations in its entomology major. Students can focus their biological or zoo-

logical interest on insects in the General Entomology Concentration. This program requires basic sciences as well as specialty courses on insects. Some flexibility in choice of insect, plant science, and biology courses permits students to emphasize certain aspects, e.g., pest management or insect biology. The Wildlife Conservation Concentration is for students with interests in the biological aspects of environment, e.g., conservation, wildlife biology, or ecology. It requires basic sciences, specialty courses in vertebrates, insects, plants, and conservation and supporting courses in communication, mathematics, social sciences and computing. The curriculum's flexibility accommodates interests and career goals ranging from research to nature education and writing, conservation advocacy and wildlife management among others. Curricula for the two concentrations follow.

Faculty who teach in the department also conduct research. Students have excellent opportunities to interact closely with them through small classes, independent study, field trips, and employment as research aides.

The department's faculty strives to cultivate inquiring attitudes and problem-solving skills in its students. The faculty emphasizes basic study in biology and other sciences. It also encourages students to be broadly educated through exposure to the social sciences, humanities, and arts and to develop good writing and speaking skills. In total, the department prepares students for full, knowledgeable participation in everyday living whether or not they ultimately choose a career directly related to entomology or wildlife conservation.

The faculty adviser and student jointly plan the course program according to the student's career objective. Successful students enter research, teaching, business and public service positions, or they pursue graduate degrees in entomology, physiology, genetics, ecology, wildlife conservation, etc., that expand their career-opportunities. Admission to, and successful completion of, graduate study require strong academic performance and a solid background in the sciences as preparation.

DEGREE: BACHELOR OF SCIENCE IN AGRICULTURE
MAJOR: ENTOMOLOGY
CONCENTRATION: GENERAL ENTOMOLOGY

CURRICULUM

CREDITS

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing ........................................... 5
Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content. # ........................................... 14

COLLEGE REQUIREMENTS

Mathematics and Computer Science
Mathematics course (MATH 115, 171 or higher level) ....................... 3
Computer Science course selected from CISC 105, EGTE 111, .... 3
FREC 295, or equivalent

# Superior figures indicate year or years in which the course is normally taken, i.e., 1 = freshman year, 2 = sophomore year, etc.
# This requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 26.
Agricultural and Biological Sciences ........................................ 9-12

Minimum of one course outside the student's major in three of the following areas: Food and Resource Economics, Food Science, Agricultural Engineering, Animal Science, Plant and Soil Sciences, or Biology.

Literature and Arts .......................................................... 6

Six credits selected from the general areas of English, Art, Art History, Communication, Music, Theatre, or Foreign Language.

Social Sciences and Humanities ........................................... 9

Minimum of one course in three of the following areas: Anthropology, Black American Studies, Criminal Justice, Economics, Education, Geography, History, Philosophy, Political Science, Psychology, Sociology, or Women's Studies.

Physical Sciences ............................................................ 8

Minimum of eight credits selected from one of the following areas: Chemistry, Physics, Geology, or Physical Science.

MAJOR REQUIREMENTS†

Within or External to the College

AGRI 211 Literature of Agricultural and Life Sciences ............... 1
BISC 207 Introductory Biology I ........................................... 4
BISC 208 Introductory Biology II ......................................... 4
BISC 302 General Ecology ................................................ 3
CHEM 101 General Chemistry ............................................. 4

or

CHEM 103 General Chemistry ............................................. 4
CHEM 102 General Chemistry ............................................. 4

or

CHEM 104 General Chemistry ............................................. 4

Nine credits from the following: .......................................... 9

Biology (BISC) courses at or above 300 level and the following PLSC courses:

PLSC 151 Introduction to Crop Science ................................ 3
PLSC 201 Botany II .......................................................... 4
PLSC 204 Introduction to Soil Science .................................. 4
PLSC 211 Herbaceous Landscape Plants ................................ 3
PLSC 212 Woody Landscape Plants ...................................... 4
PLSC 305 Introductory Plant Pathology ................................ 4
PLSC 402 Plant Taxonomy .................................................. 3

Within the Department**

ENTO 205 Elements of Entomology ...................................... 3
ENTO 305 Entomology Laboratory ...................................... 2
ENTO 406 Insect Identification—Taxonomy ............................ 3
ENTO 406 Seminar .......................................................... 1

Within the Concentration**

ENTO 500 Principles of Animal and Plant Genetics ................. 3
ENTO 405 Insect Structure and Function ............................... 4
ENTO 406 Field Taxonomy .................................................. 2

ENTO courses (may include 3 credits maximum of Independent Study and Research)

ELECTIVES ........................................................................... 30

May include Military Science, Music, or Physical Education.
(Only two credits of activity-type Physical Education and/or two credits of performing Music organization credit may be counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF .................................. 124

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DEGREE: BACHELOR OF SCIENCE IN AGRICULTURE

MAJOR: ENTOMOLOGY

CONCENTRATION: WILDLIFE CONSERVATION

CURRICULUM

CREDITS

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing ................................. 3

Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Mathematics and Computer Science

Mathematics course (MATH 115, 171 or higher level) ................ 3

Computer Science course selected from CISC 105, EGTE 111 ........ 3

FREC 225, or equivalent

Agricultural and Biological Sciences .................................... 9-12

Minimum of one course outside the student's major in three of the following areas: Animal Science, Food and Resource Economics, Food Science, Agricultural Engineering, Plant and Soil Science or Biology.

Literature and Arts ................................................................ 6

Six credits selected from the general areas of English, Art, Art History, Communication, Music, Theatre, or Foreign Language.

Social Sciences and Humanities ........................................... 9

Minimum of one course in three of the following areas: Anthropology, Black American Studies, Criminal Justice, Economics, Education, Geography, History, Philosophy, Political Science, Psychology, Sociology, or Women's Studies.

Physical Sciences .............................................................. 8

Minimum of eight credits selected from one of the following areas: Chemistry, Physics, Geology, or Physical Science.

MAJOR REQUIREMENTS†

Within or External to the College

AGRI 211 Literature of Agricultural and Life Sciences ............... 1
BISC 207 Introductory Biology I .......................................... 4
BISC 208 Introductory Biology II ........................................ 4
BISC 302 General Ecology ................................................ 3
CHEM 101 General Chemistry ............................................. 4

or

CHEM 103 General Chemistry ............................................. 4
CHEM 102 General Chemistry ............................................. 4

or

CHEM 104 General Chemistry ............................................. 4

Nine credits from the following: .......................................... 9

Biology (BISC) courses at or above 300 level and the following PLSC courses:

PLSC 151 Introduction to Crop Science ................................ 3
PLSC 201 Botany II .......................................................... 4
PLSC 204 Introduction to Soil Science .................................. 4
PLSC 211 Herbaceous Landscape Plants ................................ 3
PLSC 212 Woody Landscape Plants ...................................... 4
PLSC 305 Introductory Plant Pathology ................................ 4
PLSC 402 Plant Taxonomy .................................................. 3

Within the Department**

ENTO 205 Elements of Entomology ...................................... 3
ENTO 305 Entomology Laboratory ...................................... 2
ENTO 406 Insect Identification—Taxonomy ............................ 3
ENTO 406 Seminar .......................................................... 1

Within the Concentration**

ENTO 500 Principles of Animal and Plant Genetics ................. 3
ENTO 405 Insect Structure and Function ............................... 4
ENTO 406 Field Taxonomy .................................................. 2

ENTO courses (may include 3 credits maximum of Independent Study and Research)

---

*Superior figures indicate year or years in which the course is normally taken, i.e., freshman year, sophomore year, etc.

**A grade of C or better is required for all ENTO credits used to satisfy departmental requirements.

#This requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 26.

†A course may be applied toward both the major requirement and a college requirement, but credits are counted only once toward the total credits for graduation.
GROUP I — 8 credits from the following:
(or higher levels of CHEM and PHYS):
CHEM 213 Elementary Organic Chemistry .......... 2.5
CHEM 214 Elementary Biochemistry .......... 2.5
CHEM 216 Elementary Biochemistry Laboratory .......... 2.5
GEOG 206 Physical Geography: Topography-Soils .......... 3.4
GEOG 101 General Geology ................. 3.4
PHYS 201 General Physics .......... 3.4
PHYS 202 General Physics .......... 3.4
PLSC 204 Introduction to Soil Science .......... 3.3

GROUP II — 8 credits from the following:
ANSC 140 Functional Anatomy of Domestic Animals .......... 4.3
BISC 301 Molecular Biology of the Cell .......... 4.3
BISC 303 Genetics and Evolutionary Biology .......... 4.3
BISC 305 Cell Biology .......... 4.3
BISC 306 General Physiology .......... 4.3
BISC 312 General Ecology Lab .......... 3.4
BISC 242 Vertebrate Zoology .......... 4.3
BISC 371 Introduction to Microbiology .......... 4.3
BISC 442 Vertebrate Morphology .......... 4.3
BISC 494 Evolution .......... 4.3
BISC 500 Vertebrate Natural History .......... 4.3
ENTO 300 Principles of Animal and Plant Genetics .......... 3.4
ENTO 510 Animal and Plant Genetics Laboratory .......... 1.5
(same as ENTO 500, 510; may not count for both Group II and III)

GROUP III — 6 credits from the following:
BISC 440 Natural History of Plants .................. 4.3
PLSC 101 Botany I .......... 4.3
PLSC 201 Botany II .......... 4.3
PLSC 300 Principles of Animal and Plant Genetics .......... 3.4
PLSC 510 Animal and Plant Genetics Lab .......... 3.4
(same as ENTO 500, 510; may not count for both Group II and III)
PLSC 402 Plant Taxonomy .......... 3.4
PLSC 410 Introduction to Plant Physiology .......... 3.4

GROUP IV — 6 credits from the following:
Only 3 may count toward the College Literature and
Arts Group Requirement.
COMM 255 Fundamentals of Communication .......... 3.4
COMM 312 Oral Communications in Business .......... 3.4
COMM 350 Public Speaking .......... 3.4
ENGL 301 Problems in Composition .......... 3.4
ENGL 307 News Writing and Editing .......... 3.4
ENGL 309 Feature and Magazine Writing .......... 3.4
ENGL 312 Written Communications in Business .......... 3.4
ENGL 410 Technical Writing .......... 3.4
THEA 102 Introduction to Performance .......... 3.4
THEA 204 Introduction to Voice and Speech .......... 3.4
THEA 220 Movement and Non-Verbal Communication .......... 3.4

GROUP V — 6 credits from the following or higher-levels in
addition to college math and computer requirements:
AGEG 111 Computer Applications in Engineering Technology .......... 3.4
or
CISC 105 General Computer Science .......... 3.4
or
GEOG 250 Computer Methods in Geography .......... 3.4
FREC 408 Research Methods .......... 3.4
MATH 221 Calculus I .......... 3.4
MATH 222 Calculus II .......... 3.4
MATH 225 Finite Mathematics with Applications .......... 3.4
STAT 201 Introduction to Statistics I .......... 3.4
STAT 202 Introduction to Statistics II .......... 3.4

GROUP VI — 6 credits from the following:
ECON 151 Introduction to Microeconomics .......... 3.4
or
FREC 120 Elementary Agricultural Economics .......... 3.1
(Fewer than two previous courses is prerequisite to FREC 424, 444)
FREC 424 Resource Economics: Theory and Policy .......... 3.4
FREC 444 Economics of Environmental Management .......... 3.4
GEOL 234 Earth Resources and Ecology .......... 3.4
GEOL 421 Environmental and Applied Geology .......... 3.4
GEOG 255 Conservation of Natural Resources .......... 3.4
GEOG 256 Conservation: Global Issues .......... 3.4
POSC 105 American Political System .......... 3.4
POSC 220 Introduction to Public Policy .......... 3.4
POSC 350 Politics and the Environment .......... 3.4
SOCI 210 Population Problems .......... 3.4

ELECTIVES

... 12.24

Number of elective credits depends on number of courses chosen for concentration groups that also satisfy college requirements. May include Military Science, Music, or Physical Education. (Only four credits of activity-type Physical Education and/or four credits of Music organization credit may be counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF .......... 124

Students should complete their programs with electives that broaden their views of the world and strengthen their preparation for a career. Organic chemistry, biochemistry, statistics, and additional writing courses are strongly recommended. A list of suggested courses and other information is available in the department office.
Course selection should be made in consultation with the academic adviser during the preregistration period of each term.

A minimum grade of C is required for all ENTO credits used to satisfy departmental requirements.

REQUIREMENTS FOR A MINOR IN ENTOMOLOGY

The minor in entomology requires 15 credits of courses with an ENTO prefix, including: ENTO 205, 305, and 406. A student may emphasize general entomology or wildlife conservation by proper choice of ENTO courses for the remaining 7 credits. A minimum grade of C is required in all courses counting toward the minor. Credits for Special Problem, Independent Study, Research, and Field Experience do not count toward the minor.
To: R. Dean Shippy, Associate Dean, Instruction
College of Agricultural Sciences

From: Gerald L. Cole, Chair
Food and Resource Economics

Date: October 16, 1992

Subject: New Minor ABM/AEC

Attached is the description of a minor in ABM/AEC. We believe this will meet a need in the College, based on consultation with other departments.

GLC: js

Attachment

Requirements for a Minor in Agricultural Business Management/Agricultural Economics

The minor in Agricultural Business Management/Agricultural Economics requires 18 credits of courses with the FREC prefix including FREC 120 and FREC 201. Four additional courses are required including at least one course from each of the following three areas:

1. Marketing/International Trade
   FREC 312
   FREC 404
   FREC 410
   FREC 441

2. Production/Management
   FREC 350
   FREC 403
   FREC 406
   FREC 408
   FREC 427

3. Resources/Development
   FREC 420
   FREC 424
   FREC 429
   FREC 444

A minimum grade of C is required in all courses counting toward the minor. Credits for FREC 405, FREC 435, FREC 630, Independent Study and Field Experience would not apply.
only courses that are specifically designated are either required by the University or needed to support the professional program. The undergraduate accounting major includes work in accounting information systems, intermediate, cost, income tax, advanced accounting, and auditing. Case studies and practical exercises give students the opportunity to work directly with accounting problems. The program provides preparation for the Uniform Certified Public Accountant Examination, the Certificate in Management Accounting, and other professional certifications.

The State University of New York, under Section 15 of the regulations of the Commissioner of Education, has registered the four-year curriculum in accounting leading to the degree of Bachelor of Science in Accounting. Graduates who have completed the full curriculum meet the education requirements for admission to the New York State license examination for certified public accountant.

The major in accounting leads to the degree of Bachelor of Science in Accounting. Each candidate for a Bachelor of Science degree must: (1) earn a minimum of 128 credits, (2) achieve a minimum cumulative grade-point average of 2.0 on all work undertaken at the University of Delaware, (3) fulfill the course requirements of the degree program, and (4) achieve at least a C in specified business, finance, economics, and accounting courses. In order to receive a B.S. in Accounting, a student transferring in credit must take at least five of the seven required technical junior- and senior-level accounting courses at the University of Delaware.

Students majoring in accounting must take a broad range of nonbusiness courses (courses offered in colleges outside of the College of Business and Economics) including a specified number of courses in the humanities, science, and/or mathematics, social sciences, and in other disciplines that develop specific skills. Fourteen credits of free electives are required to give each student the opportunity to choose courses most consistent with his or her interests and career goals.

DEGREE: BACHELOR OF SCIENCE IN ACCOUNTING

MAJOR: ACCOUNTING

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing 3

Three credits in an approved course or courses in courses in 3-4
molecular, cultural, ethnic, and/or gender-related content.*

MAJOR REQUIREMENTS

External to the College

Humanities

Fifteen credits from the following departments: 15

Art History, History, English (except composition or similar
Basics), Philosophy, Music (except credit for participation
in instrumental and/or choral organizations), Theater
(except performance), Comparative Literature, and litera-
ture courses in a foreign language.

Social and Behavioral Sciences:

Three credits from the following departments: Anthropology,

Psychology, Sociology.

Math

MATH 221 Calculus I 3

MATH 250 Finite Mathematics with Applications 3

MATH 242 Analytic Geometry and Calculus B 4

MATH 250 Finite Mathematics with Applications 4

MATH 241 Analytic Geometry and Calculus I 4

MATH 242 Analytic Geometry and Calculus B 4

MATH 243 Analytic Geometry and Calculus C 4

STAT 201 Introduction to Statistics 3

STAT 202 Introduction to Statistics B 3

Three credits chosen from the following:

ENG 110 Introduction to Microeconomics 3

ACCT 205 Introductory Accounting 3

ACCT 206 Introductory Accounting 3

BUAD 201 Introduction to Marketing 3

BUAD 203 Operations Management 3

FINC 311 Business Finance 3

Management and Organizational Behavior 3

BUAD 441 Business Policy 3

FINC 407 Security Analysis 3

ECON 409 Money, Credit and Banking 3

Economics course (at 200 level or higher) 3

Accounting, Finance, or Business Administration courses 3-6

BUSINESS ADMINISTRATION

The Business Administration degree program offers a balanced, professional degree program by combining a wide range of courses in arts and science and in business and economics. The curriculum also provides for majors of direct employment and professional training. The program is designed to give students the opportunity to take courses in business administration or other professional fields.

The undergraduate degree program in business administration reflects the ever-growing demand for greater management capability in virtually every field of endeavor: private industry, government, or nonprofit institutions. Since many of the skills and techniques of management originate in private industry, much of the curriculum focuses on the private sector. However, it is also designed to demonstrate the applicability of management skills and techniques to nonbusiness institutions and activities.

Professional education in business administration should not be confused with vocational education. The profession is not for trainees. Rather, it is for students who have assumed the responsibilities of leadership and management at all levels of management in an organization.

The faculty of the Department of Business Administration and Finance strive to develop the resources of each student so that they may assume positions of leadership and responsibility at all levels of management in an organization.

It is the Department's desire to move the concentrations "Applied Music Instrumental" and "Applied Music Voice," as well as "Applied Music Piano" (removing the "Organ" specification) to major status because they have indeed been treated in the catalog and in practice (in keeping with National Association of Schools of Music guidelines) that way for quite some time. As a consequence of moving the "Applied Music Instrumental" concentration to major status, the principal instrument of a student enrolled in that major would become the student's concentration, allowing for a more complete and accurate transcript for that student. Since the proposed "Voice" and "Piano" majors are instrument specific, these majors would not need concentrations.

Under the Applied Music Instrumental major, we wish to have the following concentrations possible:

- Bassoon
- Clarinet
- Clarinet
- Double Bass
- Euphonium
- Flute
- Guitar
- Harpsichord
- Horn
- Oboe
- Percussion
- Saxophone
- Trombone
- Trumpet
- Tuba
- Violin
- Viola

SYNOPSIS OF BACCALAUREATE DEGREE PROGRAMS AND MAJORS

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<th>Bachelor of Arts</th>
<th>Criminial Justice</th>
<th>Economics Education</th>
<th>Economics Education</th>
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<td>English Education</td>
<td>Mathematics Education</td>
<td>Music</td>
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<tr>
<td></td>
<td>Foreign Languages and Literature</td>
<td>Physics</td>
<td>Physics Education</td>
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<td></td>
<td>Foreign Languages and Literature</td>
<td>Physical Science Education</td>
<td>Psychology</td>
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<tr>
<td></td>
<td>Geography</td>
<td>Psychology Education</td>
<td>Russian Education</td>
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<td></td>
<td>Geology (Including Paleontology)</td>
<td>Sociology</td>
<td>Sociology Education</td>
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<td></td>
<td>Theatre/Opera</td>
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<td>Bachelor of Arts in Liberal Studies</td>
<td>Liberal Studies</td>
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<td>Bachelor of Fine Arts</td>
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<tr>
<td>Bachelor of Music</td>
<td>Approved Music—Instrumental</td>
<td>Approved Music—Voice</td>
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<td>Approved Music—Voices</td>
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<td>Biochemistry</td>
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<td>Biological Sciences (Biology)</td>
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<td>Chemistry</td>
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THE UNIVERSITY OF DELAWARE
"New" Major in Applied Music Instrumental with 18 Concentrations.

We feel that transcripts for students majoring in music (in the BMAS degree) need to have the instrument listed along with the degree and major earned to be accurate enough for graduate school and employment possibilities. At the present time, the way majors and concentrations are listed in SIS for the BMAS degree make it impossible for individual instrument listings to occur. We wish to make the changes to allow individual instruments to serve as concentrations.

At the current time, the major "Applied Music" (AMU) has three concentrations: Instrumental (AMI), Piano/Organ (AMP), and Voice (AMV). Although there are certain core courses in common among these concentrations, there are quite a few differences among them as well. In fact, each of them are unique enough that we have separate Curriculum Sheets in our Department for each one. Consequently, we wish to have these concentrations changed to majors. The new majors will be: Applied Music Instrumental (AMI), Applied Music Voice (AMV), and Applied Music Piano (AMP). Under this proposal, the code AMU would be eliminated.

Under the Applied Music Instrumental major, we wish to have the following concentrations possible:

BSON -- Bassoon; CLAR -- Clarinet; DBAS -- Double Bass; EVIM -- Early Instrumental Music; EUPH -- Euphonium; FLUT -- Flute; GUIT -- Guitar; HPSC -- Harpsichord; HORN -- Horn; OBOE -- Oboe; PERC -- Percussion; SAX -- Saxophone; Trom -- Trombone; TRUM -- Trumpet; TUBA -- Tuba; VILN -- Violin; VLCE -- Violoncello; VOLA -- Viola

There would not be room for the listing of all of these concentration names on the "Change of Major" form. A footnote on that form could be used to indicate that individual instrument concentrations exist and that the student needs to come to the Music Dept. or Arts and Sciences Advisement Center for the proper code.
RATIONAL FOR DELETING MAJOR "MUSIC EDUCATION"

The Music Department wishes to delete the major "Music Education" so that it may replace it with the more specific major "Music Education - Instrumental" which is now currently listed under the status of concentration.

It is the Department's desire to move the concentration, "Music Education - Instrumental", to major status because it has indeed been treated in the catalog and in practice (in keeping with National Association of Schools of Music guidelines) that way for quite some time. As a consequence of moving the "Music Education - Instrumental" concentration to major status, the principal instrument of a student enrolled in that major would become the student's concentration, allowing for a more complete and accurate transcript for that student.

The concentration for a student enrolled in that major would be either Voice or Piano.

LY TITLED

New Major in Music Education-Instrumental with 17 Concentrations.

We feel that transcripts for students majoring in music (in the BMAS degree) need to have the instrument listed along with the degree and major earned to be accurate enough for graduate school and employment possibilities. At the present time, the way majors and concentrations are listed in SIS for the BMAS degree make it impossible for individual instrument listings to occur. We wish to make the changes to allow individual instruments to serve as concentrations.

At the current time, the major "Music Education" (XMU) has three concentrations: Instrumental (XMI), Piano/Flute (XMF), and Voice (XMV). Although there are certain core courses in common among these concentrations, there are quite a few differences among them as well. In fact, each of them are unique enough that we have separate Curriculum Sheets in our Department for each one. Consequently, we wish to have these three concentrations changed to two majors. The new majors will be: Music Education Instrumental (XMI) and Music Education General/Choral (XMGC). Under this proposal, the code XMU would be eliminated.

Under the Music Education Instrumental major, we wish to have the following concentrations possible:

BSON — Bassoon; CLAR — Clarinet; DBAS — Double Bass; EUPH — Euphonium; FLUT — Flute; GUIt — Guitar; HORN — Horn; OBOE — Oboe; PERC — Percussion; Piano; SAX — Saxophone; TROM — Trombone; TRUM — Trumpet; TUBA — Tuba; VILN — Violin; VLOCE — Violoncello; VOLA — Viola

There would not be room for the listing of all of these concentration names on the "Change of Major" form. A footnote on that form could be used to indicate that individual instrument concentrations exist and that the student needs to come to the Music Dept. or Arts and Sciences Advisement Center for the proper code.
"New Major in Applied Music Piano (Elimination of "Organ" Option)

We feel that transcripts for students majoring in music (in the BMAS degree) need to have the instrument listed along with the degree and major earned to be accurate enough for graduate school and employment possibilities. At the present time, the way majors and concentrations are listed in SIS for the BMAS degree make it impossible for individual instrument listings to occur. We wish to make the changes to allow individual instruments to serve as concentrations.

At the current time, the major "Applied Music" (AMU) has three concentrations: Instrumental (AMI), Piano/Organ (AMP), and Voice (AMV). Although there are certain core courses in common among these concentrations, there are quite a few differences among them as well. In fact, each of them are unique enough that we have separate Curriculum Sheets in our Department for each one. Consequently, we wish to have these concentrations changed to majors. The new majors will be: Applied Music Instrumental (AMI), Applied Music Voice (AMV), and Applied Music Piano (AMP). Under this proposal, the code AMU would be eliminated.

Under the Applied Music Instrumental major, we will not need and thus not wish to have any concentrations. It is also the feeling of the Department that an Organ major should be distinct enough from a Piano major that they should not be listed as one item. At the present time, there is no need for an Organ Major. If the need arises at some later time, the Department will propose one.
C. Modification of Major in Music Theory/Composition

At the current time, the Major in Music Theory/Composition (MTC) has the concentration "Music Theory/Composition (MTC) associated with it. This really makes no sense. Under the proposed change, there will be two concentrations which reflect the two different tracks in that major:

COMP -- Composition
THEO -- Theory

---

d. New Applied Minors

At the present time, students can minor in "Applied Music – Instrumental" (AMI), "Musical Studies" (MSD), or "Jazz Studies" (JAZZ). Because students cannot major in one instrument and minor in another, we would like to modify the title of the existing minor (Applied Music) to show the following specific instruments. This would allow student transcripts to reflect specifically and accurately the focus of the minor.

BSON -- Applied Music -- Bassoon
CLAR -- Applied Music -- Clarinet
DBAS -- Applied Music -- Double Bass
EUPH -- Applied Music -- Euphonium
FLUT -- Applied Music -- Flute
GUIT -- Applied Music -- Guitar
HORN -- Applied Music -- Horn
OBOE -- Applied Music -- Oboe
PERC -- Applied Music -- Percussion
PIAN -- Applied Music -- Piano
SAX -- Applied Music -- Saxophone
TROM -- Applied Music -- Trombone
TRUM -- Applied Music -- Trumpet
TUBA -- Applied Music -- Tuba
VILN -- Applied Music -- Violin
VLCX -- Applied Music -- Violoncello
VOCX -- Applied Music -- Voice
VOLA -- Applied Music -- Viola

ORGN -- Applied Music -- Organ

There would not be room for the listing of all of these minor names on the "Change of Minor" form. "Applied Minor" could be listed on that form with a footnote that would be used to indicate that individual instrument minors exist and that the student needs to come to the Music Dept. or Arts and Sciences Advisement Center for the proper code.
ELECTIVES

After required courses are completed sufficient elective credits must be taken to meet the minimum credit requirement for the degree.

CREDITS TO TOTAL A MINIMUM OF ............................................... 124

DEGREE: BACHELOR OF MUSIC
MAJOR: APPLIED MUSIC
CONCENTRATION: INSTRUMENTAL

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing ............................................ 3 1
Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Skill Requirements

Writing: .................................................. 3 1
A writing course involving significant writing ex including two papers with a combined minimum words to be submitted for extended faculty crit composition and content. This course must be taken in the junior or senior year. Appropriate writing normally designated in the semester’s Registrar.

Mathematics:

MATH 114 Elementary Mathematics and Stats (designed for students who do not intend to take mathematics) .........................................
MATH 115 Pre-Calculus ................................................................. (designed for students who intend to continue mathematics)

One of the following:

MATH 221 Calculus I .................................................................
MATH 241 Analytic Geometry and Calculus A ............................

Successful performance on the college proficiency exam.

English literature course (200 level — Group A or B) ..............
HIST 101 Western Civilization to 1648 ......................................
HIST 102 Western Civilization 1648 to the Present ..................
FLIT Languages courses ...........................................................

Breadth Requirements* (See page 80)

Group A .................................................. 6 1

MAJOR: APPLIED MUSIC — PIANO

RETITLE ONLY:

MAJOR: APPLIED MUSIC — PIANO

ADDITIONAL REQUIREMENTS

MUSIC 313 Music History: 1825 to the Present .............................. 3 1

Music Elective: ...........................................................................

EXCLUDES private study on primary instrument.
May include two credits of ensemble.

CREDITS TO TOTAL A MINIMUM OF ............................................... 130

DEGREE: BACHELOR OF MUSIC
MAJOR: APPLIED MUSIC
CONCENTRATION: PIANO/ORGAN

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing ............................................ 3 1
Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content.

*Superior figures indicate year or years in which the course is normally taken, i.e., 1*freshman year, 2* sophomore year, etc.

**This requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 26.

**A course may be applied toward both the major requirements and a breadth requirement, but credits are counted only once toward the total credits for graduation.
COLLEGE OF ARTS AND SCIENCE • MUSIC

ATTACHMENT 7
Page 7

COLLEGE REQUIREMENTS

Skill Requirements

Writing:

A writing course involving significant writing experience including two papers with a combined minimum of 5,000 words to be submitted for extended faculty critique of both composition and content. This course must be taken in a student's junior or senior year. Appropriate writing courses are normally designated in the semester's Registration Booklet.

Mathematics:

MATH 114 Elementary Mathematics and Statistics (designed for students who do not intend to continue the study of mathematics) or

MATH 115 Pre-Calculus (designed for students who intend to continue the study of mathematics) or

One of the following:

MATH 221 Calculus I

MATH 241 Analytic Geometry and Calculus A

Successful performance on the college proficiency exam.

English literature course (200 level - Group A or B)

HIST 101 Western Civilization to 1648

HIST 102 Western Civilization: 1648 to the Present

FLLT Languages courses

Breadth Requirements (See page 80)

Group A

Understanding and appreciation of the creative arts and humanities. (This requirement is satisfied by MUSC 195 and 196.)

Group B

The study of culture and institutions over time. Fifteen credits progressing at least two areas. (This requirement is satisfied by MUSC 195 and 196.)

CREDITS TO TOTAL A MINIMUM OF 137

DEGREE: BACHELOR OF MUSIC

MAJOR: APPLIED MUSIC

CONCENTRATION: VOICE

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing

Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Skill Requirements

Writing:

A writing course involving significant writing experience including two papers with a combined minimum of 5,000 words to be submitted for extended faculty critique of both composition and content. This course must be taken in a student's junior or senior year. Appropriate writing courses are normally designated in the semester's Registration Booklet.

Mathematics:

MATH 114 Elementary Mathematics and Statistics (designed for students who do not intend to continue the study of mathematics) or

MUSC 185 Ear Training and Sight Singing I

MUSC 186 Ear Training and Sight Singing II

MUSC 285 Advanced Ear Training and Sight Singing I

MUSC 286 Advanced Ear Training and Sight Singing II

MUSC 195 Harmony I

MUSC 196 Harmony II

MUSC 295 Advanced Harmony I

MUSC 296 Advanced Harmony II

MUSC 385 Keyboard Harmony

MUSC 394 Keyboard Harmony

MUSC Theory courses

Ensemble

MUSC 321 Ensemble

MUSC 324 Accompanying Chamber Music: Piano

MUSC 324 Accompanying Chamber Music: Piano

MUSC 341 Accompanying Chamber Music: Piano

MUSC 342 Accompanying Chamber Music: Piano

MUSC 441 Accompanying Chamber Music: Piano

MUSC 442 Accompanying Chamber Music: Piano

Literature

MUSC 111 Introduction to Music History

MUSC 111 Music History: 1450-1750

MUSC 111 Music History: 1750-1825

MUSC 111 Music History: 1825 to the Present

MUSC 365 Keyboard Literature 1st

MUSC 365 Keyboard Literature 2nd

MUSC 365 Keyboard Literature 3rd

Music Literature course

Music Electives

Excludes private study on primary instrument.

May include two credits of ensemble.

*Superior figures indicate year or years in which the course is normally taken, i.e., 1st junior year, 2nd sophomore year, etc.
#This requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 26.
$A course may be applied toward both the major requirements and a breadth requirement, but credits are counted only once toward the total credits for graduation.

Organ Majors must substitute MUSC 335, MUED 356, or MUSC 328.
MATH 113 Pre-Calculus

Designed for students who intend to continue the study of mathematics or

One of the following:
MATH 221 Calculus I ........................................... 3
MATH 241 Analytic Geometry and Calculus A .......... 4

or

Successful performance on the college proficiency exam.
HIST 102 Western Civilization: 1648 to the Present .......... 3

Languages courses: French, German and Italian ....... 4

THEA 229 Acting I ........................................... 3

Electives

Breadth Requirements (See page 30)

Group A ........................................... 6

Understanding and appreciation of the creative arts and humanities. (This requirement is satisfied by MUSC 195 and 196.)

Group B ........................................... 12

The study of culture and institutions over time. Twelve credits representing at least two areas. This requirement is partially satisfied by MUSC 211, 212, 213 and HIST 102.

Group C ........................................... 6

Empirically based study of human beings and their environment. Six credits representing at least two areas.

Group D ........................................... 12

English

Majors

Music Education: Instrumental

REQUIREMENTS

MUSC 113 Music History: 1500 to 1600 .......................... 3

Electives

Music Electives

Twelve credits from the following: (including four credits)

from MUSC 227, 228 and/or 229

MUSC 101 Introduction to Opera ................................ 3

MUSC 227 German Lieber ...................................... 2

MUSC 335 Basic Conducting ................................... 2

MUSC 395 Form Analysis ...................................... 3

MUSC 397 Contemporary Harmony ................................ 3

MUSC 427 French Art Song .................................... 2

MUSC 428 Twentieth Century Art Song ......................... 2

MUSC 479 Opera Production ................................... 3

MUSC 480 Vocal Pedagogy ...................................... 3

MUSC 489 Opera Workshop up to 3 credits allowed ....... 1

MUSC 495 Analysis for Performance ......................... 3

ELECTIVES

Electives

6 courses are completed, sufficient electives credits

shall a minimum of 140

DEGREE: BACHELOR OF MUSIC

MAJOR: MUSIC EDUCATION

CONCENTRATION: INSTRUMENTAL

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing ...................... 3

Three credits in an approved course or courses stressing

multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Skill Requirements

Writing .......................................................... 3

A writing course involving significant writing experience
including two papers with a combined minimum of 3,000
words to be submitted for extended faculty critique of both
composition and content. This course must be taken in a stu-
dent’s junior or senior year. Appropriate writing courses are
normally designated in the semester’s Registration Booklet.

Mathematics:

MATH 114 Elementary Mathematics and Statistics .......... 3

(designated for students who do not intend to continue the study
of mathematics)

MATH 115 Pre-Calculus ...................................... 3

(designated for students who intend to continue the study of
mathematics)

or

SUPERIOR FIGURES INDICATE YEAR OR YEARS IN WHICH THE COURSE IS USUALLY TAKEN, I.E., FRESHMAN YEAR, SOPHOMORE YEAR, ETC.

blind citations indicate year or years in which the course is normally taken, e.g., freshman year, sophomore year, etc.

This requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 26.

A course may be applied toward both the major requirements and a breadth requirement, but credits are counted only once toward the total credits for graduation.

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Major Requirements

Within the Department

Applied Music
MUSC 100 Recital Attendance (six semesters required) 0.13
MUSC 161 Private Study 2
MUSC 162 Private Study 2
MUSC 261 Private Study 2
MUSC 262 Private Study 2
MUSC 361 Private Study 2
MUSC 362 Private Study 2
MUSC 461 Private Study 2
MUSC 175 Class Piano: Elementary I 1.13
MUSC 176 Class Piano: Elementary II 1.14
MUSC 174 Class Voice: Beginning 1.13
MUSC 501 Junior Recital 0.13
Theory
MUSC 185 Ear Training and Sight Singing I 2.12
MUSC 186 Ear Training and Sight Singing II 1.12
MUSC 285 Advanced Ear Training and Sight Singing I 2.13
MUSC 286 Advanced Ear Training and Sight Singing II 2.13
MUSC 195 Harmony I 3.12
MUSC 196 Harmony II 5.12
MUSC 295 Advanced Harmony I 3.13
MUSC 305 Advanced Harmony II 3.13
MUSC 331 Orchestration 2.24
Ensemble
MUSC 115 Band 7.14
Literature
MUSC 111 Introduction to Music History 5.23

Six credits to be selected from the following:
MUSC 311 Music History: 1450-1750 3.13
MUSC 312 Music History: 1715-1852 3.14
MUSC 313 Music History: 1825 to the Present 3.15
Secondary Instruments
MUSC 214 Stringed Instruments Class 1.13
MUSC 215 High Brass Instruments Class 1.13
MUSC 216 Low Brass Instruments Class 1.13
MUSC 217 Woodwind Instruments Class I 1.14
MUSC 218 Woodwind Instruments Class II 1.13
MUSC 219 Percussion Instruments 1.13

Music Methods
MUSC 355 Basic Conducting 9.14
MUED 279 Practicum in Music Education 3.14
MUED 377 Instrumental Conducting 3.14
MUED 379 Music in the Elementary and Junior High (or Middle) School 3.1
MUED 479 Secondary Music Materials and Approaches 3.1

Music Electives
Six music electives excluding ensemble and private study on primary instrument. 6.14

Professional Studies

EDST 911
EDST 311
EDST 312
EDDV 401

DEGREE: BACHELOR OF MUSIC MAJOR: MUSIC EDUCATION—GENERAL/CHORAL CONCENTRATION: ORCHESTRA/CHORUS CREDITS 4

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing 3.1
Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content. 3.1

COLLEGE REQUIREMENTS

Writing:
A writing course involving significant writing experience including two papers with a combined minimum of 3,000 words to be submitted for extended faculty critique of both composition and content. This course must be taken in a student's junior or senior year. Appropriate writing courses are normally designated in the semester's registration booklet. 5.24

Mathematics:
MATH 114 Elementary Mathematics and Statistics 3.1
(designed for students who do not intend to continue the study of mathematics)
or
MATH 115 Pre-Calculus 3.1
(designed for students who intend to continue the study of mathematics)
or

One of the following:
MATH 221 Calculus I 3.1
MATH 241 Analytic Geometry and Calculus A 4.1
or
Successful performance on the college proficiency exam.

Breadth Requirements (See page 80)
Art or Art History course, may be from Group A or B 3.14

Group A 9.14

Understanding and appreciation of the creative arts and humanities. Nine credits representing at least two areas. (This requirement is partially satisfied by MUSC 195 and 196.)

*Superior figures indicate year or years in which the course is normally taken, i.e., 1 freshmen year, 2 sophomore year, etc.

1This requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 26.

1A course may be applied toward both the major requirements and a breadth requirement, but credits are counted only once toward the total credits for graduation.
Group D

The study of natural phenomena through experiment and analysis. One science course with an associated laboratory.

MAJOR REQUIREMENTS

Within the Department

RETITLE TO SPLIT
CONCENTRATIONS: Theory or Composition

MUSC 302 Private Study
MUSC 461 Private Study
MUSC 173 Class Piano: Elementary I
MUSC 176 Class Piano: Elementary II
MUSC 275 Class Piano: Intermediate I
MUSC 276 Class Piano: Intermediate II
MUSC 171 Diction: English
MUSC 172 Diction: Italian
MUSC 177 Diction: German
MUSC 272 Diction: French
MUSC 480 Vocal Pedagogy
MUSC 301 Junior Recital

Theory
MUSC 185 Ear Training and Sight Singing I
MUSC 186 Ear Training and Sight Singing II
MUSC 285 Advanced Ear Training and Sight Singing I
MUSC 286 Advanced Ear Training and Sight Singing II
MUSC 185 Harmony I
MUSC 196 Harmony II
MUSC 295 Advanced Harmony
MUSC 296 Advanced Harmony II
MUSC 397 Contemporary Harmony

Ensemble
MUSC 109 Choral Union

Literature
MUSC 111 Introduction to Music History

Six credits to be selected from:
MUSC 311 Music History: 1450-1750
MUSC 312 Music History: 1750-1825
MUSC 313 Music History: 1825 to the Present
MUSC 328 Choral Literature

Secondary Instruments
MUSC 214 Stringed Instruments Class
MUSC 215 High Brass Instruments Class
MUSC 217 Woodwind Instruments Class

Music Methods
MUSC 335 Basic Conducting
MUCD 279 Practicum in Music Education
MUCD 336 Choral Conducting
MUCD 379 Music in the Elementary and Junior High
MUCD 479 Secondary Music Materials and Approaches

Music Electives
Three credits of music electives excluding ensemble and

Professional Studies

Education
EDST 201 Education and Society
EDST 304 Educational Psychology - Social Aspects
EDST 305 Educational Psychology - Cognitive Aspects
EDDV 400 Student Teaching

CReditS TO TOTAL A MINIMUM OF

DEGREE: BACHELOR OF MUSIC
MAJOR: THEORY AND COMPOSITION
CONCENTRATION: THEORY OR COMPOSITION

CURRICULUM

UNIVERSITY REQUIREMENTS
ENGL 110 Critical Reading and Writing
Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Skill Requirements
Writing:
A writing course involving significant writing experience including two papers with a combined minimum of 3000
words to be submitted for extended faculty critique of both
composition and content. This course must be taken in a student's junior or senior year. Appropriate writing courses normally designated in the semester's Registration Booklet.

Mathematics:
MATH 114 Elementary Mathematics and Statistics
(designated for students who do not intend to continue the study of mathematics)
or
MATH 115 Precalculus
(designated for students who intend to continue the study of mathematics)
or
One of the following:
MATH 221 Calculus I
MATH 241 Analytic Geometry and Calculus A
or
Successful performance on the college proficiency exam.

Modern Languages
Twelve credits in one of the following: French, German
or Italian
HIST 101 Western Civilization to 1648
HIST 102 Western Civilization 1648 to the Present

Breadth Requirements (See page 80)
Two 200-level English literature courses selected from

Group A or B

Group A
Understanding and appreciation of the creative arts and
humanities. (This requirement is satisfied by MUSC 195
and 196.)

Group B
The study of culture and institutions over time. Fifteen credits
representing at least two areas. (This requirement is satisfied by
MUSC 311, 312, 313, HIST 101, and 102.)

* Superior figures indicate year or years in which the course is normally taken. i.e., freshman year, sophomore year, etc.
A course may be applied toward both the major requirements and a breadth requirement, but credits are counted only once toward the total credits for graduation.
### REQUIREMENTS FOR A MINOR IN MUSIC
A minimum grade of C is required in each course for music minors.

#### MUSIC MINOR: APPLIED MUSIC
The Applied Music minor is for nonmusic majors with some musical background who wish to continue their musical training on a more formal basis. Places in the minor program are dependent upon the total load of the applied faculty member involved. Admission into the Applied Music minor is determined by audition and musicality testing. The requirements are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 175 Class Piano*</td>
<td>1</td>
</tr>
<tr>
<td>Applied Music** MUSC 161, 162, 261, 262</td>
<td>8</td>
</tr>
<tr>
<td>Ensemble</td>
<td>4</td>
</tr>
<tr>
<td>Theory/Composition</td>
<td>5</td>
</tr>
<tr>
<td>MUSC 185 and 195</td>
<td></td>
</tr>
<tr>
<td>Music Literature/History</td>
<td>3</td>
</tr>
<tr>
<td>(MUSC 101 and 102 do not fulfill this requirement. Any other music history course will do.)</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credits: (For Keyboard minors 20)</strong></td>
<td>21</td>
</tr>
</tbody>
</table>

#### MUSIC MINOR: JAZZ STUDIES
The Music Minor in Jazz Studies offers a concentrated study of the history, theory, and performance elements of the field of jazz. It is directed towards two groups of students: (1) The non-music major who desires a focused study of jazz and its performance techniques; (2) Music majors who wish to round out their education in music. For the second group, the Minor in Jazz Studies is designed to give the Music major an exposure in the jazz field.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jazz Styles/Tech. MUSC 181 and 281</td>
<td>4</td>
</tr>
<tr>
<td>Ensemble MUSC 116 (four semesters), MUSC 321</td>
<td>5</td>
</tr>
<tr>
<td>Jazz Improvisation MUSC 253 and 254</td>
<td>6</td>
</tr>
<tr>
<td>Harmony and History MUSC 197 and 207</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Credits (see above)</strong></td>
<td>21</td>
</tr>
</tbody>
</table>

---

*Not required of persons minorin in applied keyboard.
**Semester will be 1/2 hour per week and will include a repertoire class.
*Ensemble and private study must be taken concurrently. See Ensemble Policy in the Department of Music Student Handbook.
$A minimum grade of C is required in each course.
REQUIREMENTS FOR A MINOR IN MUSIC

A minimum grade of C is required in each course for music minors.

MUSIC MINOR: APPLIED MUSIC

The Applied Music minor is for nonmusic majors with some musical background who wish to continue their musical training on a more formal basis. Places in the minor program are dependent upon the total load of the applied faculty member involved. Admission into the Applied Music minor is determined by audition and musicality testing. The requirements are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Piano* MUSC 175</td>
<td>1</td>
</tr>
<tr>
<td>Applied Music** MUSC 161, 162, 261, 262</td>
<td>8</td>
</tr>
<tr>
<td>Ensemble†</td>
<td>4</td>
</tr>
<tr>
<td>Theory/Composition</td>
<td>5</td>
</tr>
<tr>
<td>MUSC 185 and 195</td>
<td></td>
</tr>
<tr>
<td>Music Literature/History</td>
<td>3</td>
</tr>
<tr>
<td>(MUSC 101 and 102 do not fulfill this requirement, Any other music history course will do.)</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>21</td>
</tr>
<tr>
<td>(For Keyboard minors 20)</td>
<td></td>
</tr>
</tbody>
</table>

MUSIC MINOR: JAZZ STUDIES

The Music Minor in Jazz Studies offers a concentrated study of the history, theory, and performance elements of the field of jazz. It is directed towards two groups of students: (1) The non-music major who desires a focused study of jazz and its performance techniques; (2) Music Majors who wish to round out their education in music with a structured study of jazz. For this group, the Minor is an important component in a comprehensive education in Music. The requirements are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jazz Styles/Technique, MUSC 181 and 281</td>
<td>4</td>
</tr>
<tr>
<td>Ensemble MUSC 118 (four semesters), MUSC 321</td>
<td>5</td>
</tr>
<tr>
<td>Harmony and Counterpoint MUSC 253 and 254</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>21</td>
</tr>
</tbody>
</table>

MUSIC MINOR: MUSICAL STUDIES

The Musical Studies minor is for nonmusic majors who wish to increase their knowledge and understanding of the history and theory of music. No audition is required for admission into the Musical Studies minor. The requirements are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 185 Ear Training and Sight Singing I</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 195 Harmony I</td>
<td>3</td>
</tr>
</tbody>
</table>

*Not required of persons minoring in applied keyboard.
**Lessons will be 1/2 hour per week and will include a repertoire class.
†Ensemble and private study must be taken concurrently. See Ensemble Policy in the Department of Music Student Handbook.
§4 minimum grade of C is required in each course.
REQUIREMENTS FOR THE ART HISTORY MINOR ARE AS FOLLOWS:

18 hours of course work, including at least four (4) courses above the 100-level. Students must distribute their courses among at least three (3) different key areas of art history that follow: Ancient, Medieval, Renaissance, Baroque, Modern, American, and Asian art.

REQUIREMENTS FOR THE MINOR IN ART HISTORY

The minor in art history requires 18 credits of course work, including at least three courses at or above the 300 level. (One 100-level course may be counted in the total of 18 credits.) Students must distribute their courses among at least three of the following key areas of art history: Ancient, Medieval, Renaissance, Baroque, Modern, and American.

A course may be applied toward both the major requirements and a breadth requirement, but credits are counted only once toward the total credits for graduation.
REQUIREMENTS FOR A MINOR IN SPANISH

SPANISH

18 Credits including SPAN 203 or SPAN 204 and an additional 200-level course; two 300-level courses (one must be a Survey of Literature), and two 400-level courses (one must be a literature course).

STUDY ABROAD

In addition to several University-sponsored semester programs abroad in such locations as Costa Rica, London, Paris, Vienna, and Madrid, various programs for study abroad are specifically designed for students of foreign languages.

For the advanced foreign language student, the Department of Foreign Languages and Literatures sponsors full semester programs in France (Caen), Germany (Bavaria) and Spain (Granada). Beginner and intermediate-level students may participate in winter session programs in Costa Rica, France, Germany (Baden), Romania or India.

Students interested in French, German, and Spanish are encouraged to spend a semester abroad, and minors are strongly encouraged to do so.

Please consult the main office of the Department of Foreign Languages and Literatures for further details on all programs.

RESIDENCY REQUIREMENT

At least 60 hours of courses acceptable for credit in the major language and literature, including at least 6 credits at the 400 level, must be taken on campus or as part of a semester abroad program sponsored by the Department of Foreign Languages and Literatures. In the case of the three- and four-linguage minors, at least 18 of the hours must be on campus or as part of a semester abroad program sponsored by the Department of Foreign Languages and Literatures.

MISCELLANY

Spanish Immersion Housing: Foreign language students who wish to practice their linguistic skills in an informal setting may elect to live in a residence hall housing students with a special interest in French, German, Russian or Spanish language and culture. In addition to providing an opportunity for daily conversation in the foreign language, these residences sponsor relevant cultural events.

Skipping Courses: Students are advised that, once they begin their foreign language courses at the 100-level, they are not permitted to skip courses in the sequence (for example, students are not permitted to move directly from 105 to 107). The prerequisite for each 100-level course must be observed.

It is important to note that only 12 credits of the same elementary/intermediate language will be counted towards the degree.

Students may receive credit by examination for language courses at the 200 level and above. The normal prerequisite is foreign study. Native speakers may not receive credit for courses in conversation.

For information concerning language proficiency see Requirements for the Degree of Bachelor of Arts under College of Arts and Science.

Waivers or substitutions for any requirements may be made upon recommendation of the advisor and approval of the department chair.

MINORS

A minor in a foreign language requires a minimum of 18 credits at the 200 level and above, as follows:

FRENCH: 18 credits above the 100 level including FREN 201 or 202, FREN 301 and 302, one course at the 300 or 400 level, and one other 400-level course.

GERMAN: 18 credits above the 100 level including two 300-level courses, one 400-level literature course, and one other 400-level course.

ITALIAN: 18 credits composed of two Italian courses at the 200 level; three courses at the 300 or 400 level, one of which must be a 400-level course; and 3 credits of related work (e.g., in Italian art history, history, linguistics, etc.).

RUSSIAN: 18 credits composed of two Russian courses at the 200 level; three courses at the 300 or 400 level, one of which must be a 400-level course; and 3 credits of related work (e.g., in Russian literature, Russian folklore, music, etc.).

SPANISH: 18 credits including SPAN 203 or SPAN 204 and an additional 200-level course; two 300-level courses (one must be a Survey of Literature); and two 400-level courses.

An adviser on minors will be appointed for each language to help students tailor the chosen minor program to their needs.

A minor in French Studies, German Studies, or Spanish Studies requires a minimum of 21 credits at the 200-level and above, as follows:

FRENCH STUDIES MINOR

FREN 201, 202, 301, 302, 401, 402, 499, 599, 699

GERMAN STUDIES MINOR

GERM 201, 202, 301, 302, 401, 402, 499, 599, 699

SPANISH STUDIES MINOR

SPAN 203, 204, 301, 302, 401, 402, 499, 599, 699

Minors in French Studies are required to take at least one literature class at the 300-level or above.

Note: A student cannot receive both a French Minor and a French Studies Minor.
gives students more choices at upper level major courses
along with an area of application: and the Bachelor of
Arts in Mathematics Education, which trains students for
careers in secondary school mathematics education.

Since mathematics is a highly structured discipline,
careful attention must be paid to prerequisites. The suc-
scessful mathematical sciences major must complete several
courses in the major each year to graduate within a reason-
able time frame. Thus, the Department of Mathematical
Sciences carefully monitors student progress and will drop
from the major any student not making satisfactory
progress in the program. A normally matriculated student

**DEGREE: BACHELOR OF ARTS
MAJOR: MATHEMATICAL SCIENCES**

**UNIVERSITY REQUIREMENTS**

ENGL 110  Critical Reading and Writing  3
Three credits in an approved course or courses stressing
multicultural, ethnic, and/or gender-related content.

**COLLEGE REQUIREMENTS**

**Skill Requirements**

Writing  3
A writing course involving significant writing experience
including two papers with a combined minimum of 3,000
words to be submitted for extended faculty critique of both
composition and content. This course must be taken in a stu-
dent's junior or senior year. Appropriate writing courses are
normally designated in the semester's Registration Booklet.

Foreign Language  0-3
Completion of the intermediate-level course (107 or 117) in a
given language. Students with four or more years of high school
work in a single foreign language may attempt to fulfill the re-
quirement in that language by taking an exemption examination.

Breadth Requirements* (See page 80)

Group A  12
Understanding and appreciation of the creative arts and
humanities. Twelve credits representing at least two areas.

Group B  12
The study of culture and institutions over time. Twelve creditu
representing at least two general areas.

*Superior figures indicate year or years in which the course is normally taken, i.e., *freshman year*, *sophomore year*, etc.
*This requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 26.
*A course may be applied toward both the major requirements and a breadth requirement, but credits are counted only once toward the total credits for graduation.
*A grade of C- or better is required for major courses and related work.
**Students lacking adequate preparation in MATH 242 should begin with MATH 241.
Change credit hours of MATH 450 Abstract Algebra from 3-4 to 3
ENGL 312 Written Communications in Business .......................... 3
Two-semester sequence of laboratory science................................. 8

ELECTIVES
Electives
After required courses are completed, sufficient elective credits
must be taken to meet the minimum credit requirement for
the degree.

CREDITS TO TOTAL A MINIMUM OF .......................... 128

DEGREE: BACHELOR OF SCIENCE
MAJOR: MATHEMATICAL SCIENCES
CONCENTRATION: MATHEMATICS OF MANAGEMENT SCIENCES
AND OPERATION RESEARCH

CURRICULUM

CREDITS*

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing ......................................... 3
Three credits in an approved course or courses stressing .......... 3
multicultural, ethnic, and/or gender-related content.*

COLLEGE REQUIREMENTS

Skill Requirements
Writing: .......................................................................................... 5
A writing course involving significant writing experience
including two papers with a combined minimum of 3,000
words to be submitted for extended faculty critique of both
composition and content. This course must be taken in a stu-
dent's junior or senior year. Appropriate writing courses are
normally designated in the semester's Registration Booklet.

Foreign Language: ................................................................. 0-12
Completion of the intermediate-level course (107 or 112) in a
given language. Students with four or more years of high school
work in a single foreign language may attempt to fulfill the require-
mnt in that language by taking an exemption examination.
French, Russian or German is recommended.

Breadth Requirement (See page 80)
A total of twenty-one credits from Groups A, B and C is ............. 21
required with a minimum of six credits in each group. The six
credit from each group could be from the same area.

Group A
Understanding and appreciation of the creative arts and
humanities.

Group B
The study of culture and institutions over time.

Group C
Empirically based study of human beings and their environment.

MAJOR REQUIREMENTS:

Within the Department
MATH 210 Discrete Mathematics I ............................................... 3
MATH 242 Analytic Geometry and Calculus B* ......................... 4
MATH 243 Analytic Geometry and Calculus C ......................... 4
MATH 350 Concepts of Analysis .................................................. 3
MATH 349 Elements of Linear Algebra ...................................... 3
MATH 302 Ordinary Differential Equations ............................... 3

MATH 303 Differential Equations Computing Lab .................... 1
MATH 389 Graph Theory .......................................................... 3
MATH 426 Introduction to Numerical Analysis and
Algorithmic Computation ......................................................... 3
MATH 450 Abstract Algebra ........................................................ 3
MATH 508 Introduction to Complex Variables and Application 5
MATH 559 Linear Programming: Methods and Applications 5
MATH 600 Fundamentals of Real Analysis ................................. 5
MATH 602 Advanced Calculus - Introduction to Analysis II .... 5
MATH 672 Vector Spaces ............................................................ 5
STAT 570 Introduction to Statistical Analysis I ......................... 5
STAT 571 Introduction to Statistical Analysis II ....................... 5
Nine credits from the following: .............................................. 9
MATH 428 Algorithmic and Numerical Solution to
Differential Equations .............................................................. 3
MATH 518 Mathematical Models and Applications ................. 3
MATH 559 Introduction to Probability Theory ......................... 3
MATH 581 Introduction to Stochastic Processes ...................... 3
MATH 582 Topics in Applied Probabilistic ......... 3
MATH 588 Combinatorics and Graph Theory with Applications I, 5
MATH 589 Combinatorics and Graph Theory with Applications II 5
MATH 594 Methods of Optimization ......................................... 3

Within the College

Physics

PHYS 207 General Physics ......................................................... 4
PHYS 208 General Physics ......................................................... 4

CISC 105 General Computer Science ........................................ 3
CISC 106 General Computer Science for Engineers .............. 3
CISC 180 Introduction to Computer Science I ......................... 3
ENGL 312 Written Communications in Business .................... 3

ELECTIVES

Electives
After required courses are completed, sufficient elective credits
must be taken to meet the minimum credit requirement for
the degree.

CREDITS TO TOTAL A MINIMUM OF .......................... 128

*Change credit hours of
MATH Abstract Algebra
from 3-4 to 3.
MATHEMATICAL PHYSICS/APPLIED MATHEMATICS

Change name to:
ing Young Exceptional Children certification complete IFST 465-Appraisal Infant and Toddler, IFST 470-Exceptional Children and Their Families, and six credits from the list of certification electives.

EDDV 400 Student Teaching ........................................ 8*
Prerequisites for EDDV 400 Student Teaching: a cumulative index 2.50 and a major field index of 2.75 with a minimum grade of C in required courses. (Information on courses designated in major field is available from Department Office.)

Within the College
NTDT 200 Nutrition Concepts ........................................ 3
TDCE Course ......................................................... 3

Within the Department
IFST 101 Introduction to Community and Family Services .... 1
IFST 201 Life Span Development .................................... 3
IFST 202 Foundations of Family Studies .......................... 5
IFST 221 Child Development ......................................... 3
IFST 222 Early Childhood Curriculum I .......................... 2
IFST 224 Early Childhood Curriculum II: Practicum .......... 2
IFST 256 Infant and Toddler: Development and Programs .... 3
IFST 340 Early Childhood Curriculum II .......................... 5
IFST 445 Early Childhood Programs for Children ............. 4

with Exceptionalities
IFST 445 Parent Resources ......................................... 2*
IFST 452 Assessment of Young Children ......................... 3
IFST 465 Seminar .................................................... 2*

ELECTIVES
Elective ........................................................................ 12
May include Military Science, Music, or Physical Education.
(Only two credits of activity-type Physical Education and four credits of Music organization credits and four credits of 300- and 400-level courses in Military Science/Air Force may be counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF ................................ 129

HONORS BACHELOR OF SCIENCE:
EARLY CHILDHOOD DEVELOPMENT AND EDUCATION

The recipient must complete:
1. All requirements for the Bachelor of Science degree in Early Childhood Development and Education.
2. All of the University's generic requirements for the Honors Baccalaureate Degree.
3. These additional requirements:
   a. Senior Seminar (IFST 465) must be taken as an Honors section.
   b. Achieve a 3.4 GPA in major.

DEGREE: BACHELOR OF SCIENCE IN HUMAN RESOURCES
MAJOR: HUMAN DEVELOPMENT AND FAMILY PROCESSES

UNIVERSITY REQUIREMENTS
ENGL 110 Critical Reading and Writing ......................... 3
Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content.#

*Superior figures indicate year
#This requirement may be full

MAJOR REQUIREMENTS
External to the College

Humanities
Humanities courses selected from Art, Art History, Communication (except 350), English, Languages, Literature, Music, Philosophy, Theatre.

Science
Calculus Course ....................................................... 5
Math Course .......................................................... 5
Science courses selected from Physical Anthropology .... 12
Biology, Chemistry, Health and Life Sciences, Physical Sciences, Physics, Physiological Psychology, Plant Science 101 or 201, Horticulture, Computer Science, Physical Geography, Geology, Geology, Mathematics, Statistics. (At least six credits must be in Physical or Biological Sciences.)

Social Sciences
PSYC 201 General Psychology .................................... 3
SOCI 301 Introduction to Sociology ................................. 3

Professional
Interest/Minor Courses ........................................... 15

Within the College
NTDT 200 Nutrition Concepts ........................................ 3
TDCE Course .......................................................... 3

Within the Department
IFST 101 Introduction to Community and Family Services ... 1
IFST 201 Life Span Development .................................... 3
IFST 202 Foundations of Family Studies ......................... 5
IFST 221 Child Development ......................................... 3
IFST 222 Early Childhood Curriculum I ......................... 2
IFST 224 Early Childhood Curriculum II: Practicum .......... 2
IFST 256 Infant and Toddler: Development and Programs .... 3
IFST 340 Early Childhood Curriculum II .......................... 5
IFST 445 Early Childhood Programs for Children ............. 4

with Exceptionalities
IFST 445 Parent Resources ......................................... 2*
IFST 452 Assessment of Young Children ......................... 3
IFST 465 Seminar .................................................... 2*

ELECTIVES
Elective ........................................................................ 12
May include Military Science, Music, or Physical Education.
(Only two credits of activity-type Physical Education and four credits of Music organization credits and four credits of 300- and 400-level courses in Military Science/Air Force may be counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF ................................ 127

HONORS BACHELOR OF SCIENCE:
HUMAN DEVELOPMENT AND FAMILY PROCESSES

The recipient must complete:
1. All requirements for the Bachelor of Science degree in Human Development and Family Processes.

B.S. Human Resources: Human Development and Family Processes.

REVISION:

1. ADD New Course IFST 328 (Introduction to the Research Process; 3 cr) to the MAJOR REQUIREMENTS: Within the Department.

2. Decrease electives by 3 credits from 21 to 18 to keep credit total (minimum) at 127.
span development within the family. Each of the majors provides career alternatives in community service or teaching, or development of a professional identification in which research is a significant component. Students in the department also have the opportunity to complete an Honors degree in each of the academic programs.

The Family and Community Services major is designed for students wishing to work within public and private agencies serving clients, families through the aged, and their families. Combining course work and clinical experiences, the program of study prepares graduates for positions in direct client services and/or management and administration in a variety of institutional and community settings.

The major in Early Childhood Development and Education is designed for students who plan on working with young children in school, family, and institutional settings. Certification options allow students to pursue careers as teachers, child life specialists, and early interventionists. The emphasis of the program is developmental work students learning how to match instructional strategies and materials to children's social-psychological and cognitive and physical maturities. The program further emphasizes families in their role of caring for and socializing children.

Certification requirements for the state approved programs in Nursery/Kindergarten or Young Exceptional Children can be met by completing the identified work for each certification option. Students are strongly encouraged to work closely with academic advisors in designing their program.

The major in Human Development and Family Processes is designed for students whose career goals require subsequent graduate education in Human Development and Family Processes or related areas. With an emphasis broadly on research and theory rather than professional practice, the student is afforded the opportunity to engage in significant research and analysis, including an honors component for qualified students.

Selection and retention policies for the Early Childhood Development and Education and Family and Community Services majors have been established and must be followed. In addition, there are limitations on the number of students that can be enrolled in each major. Students are responsible for travel arrangements and costs for clinical/field experience.

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**REVISED DEGREE:**

B.S. Human Resources: Family and Community Services.

Remove IFST 221 (Child Development; 3 cr) from MAJOR REQUIREMENTS:

Within the Department. **ADD IFST 221 (Child Development; 3 cr) to list of Developmental Electives. Increase credit hours of Developmental Electives from 6 to 9.**
TO: University Undergraduate Studies Committee
FROM: Jack Smith, Chair
Department of Nutrition & Dietetics
RE: Curriculum Changes

1. Coordinated Undergraduate Dietetics major
   a. Delete 3 credits Accounting 207 & add 3 credits free electives;

      **Rationale:** course is not required for any specific curricular objectives/knowledge requirements for accreditation by the American Dietetic Association.

   b. Delete 3 credits Nutrition Education 445 & add credits as follows: 1 credit NTDT 103 Introduction to Nutrition Professions; 2 credits NTDT 240 Introduction to Clinical Dietetics.

      **Rationale:** knowledge requirements are being met within the CUPD courses/experiences and 2 other courses (PSYC 201 & SOCI XXX) in the curriculum; APN curriculum, which is the pre-CUPD curriculum, requires NTDT 103; NTDT 240 introduces knowledge & skills needed for the higher level supervised practice courses in clinical dietetics.

2. No additional resources will be required because of these curriculum changes.
DEGREE: BACHELOR OF SCIENCE IN HUMAN RESOURCES
MAJOR: COORDINATED UNDERGRADUATE DIETETICS

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing .................................. 3
Three credits in an approved course or courses stressing
multicultural, ethnic, and/or gender-related content.

MAJOR REQUIREMENTS

External to the College

Humanities

Minimum of nine credits selected from Art, Art History,
Communication, English, Foreign Languages and Literature,
Linguistics, Museum Studies, Music, Philosophy, Theatre.

Science

CHEM 101 General Chemistry ........................................ 4
CHEM 102 General Chemistry ........................................ 4
CHEM 104 General Chemistry ........................................ 4
CHEM 215 Elementary Organic Chemistry .......................... 4
CHEM 216 Elementary Biochemistry Laboratory ..................... 2
BISC 103 General Biology I ........................................... 3
BISC 115 General Biology Laboratory ................................ 1
BISC 371 Introduction to Microbiology ................................ 4
BISC 306 Elementary Human Physiology II ......................... 2
BISC 416 Human Physiology Laboratory ............................. 2

Social Sciences

ECON 151 Introduction to Microeconomics ............................ 3
PSYC 201 General Psychology ......................................... 3
Sociology course .......................................................... 3
BUAD 309 Management and Organizational Behavior ............... 3

American Studies, Anthropology (cultural/social), Black
American Studies, Criminal Justice, Economics (including

Other

ELECTIVES

May include Military Science, Music, or Physical Education.
(Only two credits of activity-type Physical Education and four
credits of Music organization credits and four credits of 100-
and 200-level courses in Military Science/Air Force may be
counted toward the degree.)

CREDITS TO TOTAL A MINIMUM OF ................................ 129

DEGREE: BACHELOR OF SCIENCE IN HUMAN RESOURCES
MAJOR: APPLIED NUTRITION

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing .................................. 3
Three credits in an approved course or courses stressing
multicultural, ethnic, and/or gender-related content.

MAJOR REQUIREMENTS

External to the College

Humanities

Minimum of nine credits in Humanities.

Science

CHEM 101 G or
CHEM 102 G
CHEM 104 G
CHEM 213 E
CHEM 214 E
CHEM 216 E
BISC 103 G
BISC 115 G
BISC 207 F
BISC 208 F
BISC 406 H
BISC 416 H

Social Sciences

Economics .............................
PSYC 201 G
Sociology course ...................................
BUAD 309 M

Food Science

FOSC 201 Food Principles ................................................ 2
FOSC 211 Food Principles Laboratory ............................... 1
FOSC 305 Food Science ................................................... 2
FOSC 306 Food Science Laboratory .................................... 1

Other

ELECTIVES

May include Military Science, Music, or Physical Education.

CREDITS TO TOTAL A MINIMUM OF ................................ 131
The Mechanical Engineering department contains

ADD: Computer Science
CISC 106 General Computer Science for Eng. 3

and students are encouraged to discuss their educational objectives with their advisor early in the junior year and to develop an agreed upon selection of technical electives.

DEPARTMENTAL ACADEMIC STANDARDS
To enroll in the required fourth-semester courses—MEEG 214, MEEG 313 and MASC 302—the student must meet the following standards:

a. an overall grade-point average of 2.0
b. a grade of C or better in the courses MEEG 125, MATH 245, CHEM 104, PHYS 207 and MEEG 213.

Student’s progress and academic records are reviewed each semester to enforce departmental standards.

UNIVERSITY REQUIREMENTS
ENGL 110 Critical Reading and Writing ............................................................................. 3
Three credits in an approved course in course approve. .......................................................... 3
a. multicultural, ethnic, and/or gender related contents.

DEGREE: BACHELOR OF MECHANICAL ENGINEERING
MAJOR: MECHANICAL ENGINEERING
CREDITS

COLLEGE REQUIREMENTS
General Education Program ........................................................................................................... 11
See page 207: College General Education Program.

MAJOR REQUIREMENTS
External to the College,
An additional course (minimum of three credits) that can be either Air Force ROTC or a course outside the College of Engineering (not listed in the General Education Program) or a course in the “Group D” classification of the College of Arts and Sciences.

Chemistry
CHEM 103 General Chemistry ................................................................................................. 4
CHEM 104 General Chemistry ................................................................................................. 4

Mathematics
MATH 241 Analytic Geometry and Calculus A ............................................................... 4
MATH 242 Analytic Geometry and Calculus B ............................................................... 4
MATH 243 Analytic Geometry and Calculus C ............................................................... 4
MATH 302 Ordinary Differential Equations ................................................................. 3

Physics
PHYS 201 General Physics ..................................................................................................... 3

Within the College
MEEG 214 Introduction to Engineering (MEEG) ........................................................................ 3
MEEG 216 Computer Graphics/Animation .................................................................................. 3
MASC 302 Material Science for Engineers ............................................................................ 3
MEEG 306 Fluid Mechanics .................................................................................................... 3
MEEG 373 Fluid Mechanics Laboratory .................................................................................. 1
MEEG 514 Electronics and Instrumentation .......................................................................... 4

Within the Department
MEEG 215 Principles of Mechanics I ...................................................................................... 3
MEEG 216 Principles of Mechanics II ...................................................................................... 3
MEEG 307 Thermodynamics .................................................................................................... 3
MEEG 308 Thermodynamics .................................................................................................... 3
MEEG 313 Strength of Materials ............................................................................................. 3
MEEG 316 Materials Engineering ............................................................................................. 3
MEEG 347 Mechanism Design I ............................................................................................. 3
MEEG 348 Mechanism Design II ............................................................................................ 3
MEEG 591 Engineering Sciences Laboratory .......................................................................... 3
MEEG 596 Mechanical Design ............................................................................................... 3
MEEG 597 Heat Transfer ......................................................................................................... 3
MEEG 577 Design and Systems Synthesis I ............................................................................ 3
MEEG 578 Design and Systems Synthesis II ........................................................................... 3

Total Credits
Technical Electives
Technical Electives (At least 12 credits) ............................................................................. 12

These admission criteria are minimum standards, and more stringent requirements may be imposed by enrollment limitations. In any case, admission depends on there being enrollment openings in the class for which the student is applying. Generally, the guidelines specified by the College of Engineering will be followed to initiate and process transfer applicants (see page 209). This general transfer policy should be reviewed carefully by all applicants.

REVISION TO THE B.M.E. IN MECHANICAL ENGINEERING

1. ADD CISC 106 (General Computer Science for Engineers; 3 cr) to MAJOR REQUIREMENTS: External to the College: Computer Science. (Supported by letter from Department of Computer and Information Sciences.)

2. CHANGE required course MEEG 125 (Introduction to Engineering) from 3 credits to 0 credits (Pass/Fail). Content of present course (FORTRAN and numerical methods) to be covered in CISC 106. MEEG 125 will serve as general introduction to the field appropriate for freshman students.
TO: Committee on Undergraduate Studies

FROM: Michael Klein, Department Chair, Chemical Engineering
Jon Olson, Associate Chair for Undergraduate Studies
Andrew Zydney, Chair of ChE Curriculum Revision Committee

RE: REVISION OF THE UNDERGRADUATE CURRICULA IN CHEMICAL ENGINEERING

The Chemical Engineering Department has just completed a thorough review of the undergraduate curricula in Chemical Engineering, including extensive discussions with faculty both inside and outside of Chemical Engineering, present and former undergraduates in Chemical Engineering, as well as the department's external Advisory Committee. Based on this evaluation, the department has developed the following revised curricula which reflects our current view of the changing demands of the chemical engineering profession and the corresponding needs of our undergraduate students. In particular, this revised curriculum will provide our students:

1. greater flexibility in the choice of technical electives and in scheduling their general education electives,
2. more advanced coverage of mathematics with an emphasis on numerical (computer) techniques,
3. more appropriate laboratory experience in both basic Chemistry and Chemical Engineering,
4. additional experience in engineering economics, design, and risk assessment.

The material describing the specific changes in the curricula are attached to this cover memo. The University's Undergraduate Catalog contains three curricula for chemical engineers:

1. Bachelor of Chemical Engineering
2. Arts and Science - Engineering: Chemical Engineering
3. Bachelor of Chemical Engineering and Master of Chemical Engineering

The latter two programs are based directly on the first, thus the following discussion will focus primarily on the revisions to the Bachelor of Chemical Engineering program.

The revised bachelors program is summarized in Table 1, with the senior checkout form consistent with this curriculum shown in Table 2. The minimum credits required for graduation is 128 CCH, which is a net reduction of 2 CCH from our current requirement of 130 CCH. The specific changes in the curriculum are described below, with the discussion organized around the specific changes in:

(A) Required Fundamental Science and Mathematics Courses
(B) Required Chemical Engineering Courses
(C) Technical Electives

No changes are proposed in the "non-engineering" or general education portion of the curriculum, (the general education program is described in detail in the current Catalog as well as in the attached description of the proposed curriculum).
A. Required Fundamental Science and Mathematics Courses

Add:  
CHEM445  Physical Chemistry Laboratory I  1 CCH  
MATH303  Ordinary Differential Eqs. Lab  1 CCH  
MATH310  Applied Math for Chemical Engrs  3 CCH  

Remove:  
BISC207  Introduction to Biology I  4 CCH  
CHEM120  Quantitative Chemistry II  3 CCH  
CISC106  General Computer Science for Engineers  
MATH241  Analytical Geometry and Calculus A  4 CCH  

Net Change in Credits:  - 9 CCH  

Rationale:  
The removal of MATH241 means that the first mathematics course in our regular program will be MATH242. This change is motivated by three factors: first, a large percentage of the incoming CHEG students already start their mathematics sequence at MATH242 (or higher) because of advanced placement, second, it allows CHEG231 to be taught with MATH243 as a prerequisite rather than a corequisite, and third, the 4 CCH available from the removal of MATH241 permits the inclusion of both MATH303 and MATH310 which will provide our students a much more advanced background in mathematics and computation (A proposed syllabus for MATH310 is attached). An experimental version of this new course is being taught this semester as MATH367 by George Hsiao and Abraham Lenhoff. The actual Course Approval forms for this course are currently being prepared in the Math Department. Note that this course replaces much of the computer coverage now provided by CISC106. The change in required chemistry laboratory from CHEM120 to CHEM445 provides a more advanced chemistry laboratory experience, with greater direct application to chemical engineering. BISC207 has been removed as a required course but has been included as part of the Technical Elective category (see discussion below).

B. Required Chemical Engineering Courses

Add:  
CHEG320  Engineering Economics and Risk Assessment  2 CCH  

Revise:  
CHEG231  Chemical Engineering Thermodynamics  
CHEG342  Heat and Mass Transfer  
CHEG432  Chemical Process Analysis  
CHEG445  Chemical Engineering Laboratory II  

add MATH243 as a prerequisite  
increase from 3 to 4 CCH  
increase from 3 to 4 CCH  
provide an option with CHEG473  

Net Change in Credits:  + 4 CCH  

Rationale:  
The addition of CHEG320 will provide chemical engineering students with a background in engineering economics and the principles of risk assessment and risk analysis, both of which are required for the solution of real problems in engineering design. This course will thus introduce critical material on safety, environmental hazards, liability, and engineering ethics.
(a proposed syllabus, along with the appropriate course approval forms, for CHEG320 is provided as part of this material). The inclusion of MATH243 as a prerequisite for CHEG231 reflects the need for a background in multivariable calculus throughout CHEG231 (the current requirement that MATH243 be a co-requisite for CHEG231 has not been sufficient). The expansion of CHEG342 and CHEG432 from 3 to 4 credits reflects the increasing amount of technical material covered in these classes in response to the growing needs of the chemical engineering profession. In particular, the expansion of CHEG432 will permit the introduction of important modern computational techniques in process simulation and design. The introduction of an option between CHEG445 (Chemical Engineering Laboratory II) and CHEG473 (Chemical Engineering Projects) provides greater flexibility for those students interested in research (with the laboratory experiences in research providing an equivalent experience to this second Chemical Engineering laboratory).

### C. Technical Electives

<table>
<thead>
<tr>
<th>Revise:</th>
<th>Technical Electives increase from 6 to 9 CCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Change in Credits:</td>
<td>+ 3 CCH</td>
</tr>
</tbody>
</table>

**Rationale:** The increase in the number of technical elective credits provides students a greater degree of flexibility in the development of additional technical background in areas of interest outside of chemical engineering. In addition, the requirements for these Technical Electives have been revised to state that 6 of the 9 CCH must be at the intermediate level (the current requirement is that all Technical Elective credits must be at the intermediate level). This change will allow students to take “Introductory” courses in the sciences or other engineering disciplines as part of their overall technical training. A list of the approved Technical Electives is attached.

**SUMMARY:** The overall effects of these changes in the technical (non-chemical engineering) portion of the program is a shift of 3 CCH of required technical courses to the elective category, along with a significant increase in the level of the mathematics sequence and a slight increase in the level of the Chemistry Laboratory. These changes have been structured so that they result in a net reduction of 6 CCH as shown above. The overall effect of the changes in the chemical engineering course requirements corresponds to an increase of 4 CCH, thus there is a net reduction in the minimum total CCH required for graduation to 128 CCH from the current level of 130 CCH.
CHEMICAL ENGINEERING DEPARTMENT
UNIVERSITY OF DELAWARE
NEWARK, DE 19716

1 February 1993

To: Bernice B. Weinacht
   Associate Registrar

Via: Dan Boulet
      Assistant Dean, College of Engineering

From: Jon Olson
      Associate Chair for Instruction

Subject: Courses for the 1994 Approval Cycle

The Chemical Engineering Department is in the process of revising the undergraduate curriculum. Assuming the curriculum changes are approved at the March 1993 meeting of the University Senate, the following course revisions and new course appear:

<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
<th>Change (denoted by italics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>94F</td>
<td>CHEG 231</td>
<td>revise prerequisite to CHEG 112 and MATH 243</td>
</tr>
<tr>
<td></td>
<td></td>
<td>revise corequisite to CHEM 443</td>
</tr>
<tr>
<td>95S</td>
<td>MATH 310</td>
<td>Applied Mathematics for Chemical Engineers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Revision to be submitted by Mathematical Sciences. Currently taught as MATH 367.</td>
</tr>
<tr>
<td>96S</td>
<td>CHEG 320</td>
<td>Engineering Economics and Risk Analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>new course</td>
</tr>
<tr>
<td></td>
<td>CHEG 342</td>
<td>Revise credit hours to four</td>
</tr>
<tr>
<td>96F</td>
<td>CHEG 473</td>
<td>Revise credit hours to three</td>
</tr>
<tr>
<td>97F</td>
<td>CHEG 432</td>
<td>Revise credit hours to four</td>
</tr>
<tr>
<td></td>
<td>CHEG 474</td>
<td>Revise credit hours to three</td>
</tr>
</tbody>
</table>

The original signed course revision sheets are attached to this memo. Please call if corrections are needed or if I can be of any further assistance.

cc Klein
    Zydney
    Bergman
    Keefe
A B.S. chemical engineer has several kinds of employment opportunities, including process development, product development, manufacturing, research and development, process design, and sales. Process development is the invention and modification of ways for making chemicals and chemical products. Product development is the invention of chemical systems that meet marketplace needs. Manufacturing is the operation of biological, chemical or petrochemical plants. Research and development is the invention of new products and processes. Finally, chemical engineers who are gifted in the art of persuasion find opportunities in chemical sales.

Some of the highly visible topics of current technology fit naturally into chemical engineering. For example, modification of genes in relatively simple biological systems is called genetic engineering, but actually is an extension of chemical engineering. The development of artificial organs, such as the pancreas, is an application of chemical engineering. Superconductivity has received great attention in the popular press. The development of superconducting materials stems from material science, part of the domain of chemical engineering. The production of complex chips now requires the analysis of chemical engineers to optimize production. Chemical engineering is in the forefront of many areas of current technology.

Fourth year provides opportunities for pursuit of technical topics of special interest to a depth that may be unique nationally. Furthermore, by obtaining the "flavor" of the discipline early in a college career, students can transfer to other courses of study if chemical engineering turns out to be an inappropriate choice. However, these same characteristics of the program make it difficult for students to transfer into this curriculum during their sophomore or junior years unless the science requirements, especially in chemistry, have been met. Students should note that the course CHEG 112 is a prerequisite for CHEG 231, which in turn is a prerequisite for the courses CHEG 325 and 341. These courses are available only in the semesters indicated in the curriculum outlined below.

The following curriculum has been designed to provide rigorous training in the basic scientific, mathematical, and engineering skills while simultaneously affording motivation and opportunity for application of these skills to the challenges of modern society as posed by faculty who maintain extensive contacts with industry and government.

**DEGREE: BACHELOR OF CHEMICAL ENGINEERING**

**MAJOR: CHEMICAL ENGINEERING**

**CURRICULUM**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>ENGL 110 Critical Reading and Writing</td>
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<td>CHEM 111 General Chemistry</td>
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<td>CHEM 112 General Chemistry</td>
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<tr>
<td>CHEM 119 Quantitative Chemistry I</td>
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<tr>
<td>CHEM 143 General Chemistry</td>
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<tr>
<td>CHEM 443 Physical Chemistry</td>
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<tr>
<td>CHEM 444 Physical Chemistry</td>
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<td>CHEM 351 Organic Chemistry I</td>
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<td>CHEM 534 Organic Chemistry Laboratory I</td>
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<td>MATH 245 Analytic Geometry and Calculus C</td>
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<td>MATH 302 Ordinary Differential Equations</td>
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<td>MATH 340 Analytic Geometry and Calculus C</td>
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<td>MATH 342 Analytic Geometry and Calculus D</td>
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<td>PHYS 207 General Physics</td>
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**Computer Science**

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>CSCI 105 General Computer Science for Engineers</td>
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</table>

**GENERAL EDUCATION PROGRAM**

An additional three-credit general education course must be taken in the humanities or social sciences. Furthermore, three of the general education courses (minimum of nine credits) must be in the same department or program, and at least one of these three courses must be above the introductory level. Courses classified as "Group D" by the College of Arts and Science may not be used to fulfill this requirement.

**WITHIN THE COLLEGE**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASC 302 Materials Science for Engineers</td>
<td>4.0</td>
</tr>
</tbody>
</table>

*Superior figures indicate semester (fall or spring) and/or year or years in which the course should be taken, i.e. \*fall of freshman year, \*spring of sophomore year, etc.\n
This requirement may be fulfilled through a course taken to complete major, group, breadth, or elective requirements. See page 26.
Within the Department
CHEG 009 Chemical Engineering Freshman Seminar
CHEG 112 Introduction to Chemical Engineering
CHEG 231 Chemical Engineering Thermodynamics
CHEG 325 Chemical Engineering Thermodynamics
CHEG 341 Fluid Mechanics
CHEG 352 Chemical Engineering Kinetics
CHEG 345 Chemical Engineering Laboratory I
CHEG 342 Heat and Mass Transfer
CHEG 443 Mass Transfer Operations
CHEG 445 Chemical Engineering Laboratory II
CHEG 401 Chemical Process Dynamics and Control
CHEG 432 Chemical Process Analysis

Technical Electives

General Technical Electives

The purpose of the technical electives is to advance the scientific or engineering background of the chemical engineers at the intermediate (300-400) level. The technical electives program is a minimum of six credits taken from courses in the following list, normally two courses. Students should select their technical electives in the spring of their sophomore year to avoid scheduling conflicts. Students should formulate an academic plan for their technical and chemical engineering electives with the assistance of their academic advisor.

Biology
BISC 301 Molecular Biology of the Cell
BISC 305 Genetic and Evolutionary Biology
BISC 306 General Physiology
BISC 4xx Biology course chosen with the approval of the adviser

Chemistry
CHEM 335 Organic Chemistry Lab I
CHEM 336 Organic Chemistry Lab II
CHEM 445 Physical Chemistry Lab I
CHEM 446 Physical Chemistry Lab II
CHEM 457 Inorganic Chemistry
CHEM 458 Inorganic Chemistry Lab
CHEM 327 Introductory Biochemistry
CHEM 4xx Chemistry course chosen with the approval of the adviser
CHEM 8xx Chemistry course chosen with the approval of the adviser

Computer Science
CISC 300 Introduction to Scientific Computation

Mathematics
MATH 349 Elements of Linear Systems
MATH 350 Graph Theory
MATH 426 Introduction to Numerical Analysis and Algorithmic Computation
MATH 428 Algorithmic and Numerical Solution of Differential Equations
MATH 5xx Mathematics course chosen with the approval of the adviser
MATH 6xx Mathematics course chosen with the approval of the adviser

Mechanical Engineering/Applied Mathematics
MEEG 361 Applied Engineering Analysis
MEEG 863 Engineering Analysis I
MEEG 864 Engineering Analysis II

Electrical Engineering

Physics
PHYS 419 Analytical Mechanics
PHYS 5xx Physics course chosen with the approval of the adviser

Statistics
STAT 450 Statistics for the Engineering and Physical Sciences
STAT 5xx Statistics course chosen with the approval of the adviser

Electronic Materials
EE 4xx Electronics and Instrumentation
EE 5xx Solid State Electronics
EE 535 Solid State Fabrication Laboratory
EE 4xx Electrical Properties of Matter
EE 4xx Microwave Circuits

Mechanical Engineering/Applied Mathematics

CHEM 353 Organic Chemistry Lab I
CHEM 354 Organic Chemistry Lab II
CHEM 445 Physical Chemistry Lab I
CHEM 446 Physical Chemistry Lab II
CHEM 457 Inorganic Chemistry
CHEM 458 Inorganic Chemistry Lab
CHEM 327 Introductory Biochemistry
CHEM 4xx Chemistry course chosen with the approval of the adviser
CHEM 8xx Chemistry course chosen with the approval of the adviser

Electrical Engineering

CHEM 333 Organic Chemistry Lab I
CHEM 334 Organic Chemistry Lab II
CHEM 445 Physical Chemistry Lab I
CHEM 446 Physical Chemistry Lab II
CHEM 457 Inorganic Chemistry
CHEM 458 Inorganic Chemistry Lab
CHEM 327 Introductory Biochemistry
CHEM 4xx Chemistry course chosen with the approval of the adviser
CHEM 8xx Chemistry course chosen with the approval of the adviser

Computer Science
CISC 300 Introduction to Scientific Computation

Mathematics
MATH 349 Elements of Linear Systems
MATH 350 Graph Theory
MATH 426 Introduction to Numerical Analysis and Algorithmic Computation
MATH 428 Algorithmic and Numerical Solution of Differential Equations
MATH 5xx Mathematics course chosen with the approval of the adviser
MATH 6xx Mathematics course chosen with the approval of the adviser

Mechanical Engineering/Applied Mathematics
MEEG 361 Applied Engineering Analysis
MEEG 863 Engineering Analysis I
MEEG 864 Engineering Analysis II

† Note: The technical elective program is under constant review by the faculty. An updated list is available in the department office. Students should check with their advisors before selecting courses and should be aware that a formal mechanism exists to provide additional flexibility in the selection of their Technical Elective courses. Students should select their technical electives in the spring of their sophomore year to avoid scheduling conflicts. The technical electives may be coupled with the Chemical Engineering Technical Electives to obtain a technical concentration.

‡ The laboratory lecture CHEM 333(1), Organic Lab Lecture, is required and cannot be counted in this group.

* To encourage students to take labs, any three credit combination of laboratories in inorganic, organic, or physical chemistry may be grouped as a technical elective.

DEPARTMENTAL STANDARDS

The department has rigorous standards for admission into the courses in the department. These standards have evolved over time and are intended to promote success in
COLLEGE: ENGINEERING  
DEPARTMENT: CHEMICAL ENGINEERING  
DEGREE: BACHELOR OF CHEMICAL ENGINEERING  
MAJOR: CHEMICAL ENGINEERING (CHEG)

<table>
<thead>
<tr>
<th>SUGGESTED CURRICULUM</th>
<th>CREDITS</th>
<th>TYPICAL FRESHMAN COMPLETES</th>
<th>TYPICAL SOPHOMORE COMPLETES</th>
<th>TYPICAL JUNIOR COMPLETES</th>
<th>TYPICAL SENIOR COMPLETES</th>
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</thead>
<tbody>
<tr>
<td>E 110 Critical Reading and Writing</td>
<td>3</td>
<td>X (F)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>xx xxx #Three credits in an approved course or courses stressing multi-cultural, ethnic, and/or gender related content.</td>
<td>3</td>
<td>X</td>
<td>X</td>
<td>X</td>
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**UNIVERSITY REQUIREMENTS**

**COLLEGE REQUIREMENTS**

General Education Program

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<tr>
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<th>X(F,S)</th>
<th>X(F,S)</th>
<th>X(F,S)</th>
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</tbody>
</table>

The College of Engineering requires students to take six courses (minimum of 18 credits) chosen from the humanities and social sciences subject to the constraints listed below and the approval of the faculty adviser. The courses selected must provide both breadth and depth and not be limited to a selection of unrelated introductory courses. The University multicultural course requirement may be included in this set of six courses.

(a) At least two courses (minimum of six credits) must be in the humanities. Humanities include Art History, English (except ENGL 110 and other writing skills courses), Foreign Languages and Literature (except introductory skills courses), Foreign Languages (except the student's native language and introductory skills courses), History, Music (except skills and performance courses), Philosophy (except PHIL 100, 105, 205, and 351), and Theatre (except skills and performance courses).

(b) At least two courses (minimum of six credits) must be in the social sciences. The social sciences include Economics (EE majors require ECON 151 or another approved economics course), Linguistics (except introductory skills courses and LING 301), Political Science, Psychology (except PSYC 309 and 314), and Sociology.

(c) At least two of the six courses (minimum of six credits) must be above the introductory level, and each must build upon the content of a previous course, as approved by the faculty adviser.

(d) At least two of the six courses (minimum of six credits) must be thematically related, typically in the same department or program.

Humanities courses are listed in the distribution requirements of Arts and Science in Groups A and B.

Social Science courses similarly are listed as Group C. The Engineering Dean's office can supply a detailed list including those courses considered above the introductory level. Courses classified in Arts and Science Group D do not satisfy the General Education Program requirements.

Courses in Black American Studies, Honors Colloquium, and Women Studies are individually classified, as are courses in Early American Culture, and other specialized programs. Arts and Science "Group D" courses may not be used to satisfy the General Education Program (refer to College of Arts and Science Group Requirements in the Undergraduate Academic Programs and Policies Catalog). Students can obtain a listing of approved courses for the General Education Program from their respective departments or from the Dean's Office, College of Engineering (135 du Pont Hall). The Faculty adviser must be consulted for classification of courses under general education.
MAJOR REQUIREMENTS

External to the College

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Typical Freshman Completes</th>
<th>Typical Sophomore Completes</th>
<th>Typical Junior Completes</th>
<th>Typical Senior Completes</th>
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</thead>
<tbody>
<tr>
<td>MATH 242# Analytic Geometry and Calculus B</td>
<td>4</td>
<td>X(F)</td>
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<tr>
<td>MATH 243 Analytic Geometry and Calculus C</td>
<td>4</td>
<td>X(S)</td>
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<tr>
<td>MATH 302 Ordinary Differential Equations I</td>
<td>3</td>
<td></td>
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<tr>
<td>MATH 303 Ordinary Differential Equations Lab</td>
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<td></td>
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<tr>
<td>MATH 310 Applied Math for Chemical Engrs.</td>
<td>3</td>
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<tr>
<td>CHEM 111** General Chemistry</td>
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<tr>
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<td>CHEM 112 General Chemistry</td>
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<td>CHEM 443 Physical Chemistry</td>
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<td></td>
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<td>X(F)</td>
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<tr>
<td>CHEM 333 Organic Chemistry Laboratory I</td>
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<td>CHEM 332 Organic Chemistry</td>
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<td>PHYSICS 207 General Physics</td>
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<td>X(S)</td>
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<tr>
<td>PHYS 208 General Physics</td>
<td>4</td>
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<td>X(F)</td>
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</table>

An additional three credit general education must be taken in the humanities or social sciences. Furthermore, three of the general education courses (minimum of nine credits) must be in the same department or program, and at least one of these must be above the introductory level. Courses classified as "Group D" by the College of Arts and Science may not be used to fulfill this requirement.

Within the College

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Typical Freshman Completes</th>
<th>Typical Sophomore Completes</th>
<th>Typical Junior Completes</th>
<th>Typical Senior Completes</th>
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<tbody>
<tr>
<td>MASC 302 Material Science for Engineers</td>
<td>4</td>
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Within the Department

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Typical Freshman Completes</th>
<th>Typical Sophomore Completes</th>
<th>Typical Junior Completes</th>
<th>Typical Senior Completes</th>
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<tr>
<td>CHEG 009 Chem. Eng. Freshman Seminar</td>
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<td>CHEG 341 Fluid Mechanics</td>
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<td>CHEG 445A Chemical Engineering Laboratory I</td>
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<td>CHEG 401 Chemical Process Dynamics and Control</td>
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<td>CHEG 432 Chemical Process Analysis</td>
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**SUGGESTED CURRICULUM**

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<tr>
<th><strong>Technical Electives</strong></th>
<th><strong>CREDITS</strong></th>
<th><strong>TYPICAL</strong></th>
<th><strong>TYPICAL</strong></th>
<th><strong>TYPICAL</strong></th>
<th><strong>TYPICAL</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The purpose of the technical electives is to advance the scientific or engineering background of chemical engineers. The technical electives program consists of a minimum of nine credits taken from courses in the following list (normally three courses). At least two of these courses (six credits) must be at the intermediate (generally 300-600) level. Students should try to select their technical electives in the spring of sophomore year to avoid scheduling conflicts. Students should formulate an academic plan for their technical and chemical engineering electives with the assistance of their academic adviser.</td>
<td>9</td>
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<td>Biology</td>
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<td>BISC 208 Introductory Biology II</td>
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<td>BISC 301 Cellular and Molecular Biology</td>
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<td>BISC 303 Genetic and Evolutionary Biology</td>
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<td>BISC 305 Cell Biology</td>
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<tr>
<td>Chemistry</td>
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<td>CHEM 334 Organic Chemistry Majors Lab II</td>
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<td>CHEM 437 Instrumentation Methods</td>
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<td>CHEM 457 Inorganic Chemistry</td>
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<td>CHEM 527 Introductory Biochemistry</td>
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<td>CHEM 6xx With approval of adviser</td>
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<td>CHEM 8xx With approval of adviser</td>
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<td>PHYS 313 Physical Optics</td>
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<td>PHYS 419 Analytical Mechanics</td>
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<td>3</td>
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<tr>
<td>Computer Science</td>
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<td>CISC 220 Data Structures</td>
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<td>CISC 260 Machine Organization and Microcomputers</td>
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<td>CISC 300 Intro. to Scientific Computation</td>
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<td>CISC 310 Logic and Programming</td>
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<td>CISC 360 Computer Architecture</td>
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<td>CISC 361 Operating Systems</td>
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<td>CISC 640 Computer Graphics</td>
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*These courses are introductory.*
<table>
<thead>
<tr>
<th>SUGGESTED CURRICULUM</th>
<th>CREDITS</th>
<th>TYPICAL FRESHMAN COMPLETES</th>
<th>TYPICAL SOPHOMORE COMPLETES</th>
<th>TYPICAL JUNIOR COMPLETES</th>
<th>TYPICAL SENIOR COMPLETES</th>
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<tbody>
<tr>
<td><strong>Mathematics/Applied Mathematics</strong></td>
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<td>MATH 349 Elements of Linear Systems</td>
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<td>MATH 389 Discrete Mathematics</td>
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<td>MATH 426 Introduction to Numerical Analysis</td>
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<tr>
<td>and Algorithmic Computation</td>
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<td>MATH 427 Approximation Theory</td>
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<td>MATH 428 Algorithmic and Numerical Solution</td>
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<td>of Differential Equations</td>
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<tr>
<td>MATH 5xx With approval of adviser</td>
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<td><strong>Statistics</strong></td>
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<td>ELEG 211 Introduction to Sequential Circuits</td>
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<td>ELEG 623 Electrical Properties of Matter II</td>
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<td>ELEG 626 Integrated Circuits</td>
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<td>ELEG 629 Digital Structures</td>
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<td><strong>Materials Science/Engineering</strong></td>
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<td>MASC 406 Corrosion and Protection</td>
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<td>MASC 6xx (except for courses that are cross-listed with CHEG)</td>
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<td>MEEG 316 Materials Engineering</td>
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<td>MEEG 410 Experimental Mechanics for Composite Materials</td>
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<td>MEEG 214 Principles of Mechanics II</td>
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<td>MEEG 313 Strength of Materials</td>
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<td>MEEG 413 Advanced Mechanics of Materials</td>
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<td>MEEG 415 Finite Element Analysis</td>
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<td><strong>Environmental Engineering</strong></td>
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<td>CIEG 432 Watertower Engineering</td>
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<td>CIEG 433 Hazardous Waste Management</td>
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<td>CIEG 435 Industrial Wastewater Management</td>
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<td>CIEG 437 Water and Wastewater Quality</td>
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*These courses are introductory.
SUGGESTED CURRICULUM

<table>
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<tr>
<th></th>
<th>CREDITS</th>
<th>TYPICAL FRESHMAN COMPLETES</th>
<th>TYPICAL SOPHOMORE COMPLETES</th>
<th>TYPICAL JUNIOR COMPLETES</th>
<th>TYPICAL SENIOR COMPLETES</th>
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</table>

CREDITS TO TOTAL A MINIMUM OF 128

(F) = FALL SEMESTER  (S) = SPRING SEMESTER

# This requirement may be fulfilled thru a course taken to complete major requirements, group requirements, breadth or elective requirements.

** Students may enter Chemical Engineering after completing the eight credit freshman Chemistry sequence, C103-104.

*MATH 242 is the first mathematics course in our regular program. It is the incoming student's responsibility to assess his/her own Mathematics background and proficiency (using materials supplied by the Math Department.) If you are not ready to start with MATH 242, you must take MATH 241 (and possibly other earlier mathematics courses). If you have had some calculus but are uncertain that you are ready for MATH 242, you should start with MATH 242. In this case, it is easy to drop back to MATH 241 after a few weeks of MATH 242 if that is where you belong. If you need additional mathematics, at least one winter and/or summer session will be required to complete the four year program on schedule. To remain on schedule with the CHEG courses, you must be on schedule in mathematics by the start of Sophomore year.

Note: The technical electives program is under constant review by the faculty. An updated list is available in the department office. Students should check with their advisers before selecting courses and should be aware that a formal mechanism exists to provide additional flexibility in selection of their Technical Elective courses. Students should select their technical electives during the spring of the sophomore year to avoid scheduling conflicts. The Technical Electives may be coupled with the Chemical Engineering Technical Electives to obtain a technical concentration.

*a CHEG 473 Chemical Engineering Projects can be substituted for CHEG 445 with advisors approval. This option is only available for students who received a minimum grade of B in CHEG 345. Note that UNIV 401-402 is equivalent to CHEG 473-474.

*b Any three credit combination of CHEM 331 (1 credit when the 2 credit option is chosen) 332, 436, 446, and 458 may be used as an non-introductory technical elective.
COLLEGE: ENGINEERING
DEPARTMENT: CHEMICAL ENGINEERING
DEGREE: BACHELOR OF CHEMICAL ENGINEERING AND MASTER OF CHEMICAL ENGINEERING
MAJOR: CHEMICAL ENGINEERING (CHEG)

SUGGESTED CURRICULUM

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
<th>TYPICAL FRESHMAN COMPLETES</th>
<th>TYPICAL SOPHOMORE COMPLETES</th>
<th>TYPICAL JUNIOR COMPLETES</th>
<th>TYPICAL SENIOR COMPLETES</th>
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<tr>
<td>E 110</td>
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<td>X</td>
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</table>

#Three credits in an approved course or courses stressing multi-cultural, ethnic, and/or gender related content.

UNIVERSITY REQUIREMENTS

COLLEGE REQUIREMENTS

General Education Program

<table>
<thead>
<tr>
<th>CREDITS</th>
<th>TYPICAL FRESHMAN COMPLETES</th>
<th>TYPICAL SOPHOMORE COMPLETES</th>
<th>TYPICAL JUNIOR COMPLETES</th>
<th>TYPICAL SENIOR COMPLETES</th>
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<tbody>
<tr>
<td>18</td>
<td>X(F,S)</td>
<td>X(F,S)</td>
<td>X(S)</td>
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</tbody>
</table>

The College of Engineering requires students to take six courses (minimum of 18 credits) chosen from the humanities and social sciences subject to the constraints listed below and the approval of the faculty adviser. The courses selected must provide both breadth and depth and not be limited to a selection of unrelated introductory courses. The University multicultural course requirement may be included in this set of six courses.

(a) At least two courses (minimum of six credits) must be in the humanities. Humanities include Art History, English (except ENGL 110 and other writing skills courses), Foreign Languages and Literature (except introductory skills courses), Foreign Languages (except the student’s native language and introductory skills courses), History, Music (except skills and performance courses), Philosophy (except PHIL 100, 105, 205, and 351), and Theatre (except skills and performance courses).

(b) At least two courses (minimum of six credits) must be in the social sciences. The social sciences include Economics (EE majors require ECON 151 or another approved economics course), Linguistics (except introductory skills courses and LING 301), Political Science, Psychology (except PSYC 309 and 314), and Sociology.

(c) At least two of the six courses (minimum of six credits) must be above the introductory level, and each must build upon the content of a previous course, as approved by the faculty advisor.

(d) At least two of the six courses (minimum of six credits) must be thematically related, typically in the same department or program.

Humanities courses are listed in the distribution requirements of Arts and Science in Groups A and B.

Social Science courses similarly are listed as Group C. The Engineering Dean's office can supply a detailed list including those courses considered above the introductory level. Courses classified in Arts and Science Group D do not satisfy the General Education Program requirements.

Courses in Black American Studies, Honors Colloquium, and Women Studies are individually classified, as are courses in Early American Culture, and other specialized programs. Arts and Science "Group D" courses may not be used to satisfy the General Education Program (refer to College of Arts and Science Group Requirements in the Undergraduate Academic Programs and Policies Catalog). Students can obtain a listing of approved courses for the General Education Program from their respective departments or from the Dean's Office, College of Engineering (135 du Pont Hall). The Faculty adviser must be consulted for classification of courses under general education.
<table>
<thead>
<tr>
<th>SUGGESTED CURRICULUM</th>
<th>CREDITS</th>
<th>TYPICAL FRESHMAN COMPLETES</th>
<th>TYPICAL SOPHOMORE COMPLETES</th>
<th>TYPICAL JUNIOR COMPLETES</th>
<th>TYPICAL SENIOR COMPLETES</th>
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</table>

**MAJOR REQUIREMENTS**

**External to the College**

**Mathematics**
- MATH 243 Analytic Geometry and Calculus C 4 X(F)
- MATH 302 Ordinary Differential Equations I 3 X(S)
- MATH 303 Ordinary Differential Equations Lab 1 X(S)
- MATH 310 Applied Math for Chemical Engrs. 3 X(S)

**Chemistry**
- CHEM 443 Physical Chemistry 3 X(F)
- CHEM 444 Physical Chemistry 3 X(S)
- CHEM 445 Physical Chemistry Laboratory I 1 X(S)
- CHEM 331 Organic Chemistry 3 X(F)
- CHEM 332 Organic Chemistry Laboratory I 1 X(F)
- CHEM 332 Organic Chemistry 3 X(S)

**Physics**
- PHYS 208 General Physics 4 X(F)

**Within the College**

**General Education**
- An additional three credit general education must be taken in the humanities or social sciences. Furthermore, three of the general education courses (minimum of nine credits) must be in the same department or program, and at least one of these must be above the introductory level. Courses classified as "Group D" by Arts and Science may not be used to fulfill this requirement.

**Within the Department**

- MASC 302 Material Science for Engineers 4 X(F)
- MEEG 863 Engineering Analysis I 3 X(F)
- MEEG 864 Engineering Analysis II 3 X(S)

- CHEG 009 Chem. Eng. Freshman Seminar 0 X(F)
- CHEG 112 Introduction to Chemical Engng 3 X(S)
- CHEG 231 Chemical Engineering Thermodyn. 3 X(F)
- CHEG 325 Chemical Engineering Thermodyn. 3 X(S)
- CHEG 341 Fluid Mechanics 3 X(F)
- CHEG 332 Chemical Engineering Kinetics 3 X(F)
- CHEG 320 Engineering Economics and Risk Analysis 2 X(S)
- CHEG 345 Chemical Engineering Laboratory I 3 X(S)
- CHEG 342 Heat and Mass Transfer 4 X(S)
- CHEG 443 Mass Transfer Operations 3 X(F)
- CHEG 445A Chemical Engineering Laboratory I 3 X(F)
- CHEG 401 Chemical Process Dynamics and Control 3 X(S)
- CHEG 432 Chemical Process Analysis 4 X(S)
- CHEG 825 Chemical Engrg Thermodynamics 3 X(F)
- CHEG 830 Fluid Mechanics 3 X(F)
- CHEG 835 Applied Chemical Kinetics 3 X(S)
- CHEG 863 Diffusional Operations 3 X(S)
- CHEG *** Graduate Electives 12 X(F,F,S) X(F)
- CHEG 869 Masters Thesis 6 X(F,S)

*CHEG 868 Research can be substituted for CHEG 445 with advisor's approval. This option is only available for students who received a minimum grade of B in CHEG 345.*

**(F) = FALL SEMESTER**

**(S) = SPRING SEMESTER**

#This requirement may be fulfilled thru a course taken to complete major requirements, group requirements, breadth or elective requirements.

This curriculum assumes that the following courses have been granted by advanced placement or the equivalent. It is necessary to have 28-30 credits of advanced placement to participate in the program outlined above. The schedule will be adjusted for the accomplishments of the student by the faculty advisor.

- AP Chemistry 8 credits
- AP Calculus 8 credits
- AP Physics 4 credits
- AP English 6 credits
SUGGESTED CURRICULUM

<table>
<thead>
<tr>
<th>UNIVERSITY REQUIREMENTS</th>
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<tbody>
<tr>
<td>E 110 Critical Reading and Writing</td>
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<tr>
<td>xx xxx Three credits in an approved course or courses stressing multi-cultural, ethnic, and/or gender related content.</td>
</tr>
</tbody>
</table>

AS - COLLEGE REQUIREMENTS

Skill Requirements

Writing: A writing course involving significant writing experience including two papers with a combined minimum of 3,000 words which are to be submitted for extended faculty critique of both composition and content.

Foreign Language: Completion of the intermediate-level course in a given language (112, 107, or 108) or satisfactory performance on a placement test in the language of the student's choice.

Breadth Requirements

Group A: Understanding and appreciation of the creative arts and humanities. Twelve credits representing at least two departments.

Group B: The study of culture and institutions over time. Twelve credits representing at least two departments.

Group C: Empirically based study of human beings and their environment. Twelve credits representing at least two departments.

Area of Concentration: Fifteen credits of Arts and Science electives to be used for acquiring some depth of knowledge in a field chosen by the student in consultation with an Arts and Science advisor.

ARTS - SCIENCES COURSES COMPLETED 

X(F,S,S) X(F,S,S) X(F,F,S,S) X(F,F,S,S) X(F,F,S)

The liberal arts component is listed as 51 credit hours. The absolute minimum required to satisfy the requirements listed above is 45; this assumes that the foreign language requirement is satisfied from high school work, the writing course is in one of the Groups A, B, or C, and that nine credits of the Area of Concentration are also from Groups A, B, or C. Thus, students without language skills and concentrating in science or mathematics will need more than 51 credit hours to complete all of these requirements.
### CHEG - MAJOR REQUIREMENTS

#### External to the College

<table>
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<th>Course</th>
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<td><strong>Mathematics</strong></td>
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<td>MATH 242 Analytic Geometry and Calculus B</td>
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<td>MATH 243 Analytic Geometry and Calculus C</td>
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<td>MATH 302 Ordinary Differential Equations I</td>
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<td>MATH 303 Ordinary Differential Equations Lab</td>
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<td>MATH 310 Applied Math for Chemical Eng.</td>
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<td><strong>Chemistry</strong></td>
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<td>CHEM 111 General Chemistry</td>
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<td>CHEM 119 Quantitative Chemistry I</td>
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<td>PHYS 207 General Physics</td>
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<td>PHYS 208 General Physics</td>
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#### Within the College

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#### Within the Department

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<tr>
<td>CHEG 445 Chemical Engineering Laboratory I</td>
<td>3</td>
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<tr>
<td>CHEG 401 Chemical Process Dynamics and Control</td>
<td>3</td>
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</tbody>
</table>

*CHEG 473 Chemical Engineering Projects can be substituted for CHEG 445 with advisors approval. This option is only available for students who received a minimum grade of B in CHEG 345. Note that UNIV 401-402 is equivalent to CHEG 473-474.*

**Credits to Total a Minimum Of:** 158

(F) = FALL SEMESTER  
(S) = SPRING SEMESTER
COLLEGE: ARTS AND SCIENCE - ENGINEERING
DEPARTMENT: DEPENDENT UPON AREA OF CONCENTRATION - CHEMICAL ENGINEERING
DEGREE: BACHELOR OF ARTS OR BACHELOR OF SCIENCE-BACHELOR OF CHEMICAL ENGINEERING
MAJOR: NONE REQUIRED - CHEMICAL ENGINEERING

<table>
<thead>
<tr>
<th>SUGGESTED CURRICULUM</th>
<th>1ST YEAR STUDENT</th>
<th>2ND YEAR STUDENT</th>
<th>3RD YEAR STUDENT</th>
<th>4TH YEAR STUDENT</th>
<th>5TH YEAR STUDENT</th>
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<tbody>
<tr>
<td><strong>Technical Electives</strong></td>
<td></td>
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<tr>
<td>The purpose of the technical electives is to advance the scientific or engineering background of chemical engineers. The technical electives program consists of a minimum of nine credits taken from courses in the following list (normally three courses). At least two of these courses (six credits) must be at the intermediate (generally 300-600) level. Students should try to select their technical electives in the spring of sophomore year to avoid scheduling conflicts. Students should formulate an academic plan for their technical and chemical engineering electives with the assistance of their academic adviser.</td>
<td></td>
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<tr>
<td><strong>Biology</strong></td>
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<tr>
<td>BISC 207 Introductory Biology I</td>
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<tr>
<td>BISC 208 Introductory Biology II</td>
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<tr>
<td>BISC 301 Cellular and Molecular Biology</td>
<td>4</td>
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<tr>
<td>BISC 303 Genetic and Evolutionary Biology</td>
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<td>BISC 305 Cell Biology</td>
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<td>BISC 306 General Physiology</td>
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<tr>
<td>BISC 4xx With approval of adviser</td>
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<tr>
<td><strong>Chemistry</strong></td>
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<td>CHEM 334 Organic Chemistry Majors Lab II</td>
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<td>CHEM 437 Instrumentation Methods</td>
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<td>CHEM 457 Inorganic Chemistry</td>
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<td>CHEM 527 Introductory Biochemistry</td>
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<tr>
<td>CHEM 6xx With approval of adviser</td>
<td>3</td>
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<td>CHEM 8xx With approval of adviser</td>
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<tr>
<td><strong>Physics</strong></td>
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<td>PHYS 209 General Physics 3</td>
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<tr>
<td>PHYS 313 Physical Optics</td>
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<tr>
<td>PHYS 419 Analytical Mechanics</td>
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<tr>
<td><strong>Computer Science</strong></td>
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<td>CISC 180 Intro. to Computer Science I</td>
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<tr>
<td>CISC 181 Intro. to Computer Science II</td>
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<td>CISC 220 Data Structures</td>
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<tr>
<td>CISC 260 Machine Organization and Microcomputers</td>
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<tr>
<td>CISC 300 Intro. to Scientific Computation</td>
<td>3</td>
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<tr>
<td>CISC 310 Logic and Programming</td>
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<td>CISC 360 Computer Architecture</td>
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<td>CISC 381 Operating Systems</td>
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<td>CISC 640 Computer Graphics</td>
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*These courses are introductory.
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<th>COURSE TITLE</th>
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<tbody>
<tr>
<td>MATH 349</td>
<td>Elements of Linear Systems</td>
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<td>MATH 389</td>
<td>Discrete Mathematics</td>
<td>3</td>
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<tr>
<td>MATH 426</td>
<td>Introduction to Numerical Analysis and Algorithmic Computation</td>
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<td>MATH 427</td>
<td>Approximation Theory</td>
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<tr>
<td>MATH 428</td>
<td>Algorithmic and Numerical Solution of Differential Equations</td>
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<td>MATH 6xx</td>
<td>With approval of adviser</td>
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<tr>
<td>MATH 6xx</td>
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<tr>
<td>MEEG 361</td>
<td>Applied Engineering Analysis</td>
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</tr>
<tr>
<td>MEEG 863</td>
<td>Engineering Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MEEG 864</td>
<td>Engineering Analysis</td>
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<tr>
<td>STAT 450</td>
<td>Statistics for the Engineering and Physical Sciences</td>
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<tr>
<td>STAT 6xx</td>
<td>With approval of adviser</td>
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<tr>
<td>ELEG 205</td>
<td>Linear Circuit Theory</td>
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<tr>
<td>ELEG 210</td>
<td>Introduction to Combinatorial Logic</td>
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<td>ELEG 211</td>
<td>Introduction to Sequential Circuits</td>
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<td>ELEG 314</td>
<td>Electronics and Instrumentation</td>
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<td>ELEG 340</td>
<td>Solid State Electronics</td>
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<td>ELEG 4xx</td>
<td>Solid State Fabrication Laboratory</td>
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<td>ELEG 623</td>
<td>Electrical Properties of Matter II</td>
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<td>ELEG 626</td>
<td>Integrated Circuits</td>
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<tr>
<td>ELEG 629</td>
<td>Digital Structures</td>
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<td>MASC 406</td>
<td>Corrosion and Protection</td>
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<tr>
<td>MASC 6xx</td>
<td>(except for courses that are cross-listed with CHEG)</td>
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<tr>
<td>MASC 8xx</td>
<td>With approval of adviser</td>
<td>3</td>
</tr>
<tr>
<td>MEEG 318</td>
<td>Materials Engineering</td>
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<tr>
<td>MEEG 410</td>
<td>Experimental Mechanics for Composite Materials</td>
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<tr>
<td>MEEG 617</td>
<td>Composite Materials</td>
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<tr>
<td>MEEG 213</td>
<td>Principles of Mechanics I</td>
<td>3</td>
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<tr>
<td>MEEG 214</td>
<td>Principles of Mechanics II</td>
<td>3</td>
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<tr>
<td>MEEG 313</td>
<td>Strength of Materials</td>
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<td>MEEG 413</td>
<td>Advanced Mechanics of Materials</td>
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<td>MEEG 415</td>
<td>Finite Element Analysis</td>
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<td>CIEG 301</td>
<td>Analysis of Structures</td>
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<td>CIEG 311</td>
<td>Dynamics</td>
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<td>CIEG 432</td>
<td>Watertower Engineering</td>
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<td>CIEG 433</td>
<td>Hazardous Waste Management</td>
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<tr>
<td>CIEG 435</td>
<td>Industrial Wastes Management</td>
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</tr>
<tr>
<td>CIEG 437</td>
<td>Water and Wastewater Quality</td>
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</tbody>
</table>

*These courses are introductory.
CREDITS TO TOTAL A MINIMUM OF **158**

(F) = FALL SEMESTER  
(S) = SPRING SEMESTER

#This requirement may be fulfilled thru a course taken to complete major requirements, group requirements, breadth or elective requirements.

**Students may enter Chemical Engineering after completing the eight credit freshman Chemistry sequence, C103-104.**

*MATH 242 is the first mathematics course in our regular program. It is the incoming student's responsibility to assess his/her own Mathematics background and proficiency (using materials supplied by the Math Department.) If you are not ready to start with MATH 242, you must take MATH 241 (and possibly other earlier mathematics courses). If you have had some calculus but are uncertain that you are ready for MATH 242, you should start with MATH 242. In this case, it is easy to drop back to MATH 241 after a few weeks of MATH 242 if that is where you belong. If you need additional mathematics, at least one winter and/or summer session will be required to complete the four year program on schedule. To remain on schedule with the CHEG courses, you must be on schedule in mathematics by the start of Sophomore year.

**Note:** The technical electives program is under constant review by the faculty. An updated list is available in the department office. Students should check with their advisers before selecting courses and should be aware that a formal mechanism exists to provide additional flexibility in selection of their Technical Elective courses. Students should select their technical electives during the spring of the sophomore year to avoid scheduling conflicts. The Technical Electives may be coupled with the Chemical Engineering Technical Electives to obtain a technical concentration.
OPTION

Proposed Preparing a Family Nurse Practitioner

Department of Advanced Nursing Science
College of Nursing

Whereas:
The State of Delaware supports the need for Nurse Practitioners in order to increase access to care for underserved populations.

The Delaware Institute for Medical Education and Research (DIMER) as a component of the Delaware Health Care Commission has awarded the College of Nursing $10,000 to plan a Family Nurse Practitioner program that would be ready to begin classes in September, 1993.

The Delaware Developmental Disabilities Planning Council has sent a request for proposals for the development of a Family Nurse Practitioner program that would be ready by September, 1993 to which the College of Nursing has responded.

A feasibility study done by the College of Nursing during Summer, 1992 indicated a significant number of interested baccalaureate-prepared Registered Nurses and a significant shortage of Nurse Practitioners to fill existing positions.

The State of Delaware mandates national certification of Family Nurse Practitioners by the American Nurses Association in order to practice as an Advanced Registered Nurse Practitioner.

National Certification for nurse practitioners now requires a Master of Science in Nursing.

The College of Nursing has a Master of Science in Nursing program that is accredited by the National League for Nursing.

Therefore:
The Department of Advanced Nursing Science of the College of Nursing requests approval of a third track in the existing Masters program that will prepare students for practice as a Family Nurse Practitioner.
PROPOSAL FOR FAMILY NURSE PRACTITIONER TRACK

The Family Nurse Practitioner (FNP) track prepares Nurse Practitioners as principle providers of primary health care who assume responsibility for promoting, maintaining, and restoring the health of individuals.

Admission Requirements:  No change from current standards

Progression:

1. Students have the same option to go full-time or part-time as present students.
2. Students have the same option to do a thesis or a scholarly project.
3. Students must take the same core courses as students in other tracks. (Research Methodologies, Statistics, Nursing Theory, Advanced Nursing Roles, and Concepts in Advanced Nursing Practice)
4. The basic content that must be covered to qualify for certification is determined by the American Nurses Association. In addition, "approximately one-third of the program should be devoted to classroom or didactic experiences and the remaining two-thirds to clinical or preceptorship experiences." To meet these increased requirements and to prepare for the increased clinical experiences required of nurse practitioners, the number of credits required for this track will be 47. This track can be completed in four semesters compared to three semesters for the other tracks.

Resources

1. Faculty
   a. Dr. Barbara Sheer was hired September, 1992 to fill the Nursing of Children line. She is a Nurse Practitioner who last year was President of the American Academy of Nurse Practitioners and was therefore an ideal candidate to develop and teach the proposed new track.
   b. Dr. Janice Selekman, Chairperson of the Department of Advanced Nursing Science is a national expert on the Nursing of Children. Therefore she will assume responsibility for the Nursing of Children track, thereby freeing Dr. Sheer to take responsibility for courses specific to the Family Nurse Practitioner track.
   c. Judy Hendricks, APRN is currently a part-time faculty member who has expressed interest in teaching Family Nurse Practitioner students. As a practicing nurse practitioner, she will also provide a clinical setting for their practicum.
d. The pharmacology course must be taught by an individual with a Doctorate in Pharmacology in order for our students to have prescriptive privilege in other states. That salary will be paid on an S-contract which has been written into the Developmental Disabilities Planning Council Grant.

THEREFORE: NO ADDITIONAL FUNDS ARE REQUESTED FOR FACULTY SALARIES RELATED TO THIS TRACK.

2. Supplies

a. Laboratory supplies and audiovisual equipment will be purchased using the DIMER funds.

b. Advertising and brochure development will be paid for using funds from the Developmental Disabilities Planning Council.

THEREFORE: NO ADDITIONAL FUNDS ARE REQUESTED FOR SUPPLIES RELATED TO THIS TRACK.

Meeting the Needs of the Nursing Community

1. Core courses are currently offered in Dover as well as in Newark to better serve the needs of residents of Southern Delaware. In addition, the College of Nursing is exploring distance education modalities for graduate education. This will be available for graduate students in all tracks.

2. Students in all tracks of the graduate program, including those in the proposed track, have the option of selecting a practicum site close to their place of residence, as long as a qualified preceptor can be identified.

3. The feasibility study identified numerous clinical sites throughout the State of Delaware who indicated a willingness to accept students for their nurse practitioner practica.

4. There has been a significant interest in the nurse practitioner track by individuals who already hold a Master of Science in Nursing. Because a second MSN may not be awarded by the college, a Post Master’s Certificate Program has been developed that includes just those courses specific to the ANA criteria. The 29 credits are included in this proposal.
Didactic  Clinical
1:1

3:1

IFST621 - 3 Advanced Health Assessment - 3
810 - 3 Women's Health Clinical - 3
811 - 2 Pediatric Clinical - 3
812 - 2 Adult Episodic - 3
813 - 2 Adult Chronic - 3
EDS665 - 3 Preceptorship - 4
Pathophysiology - 3
Pharmacology - 3
NP Seminar - 1

22

if thesis 19 x 3 = 57
NURS869 - 6 (must have at least 56
6 hours to have a

if non-thesis 1/3:2/3 ratio)
NURS868 - 3
Elective - 3

28

28 x 1 = 28 hours

Total Credits = 47

UNIVERSITY OF DELAWARE - COLLEGE OF NURSING
DEPARTMENT OF ADVANCED NURSING SCIENCE

FOR INDIVIDUALS WITH MSN

IFST621 Dynamics of Family Development - 3
Advanced Health Assessment - 3
Advanced Pathophysiology - 3
Advanced Pharmacology - 3
Management of Women's Health Care - 3
Management of Children - 3
Management of Adult Episodic Health Needs and Problems - 3
Management of Adult Chronic Health Needs and Problems - 3
Preceptorship - 4
Nurse Practitioner Seminar - 1

Total 29

Award a Post Masters Certificate
from the College of Nursing

[Not from C.E.]
Nurse Practitioner Track - Full-Time

DEPARTMENT OF ADVANCED NURSING SCIENCE
UNIVERSITY OF DELAWARE - COLLEGE OF NURSING

SPRING II

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Spring II Credits</th>
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<tr>
<td>NURS869</td>
<td>Graduate Practitioner</td>
<td>4</td>
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<td>IF the thesis is non-theoretical</td>
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TOTAL: 10 CREDITS

SPRING I

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<td>NURS821</td>
<td>Research Methods</td>
<td>3</td>
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<td>NURS822</td>
<td>Advanced Pharmacology</td>
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TOTAL: 6 CREDITS

FALL I

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<th>Course Code</th>
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<td>NURS833</td>
<td>Health Care in Nursing</td>
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<tr>
<td>NURS824</td>
<td>Management of Children</td>
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TOTAL: 6 CREDITS

FALL II

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<td>NURS831</td>
<td>Concepts in Advanced Nursing</td>
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<td>NURS827</td>
<td>Life Span of Family</td>
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<tr>
<td>NURS825</td>
<td>Advanced Pathophysiology</td>
<td>3</td>
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<tr>
<td>NURS826</td>
<td>Management of Adult Chronic</td>
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TOTAL: 13 CREDITS

EDS865 | Statistics for the Health Sciences | 2
### Nurse Practitioner Track - Part-Time - Thesis Option

**FALL I**

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<tr>
<td>IFST621 - Dynamics of Family Development</td>
<td>3</td>
<td>NURS811 - Concepts in Advanced Nursing Practice</td>
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<tr>
<td>EDS665 - Statistics</td>
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<td>NURS812 - Nursing Theories and Models</td>
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<td>NURS813 - Advanced Nursing Roles in Health Care Delivery</td>
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<td><strong>Total</strong></td>
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**FALL II**

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<tr>
<td>NURS820 - Advanced Health Assessment</td>
<td>3</td>
<td>NURS823 - Management of Women's Health Care</td>
<td>3</td>
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<tr>
<td>NURS821 - Advanced Pathophysiology</td>
<td>2</td>
<td>NURS822 - Advanced Pharmacology</td>
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<td></td>
<td>NURS869 - Thesis</td>
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<td><strong>Total</strong></td>
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<tr>
<td>NURS810 - Research Methods in Nursing</td>
<td>3</td>
<td>NURS824 - Management of Children</td>
<td>3</td>
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<tr>
<td>NURS825 - Management of Adult Episodic</td>
<td>2</td>
<td>NURS869 - Thesis</td>
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<tr>
<td>Health Needs and Problems</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>6</strong></td>
<td><strong>Total</strong></td>
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<table>
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<th>Credits</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>NURS824 - Management of Adult Chronic</td>
<td>3</td>
<td>NURS827 - Preceptorship</td>
<td>4</td>
</tr>
<tr>
<td>Health Needs and Problems</td>
<td>1</td>
<td>NURS828 - Nurse Practitioner Seminar</td>
<td>1</td>
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### Nurse Practitioner Track - Part-Time - Non-Thesis Option

**FALL I**

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<td>NURS822 - Advanced Pharmacology</td>
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<td>NURS827 - Preceptorship</td>
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<td>NURS828 - Nurse Practitioner Seminar</td>
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Overview of the Family Nurse Practitioner Curriculum

The family nurse practitioner (FNP) track of the master of science degree program will be offered on both a full-time and a part-time basis. The program consists of 45 credits with a thesis option and is a composite of master's level core courses and FNP specialty courses. The full-time program will require 4 semesters or 2 academic years. Part-time students will be able to complete the program in 4 academic years. The FNP Track prepares nurse practitioners as principal providers of primary health care who assume responsibility for promoting, maintaining and restoring the health of individuals. In many settings the family nurse practitioner is the primary care provider seeking consultation when necessary.
Family Nurse Practitioner Course Descriptions

Advanced Pharmacology

Principles of pharmacology are applied to the therapeutic management of the client. Emphasis is placed on prescribing, monitoring drug regimens, identifying adverse reactions and anticipating changes inherent in self medication.

Advanced Pathophysiology

The pathogenesis of common conditions affecting children and adults are presented serving as a basis for clinical management.

Management of Children

Focuses on the delivery of primary health care to children and adolescents. Emphasis is placed on physical and developmental variations and management of acute and episodic illness.

Management of Women's Health Care

Focuses on gynecological and reproductive health care. Emphasis is on management of gynecologic health needs and the normal reproductive cycle.

Management of Adult Episodic Health Needs and Problems

Focuses on delivery of primary care to adults and the elderly. Emphasis is on the clinical decision making necessary to serve as a foundation for planning primary health care services.

Management of Adult Chronic Health Needs and Problems

Focuses on delivery of primary care to adults and the elderly with chronic health problems. Emphasis is placed on management of ongoing needs.

Nurse Practitioner Seminar

A culminating experience in role development. Emphasis is placed on the role of the nurse practitioner in the current health care system. Issues such as marketing, practice acts, reimbursement and prescriptive privileges will be discussed.

Preceptorship

Students select their preceptor sites with approval of faculty. Emphasis is placed on clinical decision making in an interdisciplinary environment with the nurse practitioner as a principal provider of primary care.
Memorandum

TO: Wanda Cook  
Faculty Senate

FROM: Paul Hooper, Chair  
Graduate Studies Committee

December 14, 1992

Enclosed is a proposal from the Department of Advanced Nursing Science of the College of Nursing for a new Family Nurse Practitioner track for its Master's Program in Nursing. This new track was approved unanimously by the Graduate Studies Committee on December 10, 1992.

Although the Graduate Studies Committee has been given final authority to approve some modifications to existing graduate programs, we believe this proposal should be reviewed by the Coordinating Committee on Education for two reasons:

1. This track will require substantially more credit hours to complete (47 vs. 36) than existing tracks in the M.S. Program, and

2. The new track may require the commitment of additional university resources in the form of faculty support sometime in the future.

CONSERVE ENERGY SO ENERGY CAN SERVE YOU
UNIVERSITY OF DELAWARE - COLLEGE OF NURSING
DEPARTMENT OF ADVANCED NURSING SCIENCE

Memorandum

Date: November 5, 1992

To: Paul Hooper
Chair, Graduate Studies Committee

From: Janice Selekman
Chair, Department of Advanced Nursing Science

Re: Expansion of the Master's Program in Nursing
A track for preparing the Family Nurse Practitioner

Thank you for your assistance in preparing our documents for this proposal. I am submitting our plan for expanding the Master of Science in Nursing program to include a track for Family Nurse Practitioners. This is not a request for approval of a new degree nor a new program. We currently have two tracks within our existing masters program: one for clinical nurse specialists and one for nurse administrators. This request is to add an additional track.

This proposal was developed in response to requests for master's prepared nurse practitioners from numerous clinical agencies in the 4-state area as well as over 50 requests from potential students. A feasibility study completed this past summer confirmed this high level of interest.

As you will note in the accompanying materials, the track will require 47 credit hours to complete. In is design, the new track is consistent with the existing curriculum in all aspects except its increased credit requirement. This is due to the mandated requirements of the body that will certify our graduates as Advanced Registered Nurse Practitioners.

In addition to the proposal, we have included the following in your packets.

1. Sequence of courses for full & part-time students
2. Criteria for Certification of Family Nurse Practitioners by the American Nurses Association
3. A break-down of courses to support our meeting of requirements for certification.
4. Information members of your committee might find helpful regarding the role of Family Nurse Practitioners

JS: jb
November 25, 1992

MEMORANDUM

TO: Paul Hooper  
Chair, Graduate Studies Committee

FROM: Janice Selekmans  
Chair, Department of Advanced Nursing Science

Topic: Response to questions regarding the Family Nurse Practitioner track

I am responding to the 5 questions regarding curricular and financial issues asked by your Committee.

Question #1: A letter confirming the $15,000 grant from the Developmental Disabilities Planning Council toward the establishment of a Family Nurse Practitioner track was requested.

Answer: Confirmation letter is attached.

Question #2: Clarification is needed regarding the 1/3:2/3 ratio of didactic to clinical hours.

Answer: Nursing is a clinical science. Because of the clinical nature of the profession, it becomes important for us to have two types of learning experiences: didactic and clinical. Didactic content refers to theoretical and factual content that is provided primarily in a classroom. As with most other University courses, credits directly correspond to the number of hours a course meets each week (1:1).

Clinical hours are provided in hospital, community, and laboratory settings and generally include hands-on application of content. The ratio of University credits to clinical hours ranges in the United States from 1:1 to 1:4. Within the Department of Advanced Nursing Science, all clinical courses use the ratio of 1 University credit for 3 hours per week of clinical. Courses designated as clinical courses therefore have 3 times the number of hours per week as there are credits (e.g., a 3 credit clinical course consists of 9 hours per week).
Because nurse practitioners require advanced clinical skills, a requirement for certification by the American Nurses Association is that at least 2/3 of the hours for the program be considered "clinical" experiences. To demonstrate that we are in agreement with certification standards, we have divided the courses into didactic and clinical. There are 28 credits of didactic courses resulting in an equivalent of 28 hours. There are 19 credits of clinical courses resulting in an equivalent of 57 hours (3 x 19).

Therefore the ratio is 28:57 and demonstrates that our students are eligible to sit for the certification exam.

Question #3: Clarification is needed regarding the policy explaining what happens if a clinical component is failed.

Answer: Each clinical course will have criteria which must be met in order to pass the course. Both the didactic and clinical components of the course must be successfully completed with a grade of B or better. This is consistent with all currently offered clinical courses. In addition, students must receive a grade of "B" or better in all nursing courses. Students who receive a grade below a "B" must repeat the course. Nursing courses may only be repeated once. A second failure results in dismissal from the program.

Question #4: Explain how the Department can be responsible for the new courses with existing numbers of faculty.

Answer: Dr. Barbara Sheer was hired to fill the line vacated by Dr. Ellen McFadden, who was responsible for the courses preparing pediatric clinical nurse specialists.

Dr. Sheer is a Nurse Practitioner and is the ideal individual to teach in the Nurse Practitioner track. Dr. Janice Seleman (Department Chair) is a pediatric Clinical Nurse Specialist and will assume responsibility for the pediatric specialty courses.

All faculty rotate responsibility for core courses (N810, 811, 812, 813) and all do thesis advisement. Occasionally faculty are "loaned" to the undergraduate program on a semester basis.

For the FNP track fall semester I: Dr. Sheer will teach the Advanced Health Assessment and Margaret Birney will
teach the Advanced Pathophysiology.

Spring semester I: Dr. Sheer will be responsible for the two clinical courses (N823 & N824). An individual with a Ph.D. in Pharmacology will be hired on an S contract for the Advanced Pharmacology course. (This cost is covered until Spring, 1995 by the recent grant.)

Fall semester II: Dr. Sheer will be responsible for the two clinical courses and Ms. Judy Hendricks (a current half time faculty and a nurse practitioner) has expressed interest in teaching the Advanced Health Assessment course.

Spring semester II: Dean Betty Paulanka will request a half time hire (Ms. Hendricks) for the final preceptorship course beginning in 1995. This represents a request for additional University funding for the Spring of 1995. Dr. Sheer will teach the Nurse Practitioner seminar as well as the two clinical courses from Spring I.

Question #5: Describe the payment source for the S-contract for the Pharmacology course (to be taught once a year by an individual with a Ph.D. in Pharmacology.)

Answer: The Spring 1994 S-contract is paid by the Developmental Disabilities grant. While additional grant money is being requested, the first need for money is Spring, 1995. This is one S-contract for a 3 credit course. Dr. Betty Paulanka has committed College funds until 1997 to pay for that one course.

JS/bb
MEMORANDUM

TO: Bonnie Kime Scott, Chair
    Coordinating Committee on Education

FROM: Janice Seleman, Chair
       Advanced Nursing Science

DATE: January 28, 1993

TOPIC: Response to request for information concerning the
proposed Family Nurse Practitioner Track leading to a
Master of Science in Nursing degree.

I am delighted to respond to your questions about the FNP track
in order to facilitate its approval. Nurse Practitioners are the
health care providers of the future. They are currently
practicing in every state and most other states offer at least
one nurse practitioner program. There are currently four
positions nationally for every nurse practitioner student who
graduates (American Academy of Nurse Practitioners); we can
assume this is also true in Delaware. According to calls we have
received from prospective students on the West coast, California
has a five-year waiting list for student slots in some
practitioner programs.

The College of Nursing has made a strong commitment to the
development of a Family Nurse Practitioner track. The Colleges
of Nursing and Business were offered opportunities to initiate
new programs to generate revenue. In the New Initiative Option
offered to the College of Nursing, enough money will be generated
to cover the cost of a new faculty line and S contracts for
special courses. The College of Nursing has also just completed
a reorganization that will combine the undergraduate and graduate
departments. This will facilitate redistribution of resources
and make it possible to use other faculty resources so that Ms.
Hendricks can teach in this track.

This is the first time that DIMER or the Developmental
Disabilities Planning Council have provided funds for Nurse
Practitioner programs. While I cannot speak for the DDPC future
plans, the Delaware Health Care Commission, which Recommended
that DIMER provide funds for us, IS committed to increasing the number of nurse practitioners in the State of Delaware. I will approach them again this year for additional funds for 1993-1994. In addition, Dr. Barbara Sheer will be submitting a 3 year federal training grant to the Division of Nursing on June 30, 1993 for funding that would begin July, 1994. We have been informed that the only programs being funded now by the Division of Nursing are Nurse Practitioner programs.

There are currently 72 students matriculated in the existing tracks, with an additional 32 students currently taking our courses through continuing education and planning to matriculate. Of these students only 3 have indicated that they may switch to the nurse practitioner track. Dr. Sheer has already interviewed 18 prospective students who are ready to matriculate in the FNP track as soon as the program is approved. We do not anticipate any significant changes in the numbers in our other programs; these students are satisfied that they will be able to take three of the FNP courses as electives, if they should desire. This includes the Pharmacology course.

ALL graduate nursing students bring tuition money with them. Because they are predominately part time, they pay on a per credit basis, resulting in a higher than normal tuition profit for the University. NO students are being supported by research funds and only one student is selected each year to receive a block grant from the University. All of this contributes to increased revenue to the University from our students.

The College of Nursing is committed to manage the FNP track without new resources from the University for the immediate future. However, should the number of students enrolling in the program increase significantly, additional faculty will be needed.

The Dean and I are willing to come to your next meeting, if you should desire our personal input to further questions. We hope to facilitate forwarding this proposal to the Faculty Senate as soon as possible.

js

Sam for moving forward with this as quickly as possible. I just learned that the Budget Council has approved Nursing's 1993-1994 Instructional budget which will more than adequately cover the increase for the Family Nurse Practitioner Program.

Budy F. Paulanka
Dean (copy)
Date: December 9, 1992

To: University Faculty Senate

From: Linda K. Matocha, LM
Interim Chairperson
Department of Nursing Science
College of Nursing

Re: Proposed BRN Program

Please give every consideration to the enclosed proposal of a BRN Program which has been developed by the faculty of the Department of Nursing Science. This program has been an identified need within the Department for a number of years. It is being presented to the Faculty Senate at this time because it provides a mechanism of increasing the marketability of the College of Nursing and University of Delaware by increasing the numbers of those receiving the Bachelor of Science degree from the University. These larger numbers will in turn provide a larger pool of graduates who could continue their education at the Masters level in our Graduate Department. This program will also contribute significantly toward meeting regional needs of communities requiring nurses at the professional level.

Thank you for your consideration.

LKM/pt
January 6, 1993

TO: Senate Committee on Undergraduate Studies
FROM: Betty Paulanka, Dean College of Nursing
RE: New BRN Program

Since coming to the University in 1977 it has been my ultimate goal to separate the RN curriculum from the current basic student nursing curriculum. It is my firm belief that the learning needs of practicing nurses are distinctly different than the learning needs of typical students enrolled in our nursing program. Beyond the fact that all R.N. students are adult learners, their nursing background (Associate Degree or Diploma) and experience qualify them for higher level learning objectives than are attainable by our basic students. Secondly, the differences in the entry level educational programs for associate degree and diploma students can not be stressed in our existing curriculum in a manner that meets the specific needs of RN students.

In 1970 I personally rejected the University of Delaware’s College of Nursing Program on this same basis. I choose a program more suitable to my knowledge deficits. I believe this is a major reason why our R.N. program has not prospered in the State of Delaware. Thus, I urge you to approve the BRN curriculum in a timely and expedient manner so this program can be initiated in the Fall of 1993. This year’s budget recommendations provided support for this new initiative in the College of Nursing.

BP/rpg
COLLEGE OF NURSING
BRN PROGRAM (Rationale)

Increasing numbers of registered nurses (RNs), graduates of associate degree and diploma nursing programs, are choosing to enroll in programs to earn the bachelor's degree in nursing (BSN). According to Rosenfield (1986), the number of RNs who graduated from BSN programs increased annually from 3,763 in 1975 to over 10,000 by 1984. By 1983-86, the number of RN students enrolled in BSN programs rose to more than 46,000 (NLN, 1988a). By 1991, C. Winters (personal communication, NLN, December 7, 1992) reported that RN enrollment exceeded 39,000 comprising approximately 32% of all BSN students. A recent study by Redman and Cassells (1990), identified 606 institutions as offering baccalaureate programs for RNs. This growth is related to a number of factors.

The American Nurses Association (ANA) has strongly promoted the concept of a two-tiered level of practice: baccalaureate-prepared nurses designated as "professional" nurses and associate-degree prepared nurses designated as "technical" nurses. Economic factors often deter individuals from initial matriculation in a BSN program. While diploma nursing programs based in hospitals are slowly phasing out, the number of applicants to associate degree programs in Delaware and Pennsylvania often exceeds the spaces available. Many of these RNs eventually return to school to earn the BSN degree once they are eligible for tuition remission through their place of employment. Health care institutions are increasingly recognizing the value of baccalaureate-prepared practitioners and are mandating completion of the BSN degree as a requirement for continued employment. The Medical Center of Delaware is one example of a local institution that recently mandated completion of the BSN degree within a five year period for all head nurses and assistant head
nurses. Additionally, educational mobility for RNs is recognized as essential to prepare practitioners to assume new roles in the restructuring of the nation's health care system. Mandatory continuing education for relicensure also provides an incentive for further educational pursuits.

A universal concern in the implementation of BSN programs for RNs involves the repetition of certain content from the RN's prior basic nursing program. Within our current BSN for the RN OPTION, which has the same curriculum as our generic, four-year BSN program, there is significant overlap with previous RN education content, leaving fewer opportunities to build on knowledge and experience and to address more relevant RN needs. Validation of the RN's knowledge base through recognition of successful completion of an NLN-accredited basic nursing program or standardized tests of nursing knowledge provide the foundation on which programs for RNs can be built.

There is a wide variability among programs in determining how to award credit for basic nursing knowledge obtained in associate degree or diploma programs. Currently many BSN/RN programs provide direct transfer credit for nursing courses completed by graduates of NLN-accredited associate degree programs or offer validation options including institution-designed credit exams, ACT-PEP exams, or the NLN Mobility Profile II exams (American Colleges of Nursing/American Nurses Association, 1992). Validation options (in lieu of direct transfer of credit) are also offered to graduates of diploma nursing programs. The College of Nursing proposes to use the NLN Mobility Profile II, a series of examinations designed to provide "diagnostic evaluation of the nursing knowledge of registered nurses seeking advanced placement in a baccalaureate nursing program....It is intended to assist faculty to establish credit and to make placement decisions about students already selected for admission to the program" (NLN, 1988b, p. 1). The NLN Nursing Mobility
Profile II validation examinations are currently used by BSN/RN programs associated with Columbia University, Pennsylvania State University, Widener University and Neumann College. According to Y. Reuben (personal communication, NLN, December 7, 1992), over 200 college and university programs used the Mobility Profile II series within the last year.

The proposed BRN Program in the accompanying documents acknowledges the distinct attributes and needs of registered nurses enrolled in baccalaureate education. Theoretical and clinical instruction is designed to address the diversity of adult learners' past educational preparation, learning styles and nursing practice experience. The program incorporates the principles of adult learning including self-directedness, relevance of past experience to new learning, readiness to learn and a problem-centered orientation to learning (Knowles, 1978). Additionally the program fosters the intrinsic and internal motivation that moves RNs toward their chosen educational goals. To facilitate achievement of these goals, the BRN Program emphasizes creative, innovative and flexible modes of learning.

There are currently 70 RNs matriculated in the BSN for the RN OPTION, a special RN track within the basic nursing curriculum. It is anticipated that 20-30 of these students may choose to transfer to the BRN major. A transition plan has been developed to facilitate the transfer of such students to best meet their educational needs. Courses in both curricula will be available concurrently for a period of time (approximately 3-5 years) to allow students in the current program to complete their requirements for graduation.

The College of Nursing is firmly committed to provide a vehicle whereby RNs can further their education and move up the career ladder in the nursing profession. The proposed new major (BRN) will facilitate this mobility. The new program will be under the auspices of the Department of Nursing Science.
within the College of Nursing. Requests have been made by the Department of Nursing Science for resources which will be used specifically for this program. Feedback from the Provost's office and from the Budget Council have initially been very positive, encouraging the Department to anticipate the availability of these resources.

Consideration of this program proposal has been an ongoing focus of the Department of Nursing Science. The persons involved in the design of this curricular plan have expertise in programs dealing with Registered Nurses who are adult learners returning to obtain a BSN degree. If the Faculty Senate members, including the Undergraduate Studies Committee have any further questions, please do not hesitate to contact the Department of Nursing Science Interim Chairperson, Linda K. Matocha (831-2193). The Department will provide any needed information in a timely manner.
College: Nursing
Department: Nursing
Degree: Baccalaureate for the Registered Nurse
Major:  

Suggested Curriculum

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| COLLEGE REQUIREMENTS | |

Natural Science (24 total science credits to include one course in each of these categories)

BIOL XXX Biology
BIOL XXX Microbiology
CHM XXX
BIOL XXX Anatomy/Physiology
NUTR XXX Nutrition

| Humanities | |

ENGL XXX 2nd English Composition Course
ENGL XXX Literature Course
HIL XXX Philosophy Course

Social Sciences
### Suggested Curriculum

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### Major Requirements

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BRN Program

Admission to the College

A registered nurse who is a graduate of an associate degree or diploma nursing program may apply for admission to the College of Nursing. The applicant must submit the following:

- Completed application form with application fee
- Official transcripts verifying college credits previously earned including verification of graduation
- Copy of current registered nurse license

Criteria for Enrollment in BRN Major Nursing Courses

The BRN major is concentrated at the junior and senior levels and requires 125 credits for graduation. Before enrollment in any nursing courses, students must meet the following criteria:

- Completed 36 credits of non-nursing requirements including 24 credits of in science and up to 6 credits of free electives through transfer of credit from accredited institutions of higher education or enrollment in University of Delaware courses
- GPA of 2.5 or higher for non-nursing prerequisite courses
- Validation of basic nursing knowledge

Graduates of National League for Nursing (NLN) accredited associate degree programs may directly transfer up to 30 credits in nursing as evidence of their basic nursing knowledge. Graduates of diploma schools of nursing and graduates of non-NLN-accredited associate degree programs must complete validation examinations (NLN Mobility Profile II). Upon successful completion of these examinations, the College will award 30 credits for basic nursing knowledge.

NON-NURSING REQUIREMENTS: (66 credits)

- English Composition (6 credits to include ENGL110)
- Literature
- Philosophy
- Psychology
- Sociology
- Statistics
- Lifespan Development
- Restricted Elective (3 credits chosen from the following:
  ART, ARTH, HIST, PHIL, MUSC, THEA, CALT, BAMS, ECON, POSC, WOMS, FLLT, LING, ENGL
- Sciences (24 total credits to include one course in each of the following 5 categories):
  - Biology
  - Microbiology
  - Chemistry
  - Anatomy/Physiology
  - Nutrition
- Free electives (15 credits)
- Students must meet University multicultural course requirement
PROGRAM CREDIT ALLOCATION

Non-nursing Requirements  66 credits
Nursing Validation:  30 credits
Upper Division Nursing Courses:  29 credits
Total  125 credits

SUGGESTED BRN NURSING COURSE SEQUENCING PLAN

. Junior Year

Fall
NURS340  Current Perspectives in Professional Nursing  2 credits
NURS342  Nursing Informatics  2
NURS314  Psychopathology  3
TOTAL  7

Winter
NURS343  Learning Lab I  1
TOTAL  1

Spring
NURS344  Wellness/Health Assessment  2
NURS312  Pathophysiology  4
TOTAL  6

Senior Year

Summer
NURS441  Learning Lab II  1
NURS442  Community Health Nursing  3
OR
NURS411  * Nursing Elective/Topics in Health Care Delivery  3
TOTAL  4

Fall
NURS442  Community Health  3
OR
NURS411  *Nursing Elective/Topics in Health Care Delivery  3
NURS405  Nursing Research  2
TOTAL  5

Spring
NURS446  Leadership/Organizational Behavior  2
NURS443  *BRN Role Practicum  3
NURS445  Learning Lab III  1
TOTAL  6

Total Nursing Credits = 29
The BRN Program must be completed within five years after admission to the BRN major.

*BRN/MS Fast Track Substitutions:

- NURS411 ↔ NURS812 or Graduate Level Nursing Elective
  (3 cr.) (2 cr.) (3 cr.)
- NURS443 ↔ Graduate Level Clinical Course
  (3 cr.) (4 cr.)
Honors Degree in Applied Nutrition, in the College of Human Resources. The recipient must complete:

1. All requirements for the Bachelor of Science Degree in Applied Nutrition.
2. All of the University's generic requirements for the Honors Degree.

Honors Degree in Dietetics, in the College of Human Resources. The recipient must complete:

1. All requirements for the Bachelor of Science Degree in Dietetics.
2. All of the University's generic requirements for the Honors Degree.

Honors Degree in Nutritional Sciences, in the College of Human Resources. The recipient must complete:

1. All requirements for the Bachelor of Science Degree in Nutritional Sciences.
2. All of the University's generic requirements for the Honors Degree.

Honors Degree in Coordinated Undergraduate Dietetics, in the College of Human Resources. The recipient must complete:

1. All requirements for the Bachelor of Science Degree in Coordinated Undergraduate Dietetics.
2. All of the University's generic requirements for the Honors Degree.

Honors Degree in Hotel, Restaurant and Institutional Management, in the College of Human Resources. The recipient must complete:

1. All requirements for the Bachelor of Science Degree in Hotel, Restaurant and Institutional Management.
2. All of the University's generic requirements for the Honors Degree.
### DEPARTMENT OF NUTRITION AND DIETETICS

#### HONORS DEGREE PROGRAMS

**NOTE:** Student advisement will be administered by a faculty member designated as Honors Program Coordinator.

<table>
<thead>
<tr>
<th>MAJOR</th>
<th>DEGREE</th>
<th>G.P.A. Required</th>
<th>60 CR 300+ Level</th>
<th>12 CR</th>
<th>6 CR HONORS</th>
<th>12 CR</th>
<th>HONORS THESIS/PROJECT 6 CR</th>
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<td>Required: UNIV 401 - 3 cr*</td>
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<td></td>
<td>Additional Required: UNIV 401 - 3 cr</td>
<td>Select 6 cr from: NIDT 222 - 1 cr</td>
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<td>UNIV 490 or 491 - 3 cr (Tutorial)</td>
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<td>UNIV 402 - 3 cr</td>
<td>NIDT 400 - 3 cr</td>
<td>CHER 103 - 4 cr</td>
<td>UNIV 495 - 3 cr (Seminar)</td>
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<td></td>
<td>UNIV 490 or 491 - 3 cr</td>
<td>NIDT 401 - 3 cr</td>
<td>CHER 104 - 4 cr</td>
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<td>*can also count as NIDTxxx (300+) credits</td>
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<td>UNIV 495 - 3 cr</td>
<td>NIDT 445 - 3 cr</td>
<td>BISC 201 - 4 cr</td>
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<td>SOC 201 - 3 cr</td>
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| Dietetics | B.S. H.R. | 3.4             | Standard curriculum provides 39 cr | Required: NIDT 200 - 3 cr | Suggested Honors Courses: ENGL 110 - 3 cr | Required: UNIV 401 - 3 cr |
|           |          |                 | Additional Required: UNIV 401 - 3 cr | Select 9 cr from: NIDT 222 - 1 cr |               | UNIV 490 or 491 - 3 cr (Tutorial) |
|           |          |                 | UNIV 402 - 3 cr | NIDT 321 - 3 cr | CHER 103 - 4 cr | UNIV 495 - 3 cr (Seminar) |
|           |          |                 | UNIV 490 or 491 - 3 cr | NIDT 322 - 4 cr | CHER 104 - 4 cr |               |
|           |          |                 | UNIV 495 - 3 cr | NIDT 400 - 3 cr | BISC 207 - 4 cr |               |
|           |          |                 | Select 9 cr from: | NIDT 401 - 3 cr | ECON 151 - 3 cr |               |
|           |          |                 | BISC 406/418 - 4 cr | NIDT 421 - 2 cr | SOC 201 - 3 cr |               |
|           |          |                 | Restricted electives | NIDT 440 - 4 cr | PSY 201 - 3 cr |               |
|           |          |                 | Free electives | | IFST 221 - 3 cr |               |
|           |          |                 | Total = 60 cr | | Others from University | |
|           |          |                 |               | | Honors Program Catalog | |
### DEPARTMENT OF NUTRITION AND DIETETICS

#### HONORS DEGREE PROGRAMS

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<table>
<thead>
<tr>
<th>MAJOR</th>
<th>DEGREE</th>
<th>G.P.A. Required</th>
<th>60 CR 300+ Level</th>
<th>12 Cr Major</th>
<th>30 CR HONORS</th>
<th>12 Cr 300+ Level</th>
<th>HONORS THESIS/PROJECT 6 Cr</th>
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*Can also count as NIDTxxx (300+) credits*
## Department of Nutrition and Dietetics

### Honors Degree Programs

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<table>
<thead>
<tr>
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<th>DEGREE</th>
<th>G.P.A. Required</th>
<th>60 CR 300+ Level</th>
<th>12 Cr Major</th>
<th>30 Cr Honors</th>
<th>12 Cr 300+ Level</th>
<th>Honors Thesis/Project 6 Cr</th>
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<td>Others from University Honors Program Catalog</td>
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</tbody>
</table>
April 20, 1992

MEMORANDUM

TO: Undergraduate Studies Committee
FROM: Jack L. Smith, Chair
SUBJECT: Honors Degree Proposal

I am in agreement for the Undergraduate Studies Committee to go forward with the proposal for an Honors Degree within the Department of Nutrition and Dietetics and for implementation, we will not require any additional resources in terms of funds and faculty.

JLS/pb
October 9, 1992

MEMORANDUM

TO: Ms. Cindy Waksmonski  
    College of Arts & Science

FROM: Cort J. Willmott, Chair  
      Department of Geography

SUBJECT: Proposal for a New Honors Degree in Geography  
         AND IN GEOGRAPHY EDUCATION

Enclosed is a proposal for a new Honors B.A. Degree in Geography,* in the College of Arts and Science. It already has been approved by the Department and the University’s Honors Program and, therefore, we would like you to route it for A&S Senate and ultimately University approval. Please also expedite this proposal as we have a very fine Honors student in the Department who we would like to receive this Honors B.A. in Geography at the close of the Spring (1992-93) semester.

Thank you in advance for your thoughtful and prompt attention to our proposal. Please do not hesitate to contact me if questions arise or additional information is needed.

CJW/js
Enclosure
cc: Geography Faculty
    Mary Richards
    Robert Brown

* AND IN GEOGRAPHY EDUCATION
HONORS B.A. in Geography

The recipient must complete:

1. All requirements for the B.A. in Geography or BA in Geography Education. (see Handbook for details).

2. All the University's generic requirements for the Honors Degree.

Of the 12 Honors credits in Geography (Section II.C.1 of the University's generic requirements for the Honors Degree), at least six shall be beyond those used to satisfy the minimum Geography (major) or requirements. These six shall be chosen from 400/600 level courses and one of these courses must be G445/645 if it was not already used to satisfy the major requirements.

The foregoing conforms with the simplified format for Honors Degree tracks in use since 1990-91.

Cort J. Willmott,  
Chair, Geography Department  

Robert F. Brown,  
Director, University Honors Program  

10/6/92  
Date  

10/6/92  
Date
February 1, 1993

To: University Undergraduate Program Committee  
Chairperson, Bonnie Scott

From: Kate Conway-Turner  
Director, Women's Studies Program

Re: Projections for a Major in Women's Studies

Considerable interest in a major in Women's Studies has been shown by students who are presently women studies minors, students in women's studies courses, and students who would like to obtain a double major in Women's Studies and another discipline.

Based on the level of interest that students have demonstrated and the present patterns of women's studies majors within the region, we would anticipate that at the end of the first year we would have about 10 Women's Studies majors. Presently we have 50-60 minors and have had a minor since 1976. The present staff can adequately handle the present minors and the anticipated majors for this program. The mechanisms are in place and there is no anticipated need for greater resources than are presently required for the program and the minor in Women's Studies. With the availability of a Women's Studies major, we anticipate slow growth in the minors as students are able to choose to acquire a major in this discipline. Thus, we feel a reasonable projection for five years post the initiation of a Women's Studies major would be 60-75 minors and 20-24 majors.

The advisement for the minors is presently performed by the coordinator of the Women's Studies Program. The advisement of the majors will be executed by the coordinator and the director of Women's Studies. The advisement of this number of majors is less than the number of students per advisor in most majors throughout the university. Although all freshmen advisement would be done within the Women's Studies Program, some use of cross-listed faculty members as advisors may be utilized in special cases.

The Women's Studies Program at this time has no desire to become a department. The excellent part-time faculty and the rich multi-disciplinary faculty teaching cross-listed courses provide a rich, talented, and diverse faculty that allows the Women's Studies program to be truly inter-disciplinary. This creates the blend that permits us to offer our students both the theoretical understanding of gender and the practical ramifications of gender as it affects the lives of women.
Proposal for a Major in Women's Studies
June 19, 1992

1. Introduction

A pioneer among Women's Studies programs, ours at the University of Delaware is widely respected. With its distinguished twenty-one year record as an interdisciplinary specialization, it is long overdue for the status of an academic major.

Women's Studies is now an established program at 621 colleges and universities in the United States, and a major at 187 including many of our neighboring institutions -- Temple, University of Pennsylvania, and Penn State, for example. The introduction of the Women's Studies major at the University of Delaware will therefore enable our students access to a credential already available at many other institutions of higher education.

It is not difficult to see why the major has become so valued. Women's Studies has led the way in academic multicultural studies and is an invaluable theoretical and practical introduction to the curriculum of the future. Including women's experiences in the curriculum has challenged theories and assumptions in nearly every discipline -- in arts and humanities, in the social sciences, and in the natural and physical sciences. For example, feminist criticism has broadened the ways in which creativity is assessed; new developments in social analysis have transformed perspectives on sex and gender; and biological research is re-investigating the role and structure of females of all species.

With women's lives and contributions made central to study and research, comparisons with men's lives and achievements have arisen and made possible a new, more balanced view of humanity. Finally, though its concern with gender as a category paralleling race and class, Women's Studies has helped stimulate interest in the diversification of the academy.

2. History of Program

We offered our first course in Women's Studies at the University of Delaware in 1971, shortly after the first Women's Studies course was offered in the United States. Subsequently, with the hiring of its first Director in 1974, the program received institutional recognition. Our minor was first offered in 1976.

Course offerings, student enrollments, and academic enrichment programs in Women's Studies have steadily increased. In each of the years since 1989, we have offered an average of 65 undergraduate courses in Women's Studies; an average of 1885 students per year enrolled in our courses. During the past year, our number of minors has increased by 100%. (See Appendix A for course descriptions.)
Six on-going lecture series and conferences, in addition to numerous individual lectures, conferences and workshops, have brought to our campus a wide array of research, scholarship, and cultural events focused on women's and gender issues. Many students have repeated our lecture-series courses, since the content differs each semester. Of course, the Women's Studies Program will continue its strong service role after the major becomes available. (These programs are described in Section 3-E.)

Finally, a word about past students who have taken a minor in Women's Studies. We count among them many who have entered graduate and law schools, including a Rhodes Scholar. Subsequently they have gained entry into many fields, for example, business, law, social work, teaching, and public administration.

3. **Curriculum**

The major at the University of Delaware is designed to stand on its own as a student's single major, or to be a second major for students specializing in virtually any other discipline. It consists of 30 credits and gives students a comprehensive introduction to women's studies and its relationship to the research and scholarship of many disciplines.

Courses for the major are divided into three groups: a core curriculum consisting of introductions to public issues, feminist theory, and a selection of courses on women's issues in the humanities, social sciences and sciences; a specialization within one discipline or interest area; and electives. These requirements consist of:

A. **University Requirements.** As listed in catalogue.

B. **College Requirements.** As listed in catalogue.

C. **Major Requirements.**

1. **Introductory Courses:**

   WOMS 201: Introduction to Women's Studies  
   WOMS/PHIL 216: Introduction to Feminist Theory  


2. Distribution Requirements:

6 credits in Women's Studies courses cross-listed with history and/or humanities departments 6

6 credits in Women's Studies courses cross-listed with social science departments. 6

3 credits in a Women's Studies course with a natural science focus 3

All Women's Studies majors must take at least 6 Women's Studies credits at the 400-level or higher, and can count only 9 credits at the 200-level toward the minimum number of credits for the major.

3. Electives:

9 additional credits in courses in Women's Studies or cross-listed to Women's Studies 9

TOTAL CREDITS 30

4. Resources

A. Faculty: Women's Studies courses are taught by faculty whose appointments are specifically in Women's Studies and by faculty in departments whose courses are cross-listed with Women's Studies. Among these faculty are women and men with national and international reputations, both for their feminist research and scholarship, and for their work focused on other issues. In addition, professionals in other fields teach courses through Continuing Education and Special Sessions. Appendix B provides selected biographical sketches of faculty who have recently taught courses in Women's Studies.

B. Upper-division courses: Because of the commitment of its current faculty, the Program is able to offer a wide array of upper-division courses. During each two year period from Winter 1988 through Fall 1991 (88-89, 89-90, 90-91), our Program offered over sixty upper-level courses. This consistent supply of upper-level offerings dates from the early 1980's. Since then,
many Women's Studies courses have appeared with great regularity, as appended course brochures indicate. (See Appendix C.)

C. Administrative continuity: Women's Studies has sponsored an interdisciplinary program and undergraduate minor since the mid-1970's, has served many BALS/Women's Studies majors since 1988, and has offered academic enrichment projects for more than twenty years. Since 1981, the Program has been staffed by a faculty director (half-time), a program coordinator (full-time), a secretary (full-time), and work-study students.

In addition, the Program has an Advisory Committee consisting of faculty, undergraduate and graduate student representatives, and representatives from other relevant units such as the University Library and the Office of Women's Affairs. These individuals also oversee a number of standing committees.

D. Library: "The University of Delaware Library is well able to support a major in Women's Studies. In conjunction with the Women's Studies minor (begun in 1976), and also because of the interdisciplinary nature of the subject, the Library has been collecting seriously in this area for the past 15 years. In addition, materials of interest to Women's Studies have been routinely collected in virtually every discipline which the Library supports and especially in the humanities and social sciences." --- Susan Brynteson, Director, Morris Library. (See Appendix D for full text of the letter and supporting materials.)

5. Academic enrichment programs:

A. Research on Women: First offered in 1976, this noontime lecture series and one-credit course is held in the Student Center each fall. It features 13 lectures by on-campus faculty, staff and, occasionally, students. Class enrollment is approximately 40; attendance by other students and by faculty and staff often increases the weekly audience to 70-100. (See Appendix E.)

B. Race, Ethnicity and Culture (formerly "Research on Racism"): Begun in 1984, this 13-event series and one-credit course is scheduled in the spring term of each
year and is held at noon in the Student Center. Class enrollment is about 85; audiences often reach 100 to 130. (See Appendix E.)

C. Research in Lesbian, Gay and Bisexual Studies: This new series and one-credit course was first offered in Fall 1991; it will be repeated yearly. Funded by the Honors Program, it includes seven or eight lectures, each of which is followed by extended discussions. In the first year, 25 enrolled in the course and an additional 20-30 students, faculty and staff were in attendance at each event. (See Appendix E.)

D. Women's History Month Film Series: This series and one-credit course, co-sponsored with the History department and the Honors Program, began in 1987. It consists of five films plus subsequent lectures and discussions. Audiences number 100 registered students plus additional students and people associated with the University and the community at large. (See Appendix E.)

E. Delaware Seminars in Women's Studies: Begun in 1985, this faculty development project, consists of four to six evening seminars each academic year and focuses on work-in-progress by on-campus faculty. Following or preceding dinner, a paper or project is discussed by the author, guest speakers and an audience of thirty to fifty faculty and graduate students. All faculty and graduate students are welcome at these events. Our invitation mailing list is now close to 200.

A special series within this format was introduced in 1990: Author Meets Her Readers. In these yearly events, the audience reads a recent book, and its author is our seminar guest. Our author also provides an afternoon lecture to the University community. See Appendix E for a list of the topics and participants in recent Delaware Seminars.

F. Student Research on Women Conference: Begun in 1979, and co-sponsored by the Office of Women's Affairs, this is an annual event. Graduate and undergraduate students present their research projects to an audience of faculty and interested visitors. President's Awards of $150 each are given for the best undergraduate paper and the best graduate paper. Winning papers are selected by Women's Studies' faculty and a team of
deans and other administrators. This event also provides participating students with conference experience and credentials. (See Appendix E for copies of recent programs.)

G. Other academic enrichment projects have included a high school Women's Studies conference and faculty outreach program, a Black Women's History Project which has sponsored courses and a lecture series, the co-sponsorship and co-organizing of the annual Sexual Assault Awareness Week, a Black Women Film-makers Film and Lecture Series, and an array of workshops, conferences and lectures. The Women's Studies Program is also exploring the possibility of offering a certificate program through Continuing Education. Finally, our program helps to co-sponsor many events generated by other departments.

6. Expression of interest

Demand far exceeds the availability of seats in all Women's Studies courses. For example, this past semester (Spring, 1992), close to 100 students were closed out at pre-registration, dozens of others were placed on waiting lists, and over three hundred more were turned away at the desk or by telephone during the extended registration period.

During Fall 1991, an informal survey of 398 women's studies students was conducted; 97 (24%) indicated their interest in a Women's Studies major or co-major. Currently, a student can "major" in Women's Studies only through a complex BALS application. This has, of course, produced a number of "shadow" majors, students who in effect have a Women's Studies major but an official major in another department. A selection from their comments can be found in Appendix F.

7. Expressions of support

Appendix G contains expressions of support for the establishment of a Women Studies major from unit leaders and individual faculty members.
MEMORANDUM

TO: Barbara Gates
   Acting Director
   Women's Studies Programs

FROM: Susan Brynteson
      Director of Libraries

I am responding to your memorandum of May 1, 1992 regarding the Women's Studies proposal for "a major beginning."

The University of Delaware Library is well able to support a major in Women's Studies. In conjunction with the Women's Studies minor (begun in 1976), and also because of the interdisciplinary nature of the subject, the Library has been collecting seriously in this area for the past 15 years. In addition, materials of interest to Women's Studies have been routinely collected in virtually every discipline which the Library supports and especially in the humanities and social sciences.

The Library's collection of journals in the field of Women's Studies is very strong (although it has been somewhat diminished over the past two years due to cancellations necessitated by the loss of purchasing power in the library materials budget).

All major reference sources for the field of Women's Studies continue to be acquired as published.

Over the past decade, the Library has acquired a number of important publications in microform which deal with topics of interest to Women's Studies as can be seen from the attached selected bibliography.

The Library's Special Collections also contain historical manuscript and archival resources, literary papers of 20th-century women writers, and other materials related to women, also evident on the attached listing.

I would be pleased to respond to any questions.

SB/jm
Enclosures
c: Craig Wilson, Assistant Director for Library Collections
   Susan Davi, Head, Collection Development
   Carol Rudisell, Associate Librarian, Reference Department and Library Selector for Women's Studies
Degree: Bachelor of Arts

Major: Women's Studies

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing .............................. 3
Three credits in an approved course or courses stressing .......... 3
  multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Skill Requirements
Writing................................................................. 3
A writing course involving significant writing experience
including two papers with a combined minimum of 3,000
words to be submitted for extended faculty critique of
both composition and content. This course must be taken in
a student's junior or senior year. Appropriate writing
courses are normally designated in the semester's
Registration Booklet.

Foreign Language .................................................. 0-12
Completion of the intermediate-level course (107 or 112) in
a given language. Students with four or more years of high
school work in a single foreign language may attempt to
fulfill the requirement in that language by taking an
exemption examination.

Mathematics:
MATH 114 Elementary Mathematics and Statistics ............... 3
(designed for students who do not intend to continue the
study of mathematics)

or

MATH 115 Pre-Calculus .......................................... 3
(designed for students who intend to continue the study
of mathematics)

or

One of the following:
MATH 221 Calculus I .............................................. 3
MATH 241 Analytic Geometry and Calculus A ................... 4

or

Successful performance on the college proficiency exam.

Breadth Requirements@ (see page ___)

Group A ........................................................................ 12
Understanding and appreciation of the creative arts and
humanities. Twelve credits representing at least two areas.
Group B  
The study of culture and institutions over time. Twelve credits representing at least two areas.

Group C  
Empirically based study of human beings and their environment. Twelve credits representing at least two areas.

Group D  
The study of natural phenomena through experiments and analysis. A minimum of thirteen credits representing at least two areas including a minimum of one course with an associated laboratory.

MAJOR REQUIREMENTS

Introductory Courses
WOMS 201 Introduction to Women’s Studies .......................... 3
WOMS/PHIL 216 Introduction to Feminist Theory ...................... 3

Distribution Requirements
Humanities
Six credits in Women’s Studies courses cross-listed with History and/or humanities departments chosen from the following list:
WOMS 203/PHIL 202 Contemporary Moral Problems .................... 3
WOMS/PHIL 210 Women and Religion .................................... 3
WOMS/ENGL 214 Literature and Gender .................................. 3
WOMS/EDST/HIST 290 History of Women and Education ............... 3
WOMS/ARSC 293 Honors Short Course .................................... 1
WOMS/HIST 300 Women in American History ............................ 3
WOMS/ENGL 318 Studies in Film ......................................... 3
WOMS/POSC 323 Introduction to Women and Politics .................. 3
WOMS/FLLT 324 Topics: French Literature in Translation ........... 3
WOMS/FLLT 325 Topics: German Literature in Translation .......... 3
WOMS/FLLT 326 Topics: Hispanic Literature in Translation ........ 3
WOMS/FLLT 330 Varying Authors, Themes, and Movements ........... 3
WOMS/PHIL 338 Philosophy and Gender .................................. 3
WOMS/ENGL 380 Women Writers .......................................... 3
WOMS/ENGL 381 Women in Literature .................................... 3
WOMS/ENGL 382 Studies in Multicultural Literature in English .. 3
WOMS/HIST 409 Varieties of Modern Feminism .......................... 3
WOMS/POSC 413 Problems in American Government .................... 3
WOMS/HIST 416 The American Family 1608-1900 ....................... 3
WOMS/ENGL 465 Studies in Literature Genres, Types, and Movements 3
WOMS/HIST 473 Studies in Early Modern European History ........... 3
WOMS/ENGL 480 Seminar ................................................ 3
Social Sciences
Six credits in Women’s Studies courses cross-listed with social science departments chosen from the following list:
WOMS/SOCI 206 Women and Work ........................................ 3
WOMS/SOCI 211 Men, Conflict, and Social Change ....................... 3
WOMS/LING 222 Language and Gender .................................... 3
WOMS/SOCI 307 Sociology of Sex and Gender ........................... 3
WOMS/PSYC 333 Psychology of Women .................................. 3
WOMS/CJ 350 Women and Criminal Justice ............................... 3
WOMS/ANTH 363 Women in Cross-cultural Perspective .................. 3
WOMS/SOCI 415 Race, Class, and Gender ............................... 3
WOMS/IPST 430 Teaching Family Life .................................... 3
WOMS/SOCI/GEOG/IPST 460 Women in International Development ... 3
WOMS/SOCI 607 Sociology of Sex and Gender ........................... 3

Science-Related Courses
Three credits in WOMS science-related courses chosen from the following list:
WOMS/CSCC 233 Women, Biology, and Medicine ......................... 3
WOMS/ANTH 305 The Evolution of Human Sex Roles and Reproduction .................................................. 3

Women’s Studies Elective Requirements
Nine additional credits in courses in Women’s Studies or cross-listed with Women’s Studies, selected from the following list:
WOMS 202 Introduction to International Women’s Studies .............. 3
WOMS 204 Gender and Knowledge ......................................... 3
WOMS 205 Women in the Arts and Humanities ........................... 3
WOMS 207 Women, Power, and Success .................................... 3
WOMS 212 Motherhood in Culture and Politics .......................... 3
WOMS 267 (topics vary) ..................................................... 1-3
WOMS 297 Research in Lesbian, Gay, and Bisexual Studies ............. 1
WOMS/BAMS/SOCI 298 Research in Race, Ethnicity, and Culture ...... 1
WOMS 299 Research on Women ............................................. 1
WOMS 335 Women and Mental Health ...................................... 3
WOMS 366 Independent Study .............................................. 3
WOMS 367 (topics vary) ..................................................... 1-3
WOMS 389 Topics: Women and Health Issues ................................ 3
WOMS/ARSC 390 Honors Colloquium # .................................... 3
WOMS/ARSC 392 Honors Colloquium # .................................... 3
WOMS 466 Independent Studies ............................................ 3
WOMS/PHE 484 Women in Sports .......................................... 3
WOMS 498 Internship in Women’s Studies ............................... 3

ELECTIVES
Electives

After required courses are completed, sufficient elective credits must be taken to meet the minimum credit requirements for the degree.

CREDITS TO TOTAL A MINIMUM OF ..................................... 124

* Superior figures indicate the year or years in which the course is normally taken, i.e., freshman year, sophomore year, etc.
# This requirement may be fulfilled through a course taken to complete a major, group, breadth, or elective requirements. See page ... 1
@ A course may be applied toward both the major requirement and a breadth requirement, but credits are counted only once toward the total credits for graduation.
$ Only those sections which are cross-listed with Women’s Studies.
* Course may be repeated as content varies.
NEW MAJOR IN GERMAN/POLITICAL SCIENCE

Students pursuing this major would be expected to meet the requirements specified in each department totalling 45 credits (21 in German and 24 in Political Science). In addition, students are required to participate in a semester abroad program sponsored by Foreign Languages and Literatures.

Specific requirements:

The following courses taken abroad count towards this major:

**German**

- GRMN 306 or GRMN 406
- GRMN 308
- GRMN 325
- GRMN 355 or GRMN 455
- HIST 339

**Requirements:**

**German**

- 2XX, 3XX, 4XX (6) *
- 3XX, 4XX (12) **
- 4XX (literature) (3)**

* Must be completed prior to leaving for Bayreuth. (GRMN 255 is recommended.)

** This 400-level literature course must be taken on the Newark campus.

**Political Science**

- POSC 441

- POSC 105 (or other required (3) intro courses)
- POSC 240 (3)
- POSC 270 (3)
- POSC 310 (3)
- POSC 441 or POSC 442 (3)
- 3 additional courses at 300 or 400-level with at least 2 at the 400-level and at least 2 in the area of International Relations. (9)

21

To earn a B.A. degree in Political Science and Foreign Languages and Literature (German Studies), a student is required to participate in the University of Delaware Semester Program in Bayreuth and to complete the designated courses listed above, and any prerequisites (e.g., for admission 200-level German courses), with no grade below a C. The departments of Political Science and International Relations and Foreign Languages and Literatures will jointly make decisions regarding admission of students to the program and recommendations for financial aid.

* OR THE EQUIVALENT
NEW MAJOR IN SPANISH/POLITICAL SCIENCE

Students pursuing this major would be expected to meet the requirements specified in each department totalling 45 credits (21 in Spanish and 24 in Political Science). In addition, students are required to participate in a semester abroad program sponsored by Foreign Languages and Literatures.

Specific requirements:

The following courses taken abroad count towards this major:

**Spanish**

SPAN 306 or SPAN 406
SPAN 308
SPAN 325 or SPAN 326
SPAN 355 or SPAN 455
HIST 339

**Requirements:**

**Spanish**

2XX, 3XX, 4XX

3XX, 4XX

4XX (literature)

* Must be completed prior to leaving for Granada. (SPAN 255 is recommended.)

** This 400-level literature course must be taken on the Newark campus.

**Political Science**

POSC 441

To earn a B.A. degree in Political Science and Foreign Languages and Literature (Spanish Studies), a student is required to participate in the University of Delaware Semester Program in Granada* and to complete the designated courses listed above, and any prerequisites (e.g., for admission 200-level Spanish courses), with no grade below a C. The departments of Political Science and International Relations and Foreign Languages and Literatures will jointly make decisions regarding admission of students to the program and recommendations for financial aid.

* OR THE EQUIVALENT
NEW MAJOR IN FRENCH/POLITICAL SCIENCE

Students pursuing this major would be expected to meet the requirements specified in each department totalling 45 credits (21 in French and 24 in Political Science). In addition, students are required to participate in a semester abroad program sponsored by Foreign Languages and Literatures.

Specific requirements:

The following courses taken abroad count towards this major:

<table>
<thead>
<tr>
<th>French</th>
<th>Political Science</th>
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<tbody>
<tr>
<td>FREN 306 or FREN 406</td>
<td>POSC 441</td>
</tr>
<tr>
<td>FREN 308</td>
<td></td>
</tr>
<tr>
<td>FREN 310, FREN 311, or FREN 312</td>
<td></td>
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<tr>
<td>FREN 355 or FREN 455</td>
<td></td>
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<tr>
<td>HIST 339</td>
<td></td>
</tr>
</tbody>
</table>

Requirements:

<table>
<thead>
<tr>
<th>French</th>
<th>Political Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>2XX, 3XX, 4XX</td>
<td>POSC 105 (or other required (3) intro courses)</td>
</tr>
<tr>
<td>3XX, 4XX</td>
<td>POSC 240</td>
</tr>
<tr>
<td>4XX (literature)</td>
<td>POSC 270</td>
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<td>POSC 310</td>
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<td></td>
<td>POSC 441 or POSC 442</td>
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<td></td>
<td>3 additional courses at 300</td>
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<td>or 400-level with at least</td>
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<td>2 at the 400-level and at</td>
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<td>least 2 in the area of</td>
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<tr>
<td></td>
<td>International Relations.</td>
</tr>
<tr>
<td></td>
<td>(9)</td>
</tr>
</tbody>
</table>

To earn a B.A. degree in Political Science and Foreign Languages and Literature (French Studies), a student is required to participate in the University of Delaware Semester Program in Caen and to complete the designated courses listed above, and any prerequisites (e.g., for admission 200-level French courses), with no grade below a C. The departments of Political Science and International Relations and Foreign Languages and Literatures will jointly make decisions regarding admission of students to the program and recommendations for financial aid.

* OR THE EQUIVALENT
TO:    Professor Bonnie K. Scott, Chair
       Coordinating Committee on Education
       University Faculty Senate

FROM:  John J. Hurt, Acting Chair
       Department of Foreign Languages and Literatures

SUBJECT: Financial Aid and the Proposed Interdisciplinary Majors
         in FLL and Political Science

February 15, 1993

To answer a question raised in this Committee last week, I submit the following.

Scholarship funds for study abroad programs are made available to this Department by Lawrence Donnelley, Associate Provost for International Programs and Special Sessions. In a memorandum of April 24, 1991 to Richard Zipser, Associate Provost Donnelley committed himself to providing scholarships for these programs—subject to all the usual reservations about University budgetary exigencies and emergencies.

Once Professor Donnelley confides scholarships to this Department, we in turn award them to individual applicants based upon their academic merit and their financial need. I would like to stress the existence, and the application, of the latter criteria. In addition, I am informed that a student with demonstrated financial need is also able to apply for additional University support when he or she is accepted into one of these programs.

I hope that these comments will be of help.
International Honors Certificate for Students in the Department of Foreign Languages and Literatures (Spanish) or the Department of Political Science and International Relations

This program requires participation in a semester abroad program.

18 credits of Honors courses at the 300-level or above are required for this interdisciplinary certificate, 9 in Spanish, and 9 in Political Science or in International Relations.

Specific Requirements:

The following courses taken abroad count towards this certificate (and are considered Honors courses for the purposes of this certificate):

**Spanish**
- SPAN 308
- SPAN 355
- SPAN 455
- ARTH 339

**Political Science and International Relations**
- POSC 441
- HIST 339

The following courses taken on campus count towards this concentration:

- SPAN 300- or 400-level Honors (SPAN 325 Honors recommended except if used for Foreign Language Certificate)

300-level Political Science or approved International Relations Honors

To earn a B.A. degree in Political Science, International Relations or Foreign Languages and Literatures (Spanish Studies) with an International Honors Certificate, a student would be required to attend the University of Delaware Semester Program in Granada and to complete the designated Honors courses listed above, and any prerequisites (e.g., two 200-level Spanish courses prior to leaving for Granada), with no grade below a B-. At the time of graduation, the student would also be required to have a 3.00 cumulative grade point average.

Honors recognition would come in the form of the International Honors Certificate, which would generally be awarded during an appropriate Honors ceremony (e.g., on Honors Day) and recorded on the recipient's official transcript. The International Honors Certificate could be earned in addition to the General Honors Certificate and the Honors Foreign Language Certificate. Honors courses taken in the sequence leading to the International Honors Certificate could also be applied toward those required for the General Honors Certificate or for the new B.A. degrees in Political Science and International Relations and Foreign Languages and Literatures.

* OR THE EQUIVALENT
International Honors Certificate for Students in the Department of Foreign Languages and Literatures (German) or the Department of Political Science and International Relations

This program requires participation in a semester abroad program.

18 credits of Honors courses at the 300-level or above are required for this interdisciplinary certificate, 9 in German, and 9 in Political Science or in International Relations.

Specific Requirements:

The following courses taken abroad count towards this certificate (and are considered Honors courses for the purposes of this certificate):

**German**

- GRMN 308
- GRMN 355
- GRMN 455
- ARTH 339

**Political Science and International Relations**

- POSC 441
- HIST 339

The following courses taken on campus count towards this concentration:

- GRMN 300- or 400-level Honors
- (GRMN 325 Honors recommended except if used for Foreign Language Certificate)

- 300-level Political Science or approved International Relations Honors

To earn a B.A. degree in Political Science, International Relations or Foreign Languages and Literatures (German Studies) with an International Honors Certificate, a student would be required to attend the University of Delaware Semester Program in Bayreuth* and to complete the designated Honors courses listed above, and any prerequisites (e.g., two 200-level German courses prior to leaving for Bayreuth), with no grade below a B-. At the time of graduation, the student would also be required to have a 3.00 cumulative grade point average.

Honors recognition would come in the form of the International Honors Certificate, which would generally be awarded during an appropriate Honors ceremony (e.g., on Honors Day) and recorded on the recipient's official transcript. The International Honors Certificate could be earned in addition to the General Honors Certificate and the Honors Foreign Language Certificate. Honors courses taken in the sequence leading to the International Honors Certificate could also be applied toward those required for the General Honors Certificate or for the new B.A. degrees in Political Science and International Relations and Foreign Languages and Literatures.

* OR THE EQUIVALENT
International Honors Certificate for Students in the Department of Foreign Languages and Literatures (French) or the Department of Political Science and International Relations

This program requires participation in a semester abroad program.

18 credits of Honors courses at the 300-level or above are required for this interdisciplinary certificate, 9 in French, and 9 in Political Science or in International Relations.

Specific Requirements:

The following courses taken abroad count towards this certificate (and are considered Honors courses for the purposes of this certificate):

**French**

- FREN 308
- FREN 355
- FREN 455
- ARTH 339

**Political Science and International Relations**

- POSC 441
- HIST 339

The following courses taken on campus count towards this concentration:

- FREN 300- or 400-level Honors
- (FREN 310, FREN 311 or FREN 312 Honors recommended except if used for Foreign Language Certificate)
- 300-level Political Science or approved International Relations Honors

To earn a B.A. degree in Political Science, International Relations or Foreign Languages and Literatures (French Studies) with an International Honors Certificate, a student would be required to attend the University of Delaware Semester Program in Caen and to complete the designated Honors courses listed above, and any prerequisites (e.g., two 200-level French courses prior to leaving for Caen), with no grade below a B-. At the time of graduation, the student would also be required to have a 3.00 cumulative grade point average.

Honors recognition would come in the form of the International Honors Certificate, which would generally be awarded during an appropriate Honors ceremony (e.g., on Honors Day) and recorded on the recipient's official transcript. The International Honors Certificate could be earned in addition to the General Honors Certificate and the Honors Foreign Language Certificate. Honors courses taken in the sequence leading to the International Honors Certificate could also be applied toward those required for the General Honors Certificate or for the new B.A. degrees in Political Science and International Relations and Foreign Languages and Literatures.

* OR THE EQUIVALENT
September 10, 1992

TO: Heyward Brock
    Associate Dean, Arts and Science

FROM: John Hurt
    Acting Chair, Department of Foreign Languages and Literatures

SUBJ: Classical Studies Major

I am pleased to forward and to endorse the Department's proposal for a Classical Studies Major.

There is no need to defend the concept of such a major, since, as you know, all our disciplines and courses derive in some sense from classical learning.

But I would like to call attention to the interdisciplinary nature of this proposal, which draws upon the talents and expertise of faculty in four related departments. I think it has been very carefully put together.

We look forward to the comments of the Educational Affairs Committee.
Classical Studies Major

The purpose of the classical studies major is to integrate those areas of study which explore the ancient Hellenic and Greco-Roman world.

Since the character of the ancient world is so different from our time, language, literature and history are essential for students of classical antiquity. So too the peoples of antiquity can not be fully understood without knowledge of their visual arts or without awareness of the manner in which early civilizations develop and are rediscovered (Anthropology). Similarly courses such as Biblical and Classical Literature (ENGL 202), Classical Mythology (FLLT 316) and Ancient Philosophy (PHIL 301) are fundamental for knowledge of the ancient world and study of the humanities as well.

At the University of Delaware, as at most universities across the nation, departmental boundaries have separated those areas of study which are germane to undergraduate study in the classics. A solution to this problem -- found, for example, at Michigan State University, Virginia Polytechnic Institute and the College of William and Mary -- is an interdisciplinary major which combines study of classical languages and the areas listed above.

Such a major is appropriate for a comprehensive university, would foster the transmission of humanistic concepts central to Western civilization, would provide training essential for those interested in graduate work in any of the areas listed above and would also prepare undergraduates for a variety of areas of employment and professional studies as do other liberal arts majors. This particular major is designed so that able students interested in related areas might also spend a significant portion of their time studying Anthropology or Art History or English or History or Philosophy. The major is not so filled with requirements that it would prevent a double major.
Degree: Bachelor of Arts
Major: Classical Studies

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing .......................... 3
Three credits in an approved course or courses stressing ....... 3  
multicultural, ethnic, and/or gender-related content.

COLLEGE REQUIREMENTS

Skill Requirements
Writing ................................................................. 3  
A writing course involving significant writing experience
including two papers with a combined minimum of 3,000
words to be submitted for extended faculty critique of
both composition and content. This course must be taken in
a student’s junior or senior year. Appropriate writing
courses are normally designated in the semester’s
Registration Booklet.

Foreign Language ....................................................... 0-12
Completion of the intermediate-level course (107 or 112) in
a given language. Students with four or more years of high
school work in a single foreign language may attempt to
fulfill the requirement in that language by taking an
exemption examination.

Mathematics:
MATH 114 Elementary Mathematics and Statistics ........... 3
(designed for students who do not intend to continue the
study of mathematics)

or

MATH 115 Pre-Calculus .............................................. 3
(designed for students who intend to continue the study
of mathematics)

or

One of the following:
MATH 221 Calculus I .................................................. 3
MATH 241 Analytic Geometry and Calculus A ..................... 4

or

Successful performance on the college proficiency exam.

Breadth Requirements® (see page ___)

Group A .................................................................. 12
Understanding and appreciation of the creative arts and
humanities. Twelve credits representing at least two areas.
Group B
The study of culture and institutions over time. Twelve credits representing at least two areas.

Group C
Empirically based study of human beings and their environment. Twelve credits representing at least two areas.

Group D
The study of natural phenomena through experiments and analysis. A minimum of thirteen credits representing at least two areas including a minimum of one course with an associated laboratory.

MAJOR REQUIREMENTS

18 Hours of Languages of Classical Antiquity, as follows:

LATN 213 Intermediate Latin I ............... 3
LATN 214 Intermediate Latin II .................. 3
LATN 2XX ........................................ 3
GREK 101 Elementary Greek I .................. 3
GREK 102 Elementary Greek II .................. 3
LATN or GREK 2XX ................................. 3

21 Hours of Disciplines Relevant to the Ancient World, as follows:

FLLT .............................................. 6
HIST .............................................. 6
ANTH ............................................. 3
ARTH ............................................. 3
PHIL ............................................. 3

To Be Chosen from the following:

ANTH 324 Early Civilizations of the Old World
ANTH 151 Myth, Religion and Art
ARTH 208 Greek and Roman Art
ARTH 405 Seminar in Ancient Art
FLLT 202 Biblical and Classical Literature (ENGL 202)
FLLT 316 Classical Mythology
FLLT 322 Antiquity Through Modern Eyes
HIST 337 Ancient Religions and Civilizations
HIST 338 Greek-Roman Sport-Recreation
HIST 340 Ancient Near East and Greece
HIST 341 Ancient Rome
PHIL 301 Ancient Philosophy
PHIL 4XX Seminar in Ancient Philosophy (various authors/topics)
ELECTIVES

Electives

After required courses are completed, sufficient elective credits must be taken to meet the minimum credit requirements for the degree.

CREDITS TO TOTAL A MINIMUM OF ...........................................124

* Superior figures indicate the year or years in which the course is normally taken, i.e., freshman year, sophomore year, etc.
# This requirement may be fulfilled through a course taken to complete a major, group, breadth, or elective requirements. See page ___.
@ A course may be applied toward both the major requirement and a breadth requirement, but credits are counted only once toward the total credits for graduation.
X Only those sections which are cross-listed with Women's Studies.
* Course may be repeated as content varies.
DATE: September 22, 1992

TO: Committee on Educational Affairs
    College of Arts and Science

FROM: Robert F. Brown  Robert F. Brown
       University Honors Program

Mary Donaldson-Evans  Mary Donaldson-Evans
       Department of Foreign Languages and Literatures

SUBJECT: Honors Degrees in Foreign Languages and Literatures

This memo accompanies documents from the Department of Foreign Languages and Literatures, dated September 17, 1992 and indicating approval of Honors Degree tracks in each of the majors offered in that department. The statement of requirements included stipulates the same pattern of Honors Degree requirements for each major.

Because the nomenclature used in the statement of requirements does not correspond exactly to the terminology employed in the current Undergraduate Catalog to identify the various majors, the purpose of this memo is to clarify for the official record just which majors it covers. The signature of Professor Mary Donaldson-Evans above, on behalf of the department committee, indicates their agreement with the accuracy of the numbered statements that follow.

1. B.A. Degrees to have Honors Degree tracks established:

<table>
<thead>
<tr>
<th>Major</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Languages and Literatures</td>
<td>Classics</td>
</tr>
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Note: The Honors Degree track will also apply to any new major or concentration comparable to the above that the Department may create in the future, unless the Department stipulates otherwise.
2. This proposal does not and need not cover the following majors, since these have already been approved for Honors Degree tracks under the primary jurisdiction of the History Department:

   B. A. Majors in History/Classics, History/French, History/German, History/Russian, History/Spanish.

3. The B.A. degree in Comparative Literature is specifically excluded from this proposal.

   Either of us will be happy to provide any other information that you or further bodies of review may require. Please keep us apprised of this proposal's progress through channels.
MEMO TO: Robert F. Brown, Director
University Honors Program

FROM: Mary Donaldson-Evans, Professor
Department of Foreign Languages
and Literatures

SUBJECT: Honors B.A. in Foreign Languages and Literatures and
Foreign Language Education

As you are no doubt aware, the Department of Foreign Languages
and Literatures approved Honors B.A. degrees in Foreign Languages
and Literatures and Foreign Language Education at its last
Department meeting of the 1991-92 academic year, held on May 21,

As Chair of the Undergraduate Studies Committee last year (this
position has now been assumed by Joan Brown), I was remiss in not
passing this on to you more quickly. Please let me know if there
are any problems with format. I assume that you will then route
it through the proper channels?

Thanks for your patience.
Honors B.A. in Foreign Languages and Literatures and Foreign Language Education

(Applies to all concentrations)

The recipient must complete:

1. All requirements for the B.A. in Foreign Languages and Literatures or Foreign Language Education.

2. All the University's generic requirements for the Honors Degree.

Note:

At least six of the Honors credits in the major must be at the 300-level or above.

The Honors thesis will normally be written in the target language. With the prior approval of the thesis director and the Department Chair, the thesis may be written in English.

The foregoing is the official statement of the requirements for this Honors Degree track, in conformity with the simplified format for Honors Degree tracks in use since 1990-91.

John Hurt, Acting Chair
Department of Foreign Languages and Literatures

Robert F. Brown, Director
University Honors Program

9-17-92

Date

9-18-92

Date