A Word about the Supplement

The Bulletin Supplement is published in November and April at Prime Time to provide students with information that will help them to plan their programs and to advance register for the following semester. It contains both the schedule of Prime Time activities and a cumulative update of the 1985-87 UNDERGRADUATE BULLETIN. New courses and minors, revised major and minor requirements, and changes in academic regulations and procedures approved since the BULLETIN went to press (January 1985) are printed in the Supplement. Not every course listed in this issue of the Supplement; however, will be offered in Spring 1987; those actually being offered appear in the Class Schedule. The Supplement announces what courses that are listed in the BULLETIN as being available in Spring 1987 are not scheduled for that semester (as of October 10). By the time the spring semester begins, however, a few of these courses may become available. Special topics being offered in Spring 1987 are also announced in the Supplement.

Courses that do not appear in the BULLETIN at all are designated "NEW" in the Supplement. Courses designated "REVISED" may have had only one element changed—the title or the description or the prerequisites or the credits or the number. In many cases several of these elements are different. Descriptions and prerequisites are listed only if they have been revised. (If no prerequisite appears, it means that the prerequisite remains the same as in the BULLETIN, not that the course no longer has a prerequisite.) Expected semester of offering and course credits are shown for new courses but not for revised courses unless the credit value has been changed.

Further information about the courses and programs mentioned in the Supplement may be obtained from the departments or instructors offering them.
Prime Time Program
Prime Time is Your Time
November 12-21

Prime Time is ten days of departmental activities and advising, offered every semester before and during advance registration. It is the time when your attention is necessarily focused on your academic plans for the next semester and beyond. To plan well, you need to consult faculty members. During Prime Time, academic departments and programs schedule events and additional advising hours to maximize your contact with the faculty. You can talk formally and informally with professors about your choice of a major, a minor, course selection, graduate school, and any other questions you have relating to your academic interests and program. If you have already chosen a major, you should seek faculty advice concerning the completion of that major and University graduation requirements. You can use Prime Time to explore research opportunities, internships, study abroad, and honors programs.

You are encouraged to attend any program you find helpful or interesting. Faculty and staff of the sponsoring departments will be in attendance. Enjoy the camaraderie with them and other students.

The following schedule of faculty advising hours is for the period of Prime Time only, November 12-21. Faculty advising schedules for the weeks before and after Prime Time are posted in department offices.

Special thanks to the Stony Brook Foundation for providing funds for Prime Time open houses and events.

College of Arts and Sciences

Advancement on Individual Merit
AIM Program/EOP
Library W3520
246-4016
Discussion: "Getting the Most from Stony Brook: An Introduction to Special Academic Programs"
Thurs., Nov. 20, 2:30
AIM Conference Room, Library W3520
Advising: AIM counselors are available by appt. between 10:00-3:00, Mon. to Fri.

Africana Studies
Social & Behavioral S245
246-6737 or 632-7470
Open House: "Introducing Africana Studies"
Tues., Nov. 18, 12:00-3:00
SBS S226
Advising: Offices are in SBS
Wed., Nov. 12 and 19
10:00-11:30, C. Charles/S255
1:00-3:30, B. McAdoo/S257
1:50-2:45, C. Charles/S255
2:00-4:00, A. Baraka/S247
Thurs., Nov. 13 and 20
9:30-11:30, E. Dube/S251
11:30-12:45, L. Owens/S235
12:00-2:00, A. Baraka/S247
1:30-3:00, E. Dube/S251
Mon., Nov. 17
10:00-11:30, C. Charles/S255
1:00-3:30, B. McAdoo/S257
1:50-2:45, C. Charles/S255
Tues., Nov. 18
9:30-11:30, E. Dube/S251
11:30-12:45, L. Owens/S235
12:00-2:00, A. Baraka/S247
1:30-2:30, E. Dube/S251

Anthropology
Social & Behavioral Sciences S507
246-7726 or 632-7625
Discussion: "Anthropology at Stony Brook: Undergraduate Opportunities in the Fields of Socio-Cultural Anthropology, Archaeology, Physical Anthropology"
Tues., Nov. 18, 2:00
SBS 5th floor lobby
Open House: To follow discussion Tues., Nov. 18
Advising: Offices are in SBS
Wed., Nov. 12 and 19
1:30-3:00, L. Martin/S507
Thurs., Nov. 13 and 20
2:00-5:00, L. Martin/S507
Fri., Nov. 14 and 21
2:00-4:00, L. Martin/S507
Mon., Nov. 17
1:30-3:00, L. Martin/S507

Art
Fine Arts 2225
246-7070 or 632-7250
Open House: Tues., Nov. 18
1:00-3:00
Fine Arts Ctr., 2nd floor foyer (Art Dept. side)
Lecture: "A Few Plots," by Prof. Y. J. Bao
Tues., Nov. 18, 12:00, Fine Arts Ctr.
Exhibition: "Women Artists of the Surrealist Movement"
Tues.-Sat., Nov. 18-Jan. 10, 12:00-4:00
Fine Arts Gallery
Advising: Offices are in Fine Arts
Wed., Nov. 12 and 19
11:00-1:00, J. Guilmain/2226A
Thurs., Nov. 13 and 20
10:00-11:00, J. Guilmain/2226A
1:00-2:00, J. Guilmain/2226A
1:00-5:00, M. Pekarsky/2221
Tues., Nov. 18
10:00-11:00, J. Guilmain/2226A
10:00-12:00, A. Moskowitz/2216
1:00-2:00, J. Guilmain/2226A
1:00-5:00, M. Pekarsky/2221
2:30-4:30, A. Moskowitz/2216
Biochemistry Biological Sciences

Biochemistry-Life Sciences 450 6/22-8550
Biological Science-Life Sciences 130 6/2-8530

Advising Fair: For Prospective Biology/Chemistry Majors
Wed., Nov. 12, 1:00-3:30
Life Sciences lobby

Advising: Biological Sciences and Chemistry faculty office hours posted in Life Sciences 130.

Chemistry Engineering Chemistry

Grad Chemistry 113 632-7884

Tour and Discussion: Three tours of chemistry research labs followed by informal discussions.
Thurs., Nov. 13, 12:30, 1:30, 2:30
Chemistry Labs

Advising: Offices are in Chemistry
Wed., Nov. 12
11:00-12:00, F. Bonner/559
Thurs., Nov. 13
10:00-11:00, P. Johnson/561
Fri., Nov. 14 and 21
1:15-3:30, R. Kerber/103
Mon., Nov. 17
11:00-12:00, T. Ishida/441
Tues., Nov. 18
9:30-11:00, R. Kerber/103
Wed., Nov. 19
10:00-12:00, S. Sujeshi/575
Thurs., Nov. 20
1:30-2:30, H. Friedman/413

Comparative Literature, Classics, Judaic Studies, and Humanities

Library E4326, E4309 246-6059, 6057

Advising: Offices are in Library
Wed., Nov. 12 and 19
12:30-2:00, A. Godfrey/E4322
11:45-12:45, R. Hoberman/E4325
2:00-3:00, K. Gabbard/E4316
Thurs., Nov. 13 and 20
11:30-12:30, C. Kessner/E4330
1:00-2:00, R. Goldenberg/E4310
1:00-2:00, L. Vasvari/E4318
2:00-4:00, H. Gross/E4328
2:30-3:30, C. Lasker/E4326
Fri., Nov. 14 and 21
11:45-12:45, R. Hoberman/E4325
12:30-2:00, A. Godfrey/E4322
Mon., Nov. 17
10:30-11:30, K. Gabbard/E4316
11:45-12:45, R. Hoberman/E4325
12:30-2:00, A. Godfrey/E4322
Tues., Nov. 18
11:30-12:30, C. Kessner/E4330
1:00-2:00, R. Goldenberg/E4310
2:30-3:30, C. Lasker/E4326
4:00-5:30, L. Vasvari/E4318

Earth and Space Sciences

Earth and Space Sciences 245
246-6541 or 632-2199

Discussion: "Career Opportunities in Geology and Astronomy"
Wed., Nov. 19, 4:30
ESS 123

Advising: Offices are in ESS
Wed., Nov. 12
11:00-1:00, C. Thurber, GEO/356
4:00-5:30, J. Hardorp, AST/440
Thurs., Nov. 13 and 20
2:00-4:00, C. Thurber, GEO/356
4:00-5:30, J. Hardorp, AST/440
Fri., Nov. 14
1:00-2:00, D. Davis, ESS/354
Mon., Nov. 17
11:00-1:00, C. Thurber, GEO/356
1:00-3:00, D. Davis, ESS/354
Tues., Nov. 18
3:00-4:00, C. Thurber, GEO/356
4:00-5:30, J. Hardorp, AST/440
Wed., Nov. 19
1:00-3:00, D. Davis, ESS/354

Economics

Social & Behavioral Sciences S601
246-5078, 5070

Open House: "Answers about the Major, Spring Courses"
Wed., Nov. 12, 3:30-5:00

Advising: Offices are in SBS
Wed., Nov. 12
10:30-11:30, C. Staley/N639
10:30-11:30, T. Coleman/S629
11:30-12:30, W. Dawes/S641
2:00-3:00, M. Kristein/N641
Thurs., Nov. 13
1:00-2:15, L. Locay/N651
2:30-3:30, J. Anton/N645
Fri., Nov. 14 and 21
9:30-10:30, M. Kristein/N641
10:30-11:30, C. Staley/N639
Mon., Nov. 17
10:30-11:30, T. Coleman/S629
10:30-11:30, C. Staley/N639
2:00-3:00, M. Zweig/S645
3:00-4:00, J. Brown/N617
Tues., Nov. 18
1:00-2:15, L. Locay/N651
1:00-2:00, W. Dawes/S641
1:30-3:30, J. Hause/N613
2:30-3:30, J. Anton/N645
Wed., Nov. 19
10:30-11:30, C. Staley/N639
11:30-12:30, W. Dawes/S641
2:00-3:00, M. Zweig/S645
3:00-4:00, J. Brown/N617
Thurs., Nov. 20
1:00-2:00, L. Locay/N651
2:30-3:30, J. Anton/N645

English

Humanities 259
246-5091 or 623-0602

Open House: Wed., Nov. 12, 1:00-2:00
Faculty Lounge, Humanities 283

Discussion: "What Can You Do with an English B.A.?”
Wed., Nov. 12, 2:00-3:00
Poetry Center, Humanities 239

Reading: “Poetry by Faculty and Students”
Wed., Nov. 12, 11:30-1:00
Poetry Center, Humanities 239

Advising: Offices are in Humanities
Wed., Nov. 12
10:00-5:00, R. Jenkins/259
Thurs., Nov. 13 and 20
10:00-2:00, TBA/see 259 for schedule
Fri., Nov. 14
10:00-3:00, R. Jenkins/259
Mon., Nov. 17
10:00-5:00, R. Jenkins/259
Tues., Nov. 18
10:00-2:00, TBA/see 259 for schedule
Wed., Nov. 19
10:00-4:00, R. Jenkins/259
Fri., Nov. 21
10:00-2:00, R. Jenkins/259

Federated Learning Communities

Educational Communications Center 237
246-6107, 8611

Advising: Offices are in ECC 237 Daily, 9:00-5:00

Foreign Languages

French and Italian
Library N4004
246-8676 or 632-7440

Discussion: "Majoring and Minoring in French and Italian"
Mon., Nov. 17, 1:00
Library N4006

Advising: Wed., Nov. 12 and 19
10:00-12:00, M. Whitney/Lib N4004
10:30-12:30, A. Forti-Lewis/Lib N4063
11:00-12:00, E. Riggs/SBS S117
3:00-5:00, H. Allentuch/Lib N4070
Thurs., Nov. 19
9:15-10:00, C. Franco/Lib N4071
11:30-1:00, C. Franco/Lib N4071
11:30-3:00, M. Whitney/Lib N4004
Fri., Nov. 14
10:15-11:40, H. Allentuch/Lib N4070
10:30-12:30, A. Forti-Lewis/Lib N4063
11:00-12:00, E. Riggs/SBS S117
Mon., Nov. 17
10:15-11:40, H. Allentuch/Lib N4070
10:30-12:30, A. Forti-Lewis/Lib N4063
11:00-12:00, E. Riggs/SBS S117
Tues., Nov. 18
9:15-10:00, C. Franco/Lib N4071
11:30-1:00, C. Franco/Lib N4071
11:30-3:00, M. Whitney/Lib N4004
Fri., Nov. 21
10:15-11:40, H. Allentuch/Lib N4070
10:30-12:30, A. Forti-Lewis/Lib N4063
Germanic and Slavic Languages
Library N3009
246-6830 or 632-7360

Advising: Offices are in Library
Wed., Nov. 12 and 19
9:30-11:00, J. Russell/N3009
12:00-1:00, T. Kerth/N3006
Thurs., Nov. 13 and 20
9:30-11:00, J. Russell/N3009
12:30-2:15, T. Kerth/N3006
2:30-4:00, L. Vogel/N3088
Fri., Nov. 14 and 21
9:30-11:00, J. Russell/N3009
12:00-1:45, T. Kerth/N3006
Mon., Nov. 17
9:30-11:00, J. Russell/N3009
12:00-1:00, T. Kerth/N3006
Tues., Nov. 18
9:30-11:30, H. Lemay/S317
11:30-12:15, P. Alin/S333
Thurs., Nov. 20
9:00-11:30, H. Lemay/S317
11:30-12:15, P. Alin/S333

International Programs
Central Hall 105
246-77711 or 632-0447

Discussion: "Study Abroad: How to Apply and Where to Go"
Wed., Nov. 12, 2:00-4:00
Central Hall 105
Advising: Office is in Central Hall 105
Daily advising, M. Giron

Linguistics
Social & Behavioral Sciences N511
246-3452 or 632-7777

Advising: Offices are in SBS
Wed., Nov. 12 and 19
10:30-11:30, M. Aronoff/N509
11:00-12:00, D. Finer/N541
1:00-2:00, F. Anshen/N521
2:00-3:00, E. Broselow/N525
Thurs., Nov. 13 and 20
10:30-12:00, M. Aronoff/N509
1:00-2:00, E. Broselow/N525
1:30-3:30, S. Ansara/N521
Fri., Nov. 14 and 21
11:00-12:00, E. Broselow/N525
12:00-1:00, D. Finer/N541
Mon., Nov. 17
10:30-11:30, M. Aronoff/N509
11:00-12:00, E. Broselow/N525
1:00-3:00, F. Anshen/N513
Tues., Nov. 18
11:30-12:30, A. Carton/N517
2:30-3:30, S. Ansara/N521

Mathematics
Mathematics P143
246-6520

Discussion and Film: "Career Opportunities in the Mathematical Sciences" by Prof. Geller
Thurs., Nov. 13, 4:00
Mathematics P131

Advising: Faculty are available in Mathematics P143
Wed., Nov. 12 and 19
12:50-2:50
Thurs., Nov. 13 and 20
1:00-2:20
Fri., Nov. 14 and 21
12:50-2:50
Mon., Nov. 17
12:50-2:50
Tues., Nov. 18
1:00-2:20

Music
3304 Fine Arts Center
246-5672

Discussion: "Music: The Sounds of Non-Major and Major Courses"
Mon., Nov. 17, 3:30-5:00
Fine Arts, 1st floor lounge

Advising: Offices are in Fine Arts
Wed., Nov. 12 and 19
2:00-3:00, J. Lochhead/3330
Thurs., Nov. 13
2:30-3:30, S. Fuller/3328
Mon., Nov. 17
12:00-1:00, B.J. Layton/3318
Thurs., Nov. 18
1:00-2:00, A. Rubin/3332
2:00-4:00, S. Silver/3316
Thurs., Nov. 20
8:45-9:45, M. Cherlin/3320
Fri., Nov. 21
2:00-3:00, J. Lochhead/3330

Philosophy
Harriman 221
246-6560, 6566 or 632-7575, 7570

Discussion: "Why Study Philosophy?"
Thurs., Nov. 13, 12:00
Harriman 224

Open House: Thurs., Nov. 13, 1:00
Harriman 224

Graduate Student Talk: "Socrates' Erotic Strategy in the Symposium,"
T. Brockelman
Thurs., Nov. 13, 4:00
Harriman 224

Advising: Offices are in Harriman
Wed., Nov. 12
11:00-12:30, P. Athay/244
1:00-2:45, L. Miller/245
Thurs., Nov. 13
10:00-11:00, A. DeNicolas/247
2:00-4:00, E. Kittay/241
Fri., Nov. 14 and 21
by appt., R. Nolan/221
Mon., Nov. 17
11:00-12:00, P. Heelan/223
1:00-2:00, R. Nolan/221
Tues., Nov. 18
12:00-2:00, C. Martin/248
2:30-3:30, M. Spector/219
Wed., Nov. 19
11:00-12:00, R. Nolan/221
2:00-3:00, A. Weston/258

Physics
Physics P110
246-6580

Discussion: "Career Opportunities in Physics"
Wed., Nov. 12, 2:00-3:30
Physics C120

Advising: Offices are in Grad Physics

History
Social & Behavioral Sciences S301
246-6500 or 632-7500

Discussion: "Majoring or Minoring in History: Auntie Helen Plans Your Life"
Thurs., Nov. 13, 12:00-2:00
SBS N303

Advising: Offices are in SBS
Wed., Nov. 12 and 19
10:30-1:30, R. Lee/S329
1:00-2:00, H. Lemay/S317
2:00-4:00, M. Barnhart/N321
4:00-5:00, J. Pratt/S351
Fri., Nov. 14 and 21
10:30-1:30, R. Lee/S329
1:00-2:00, H. Lemay/S317

Normal
Political Science
Social & Behavioral Sciences N711
246-8434 or 632-7661

Open House: Wed., Nov. 12,
1:00-3:00
SBS 7th floor lobby

Advising: Offices are in SBS
Wed., Nov. 12
10:00-11:00, J. Segal/N747
10:30-12:00, M. Travis/S747
1:00-2:30, M. Mericle/N721
Thurs., Nov. 13
9:30-11:00, P. Baumann/N709
10:30-12:00, A. Abramowitz/S719
1:00-3:00, D. Moskowitz/N741
Fri., Nov. 14
9:30-10:30, A. Cover/N711
11:30-12:00, A. Cover/N711
11:45-12:40, C. Cameron/S731
Mon., Nov. 17
9:30-10:30, A. Cover/N711
11:30-12:00, A. Cover/N711
12:30-1:30, M. Lodge/N717
2:00-3:00, E. Brodkin/S733
Tues., Nov. 18
9:30-11:00, J. Enelow/S723
10:00-11:00, H. Norpoth/N731
1:30-2:30, M. Schneider/S711, N725
Wed., Nov. 19
10:00-12:00, S. Iyengar/S715
10:30-12:00, M. Travis/S747
11:30-12:00, H. Scarlow/S743
Thurs., Nov. 20
9:00-10:00, K. McGraw/S735
12:00-1:00, R. Thapa/S747
1:30-2:30, M. Schneider/S711, N725
Fri., Nov. 21
10:00-11:00, H. Norpoth/N731
10:00-12:00, S. Iyengar/S715

Workshop: "Graduate Training in Psychology"
Wed., Nov. 19, 7:30-9:30
Psychology A-137

Advising: Offices are in Psychology B
Wed., Nov. 12
2:00-3:00, A. Ross/S375
2:00-3:30, H. Waters/S356
Thurs., Nov. 13 and 20
1:00-2:00, D. Pomeranz/222
Fri., Nov. 14
2:00-3:30, H. Waters/S356
Mon., Nov. 17
2:00-3:30, H. Waters/S356
3:00-4:00, A. Ross/S375
9:00-12:00, D. Pomeranz/222
Tues., Nov. 18
2:00-3:00, A. Ross/S375
12:00-2:00, M. Peterson/252
Wed., Nov. 19
12:00-2:00, M. Peterson/252
2:00-3:30, H. Waters/S356
Fri., Nov. 21
10:00-12:00, M. Peterson/252

Religious Studies
Harriman 103
246-7783 or 632-7310

Returning Student Network
Office of Undergraduate Studies
Library E3320
246-3420 or 632-7080

Advising Fair: Thurs., Nov. 13,
1:00-4:00
Humanities 319

Advising: Staff in Center for Academic Advising, Library E3310, are available daily from 9:00-5:00

Social Sciences Interdisciplinary
Social & Behavioral Sciences S201
246-8443 or 632-7685

Slide Presentation: "Women Against Pornography"
Wed., Nov. 12, 2:00-4:00
SBS N207

Advising: Offices are in SBS
Wed., Nov. 12 and 19
9:30-10:30, S. Sterngranz/S211
11:00-12:00, B. Baskin/N253
1:00-2:30, G. Fourou/S227
3:00-4:30, B. Birns/S215
3:00-4:30, J. Kuchner/S231
Thurs., Nov. 13 and 20
9:00-10:30, E. Seifman/S201
10:00-11:00, J. Wishnia/S213
Mon., Nov. 17
11:30-12:30, B. Baskin/N253
1:00-2:30, G. Fourou/S227
3:00-4:30, B. Birns/S215
3:00-4:30, J. Kuchner/S231
Tues., Nov. 18
9:00-10:30, E. Seifman/S201
10:00-11:00, J. Wishnia/S213
2:30-4:30, S.M. Huis/S219
5:00-6:00, J. Wishnia/S213

Sociology
Social & Behavioral Sciences S406
246-9881

Advising: Offices are in SBS
Wed., Nov. 12
9:40-10:00, D. Halle/S437
10:00-11:00, J. Tanur/N427
2:30-4:00, P. Roos/S441
Thurs., Nov. 13
9:00-10:00, J. Tanur/N427
10:30-11:30, S. Feld/N423
2:30-3:30, E. Goode/N447
Fri., Nov. 14
11:30-1:30, D. Barthel/S406
3:00-4:00, D. Barthel/S406
Mon., Nov. 17
9:40-10:00, D. Halle/S437
10:30-12:00, P. Roos/S441
Tues., Nov. 18
10:30-11:30, S. Feld/N423
11:30-12:30, E. Goode/N447
4:00-5:00, S. Feld/N423
Wed., Nov. 19
9:40-10:00, D. Halle/S437
12:00-1:00, F. Romo/S453
2:30-3:30, D. Halle/S437
Thurs., Nov. 20
9:00-10:00, J. Tanur/N427
2:30-3:30, E. Goode/N447
Fri., Nov. 21
12:00-2:00, F. Romo/S453
3:00-4:00, D. Barthel/S406

Theatre Arts
Fine Arts II 3046
246-5670

College of Engineering and Applied Sciences

Seminar: "Second Annual Engineering Seminar"—Professional engineers covering topics of interest to all CEAS majors. Sponsor: Stony Brook Student Chapter of the National Society of Professional Engineers
Thurs., Nov. 20, 5:30-8:30
Light Engineering Lecture Hall

Applied Mathematics and Statistics
Math Tower P139A
246-6773 or 632-8370

Discussion: "Careers in Applied Mathematics"
Mon., Nov. 17, 12:35-1:30
Math Tower P131

Open House: "The Applied Mathematics and Statistics Major for Transfer Students"
Mon., Nov. 17, 7:30 p.m.
Math Tower P131

Advising: Offices are in Math Tower
Thurs., Nov. 13
4:00-5:00, N. Mendell/I-105
Computer Science

Lab Office Building 1401
246-7146

Acceptance into the CSE Major: See BULLETIN, p. 205.

Advising: Offices are in Lab Office Building
Wed., Nov. 12 and 19
10:00-11:00, H. Badr/1424
11:00-12:00, I. V. Ramakrishnan/1421
12:00-1:00, G. Leahy/1412
2:30-3:30, S. Smolka/1423
Thurs., Nov. 13 and 20
9:00-10:00, D. Lingle/1434
11:00-12:00, G. Leahy/1412
12:00-1:00, H. Badr/1424
2:30-4:00, M. Srivas/1425
4:00-5:00, P. Mishra, A. Giacalone,
J. Hsiang, E. Stark/1401
Fri., Nov. 14 and 21
12:00-1:00, H. Badr/1424
Mon., Nov. 17
10:00-11:00, I. V. Ramakrishnan/1421
11:00-12:00, G. Leahy/1412
2:30-3:30, S. Smolka/1423
4:00-5:00, A. Giacalone/1416
Tues., Nov. 18
9:00-10:00, D. Lingle/1434
2:30-4:00, M. Srivas/1425
4:00-5:00, P. Mishra, J. Hsiang,
E. Stark/1401

Acceptance into an Engineering Major: Electrical Engineering, Mechanical Engineering, Engineering Science
If you wish to take your degree in an engineering program but you have not been signed into the major of your choice, you should register during Prime Time in Old Engineering 127.
Transcripts of those who registered will be reviewed, and each department will accept as many in its major as are qualified and can be accommodated. The decision will be based on grades in mathematics and the sciences.

Electrical Engineering

Light Engineering 273
246-6757 or 632-8400

Open House: “Information on Electrical Engineering for Non-EE Majors”
Tues., Nov. 18, 12:00-1:00
Light Engineering 202

Advising: Offices are in Light Engineering

Engineering Science

Engineering 314
246-6759

Wed., Nov. 19, 3:00-5:00
Engineering 301

Advising: Offices are in Engineering
Wed., Nov. 12 and 19
12:00-1:00, M. Dudley/318
Thurs., Nov. 13 and 20
12:00-1:00, J. Broughton/209
Fri., Nov. 14 and 21
8:30-9:00, J. Pidot/314
Mon., Nov. 17
12:00-1:00, M. Dudley/318
Tues., Nov. 18
12:00-1:00, J. Broughton/209

Mechanical Engineering

Light Engineering 113
246-6771

Discussion: “Mechanical Engineering as a Major and as a Profession”
Wed., Nov. 12, 12:00
Old Engineering 301

Special Advising: “For Change of Major”
Wed., Nov. 12, 1:00-4:00
Light Engineering 107

Advising: Offices are in Heavy Engineering (HE) and Light Engineering (LE)
Thurs., Nov. 13
2:30-4:00, M. Mayourian/LE 175
Fri., Nov. 14
10:40-11:40, A. Rubinstein/LE 141
Mon., Nov. 17
11:45-1:15, L. S. Wang/HE 214
Tues., Nov. 18
4:00-5:00, J. Fox/LE 161
Wed., Nov. 19
10:40-11:40, A. Rubinstein/LE 141
Thurs., Nov. 20
4:00-5:00, J. Fox/LE 161
Fri., Nov. 21
11:45-1:15, L. S. Wang/HE 214

Minor in Technology and Society

Old Engineering 210
246-8427

Open House: “Computer Simulations and Other Technology Applications”
Tues., Nov. 18, 10:30-12:00
Old Engineering 214

W. Averell Harriman College for Policy Analysis and Public Management

Harriman 314
246-8280 or 632-7180

Discussion: “Career Opportunities in Business and Government Management”
Mon., Nov. 17, 11:00
Harriman 312

Advising: Offices are in Harriman 314 Daily, 10:00-4:00

Computing Center

Discussion: “Computing for Everyone”—How to get accounts and information on computing available outside of class.
Thurs., Nov. 20
11:30-12:50, Psychology A 146
2:30-3:50, Light Engineering 102

Health Sciences Center

School of Allied Health Professions
(Cardiorespiratory Sciences, Medical Technology, Physical Therapy, Physician's Assistant Education)
Health Sciences Center L-2 040
444-2250

Open House: Sat., Nov. 15, 2:00-5:00
HSC Level 2
General Information Session, 2:00-3:00
Open Labs and Demonstrations, 3:00-5:00
Individual Advising, 3:00-5:00 (Bring copy of your transcript)

School of Nursing
Health Sciences Center L-2 242
444-3200

Information and Advising Session: 1st Wednesday of each month, 3:00
HSC, L-2, Office of Student Affairs 271

School of Social Welfare
Health Sciences Center L-2 091
444-3170

Advising: For information on advising hours call 444-3170, 2138
General Academic Information

University Core Curriculum
The University's new general education requirements went into effect in Fall 1986 for students matriculating as first-time freshmen in the 1986-87 academic year and as freshman transfers in January 1987. The requirements for these students, called the Core Curriculum Distribution and Skills Requirements, are set forth in the Core Curriculum Bulletin, 1986-87, which was distributed to freshmen. Continuing students who matriculated at Stony Brook in Spring 1986 or before and transfer students matriculating in 1986-87 with more than 23 credits are not subject to these new requirements. They should not be confused by such terms new to the Stony Brook campus as "core curriculum," "Category A, B, and C courses," and "study of another culture requirement." Nor should they confuse new freshmen by saying these things do not exist or are not necessary.

The new requirements, which have taken four years to develop, promise an enhanced undergraduate education for future Stony Brook graduates.

Additions and Corrections to Core Course Lists
(Only changes in lower-division courses are shown.)

Humanities and Fine Arts
Category B: HAS 290

Social and Behavioral Sciences
Category A, Group 2: SBS 150
Category B: POL 106, 250

Study of Another Culture
ANT 140 has been removed and ANT 201, added.

University Writing Requirement
Writing Requirement—Lower Division
1. Transfer Students. The lower-division requirement has been changed to the extent that transfer students who passed a course equivalent to EGC 101 with a grade of C or higher do not have to take the English Placement Examination. The Office of Undergraduate Admissions has been reviewing transcripts from other schools so that appropriate credit for the Writing Requirement can be entered on Stony Brook records, a process that should be completed by the end of the Fall 1986 semester. Transfer students who (after they get their fall 1986 grade reports)
believe they have not been properly credited should consult the Office of Undergraduate Admissions.

2. A new method of grading for the Writing Requirement has been established. Students who do not receive a grade of C or higher in EGC 101 will be assigned a U grade, which conveys no credit, and must repeat the course in the following semester.

3. ANT 103, HIS 213, HIS 235, HUM 100, ISS 103, and POL 105 have been added to the list of Designated Advanced Writing Courses, which satisfy the University Writing Requirement for students who scored "Strong" on the English Placement Examination.

The English Placement Examination will be given on Wednesday, December 3 at 6:45 p.m. in Old Chemistry 116 and on Wednesday, January 26 in Javits Lecture Center 100 at 6:45 p.m. The spring registration of any student who has not taken the Placement Examination, registered for the correct course, or completed the requirement will be blocked.

Continuing students should bring their SUSB I.D., and all students should bring a pen, a pencil, and a dictionary. There is no advance registration for the examination.

Upper-Division Elective Courses
Students are expected to fulfill their upper-division credit requirement with a combination of electives and major courses. All the Spring 1987 courses listed below make good upper-division electives for students majoring outside the department offering the course. These courses have either no specific prerequisites or call for one or two 100-level courses as prerequisites or (in a few cases) a popular 200-level course as a prerequisite. The last group lists courses having prerequisites that are not easily classified in a general way but that are likely to have been met by many students. Upper-division courses are designed for upper-division students.

No specific prerequisites:
AFS 375
HIS 300, 329, 333, 341, 376, 378
SOC 302
WNS 333

One specific prerequisite:
ECO 317
GEO 310
HIS 304, 312, 339, 363, 379, 381, 384
JDH 320
JDS 327
MUS 303, 309, 315
PHI 312, 340, 353, 372, 375, 381, 384, 392, 393
POL 306, 307, 311, 312, 313, 320, 323, 324, 327, 348, 349, 372, 374
RLS 302, 320, 341, 370
WNS 320

Two specific prerequisites:
AFH 330
AFS 337
ANT 317, 352, 354, 355, 356, 358, 367
CLT 331, 363
EGL 362, 366, 370, 372, 374, 396
HIS 319, 327, 353
LIN 301, 330
MAT 300
MUS 306, 316
PHI 300, 306, 330, 360, 380
POL 337, 356, 375
PSY 311, 312, 315, 318, 321, 340, 342, 350
SSI 320, 339
WNS 307

Other prerequisites:
ARH 301, 304, 313, 314, 322, 324, 341, 342
MAR 333
POL 360
PSY 330, 352
WNS 371

Center for Continuing Education Courses

One course to be offered by the Center for Continuing Education in Spring 1987 will be open to qualified undergraduates: CEH 570 American Popular Music. Undergraduates must get permission from the Dean for Continuing Education before a CED course can count toward a baccalaureate degree. Permission of the instructor is not enough. See BULLETIN, p. 56, for further information about undergraduates taking CED courses.

Study Abroad
The deadline for applications to study abroad in Spring 1987 through a program sponsored by Stony Brook was November 1. It is possible, however, that some accommodations may be available beyond the November 1 deadline. Interested students should inquire at the Office of International Programs. The Stony Brook-sponsored one-semester or academic-year programs are in Avignon, France; Chengdu, China; Lima, Peru; and Wroclaw and Warsaw, Poland. Academic year (only) programs are in Tubingen, Germany; Rome, Italy; and Paris, France. Stony Brook also sponsors summer programs in Avignon, Rome, and Warsaw. Students who are interested in participating in a study abroad program during the summer, fall, or 1987-88 academic year should keep in mind that the application deadline for these programs is April 1.

Deadlines for study abroad programs sponsored by other SUNY colleges vary, but they are generally around April 1 for summer and fall programs and November 1 for spring programs. Information about all study abroad programs is available in the Office of International Programs, Central Hall 101. Students considering studying abroad in the future should plan their spring programs carefully to include both prerequisites for the program abroad and Stony Brook graduation requirements.

Guide to Academic Help
The Office of Undergraduate Studies publishes a pamphlet, entitled HELP, that identifies opportunities and resources for advisory and tutorial help on campus. It is available in the Center for Academic Advising (one of the resources), Library E-3310.
Proficiency Requirements

English
Continuing students who matriculated at Stony Brook as freshmen before Fall 1984 or as transfer students before Fall 1985 are still under the Arts and Sciences English Proficiency Requirement (see 1983-85 BULLETIN). Those who have not yet passed the English Proficiency Examination will have met the requirement if they received a grade of C or higher in EGC 101 or its equivalent at another college. Credit for completing the requirement in this way should appear on grade reports at the end of the Fall 1986 semester. Transfer students who, after receiving this grade report, believe they have not been properly credited should go to the Office of Undergraduate Admissions. Other students who believe a mistake has been made should go to the Center for Academic Advising.

Students who have neither passed the Proficiency Examination nor received a C or higher in EGC 101 should go to the Writing Programs Office.

Foreign Languages

The requirement to earn a C or higher in any course taken to satisfy the foreign language proficiency requirement applies only to students who matriculated as freshmen in Fall 1985 and later. It also applies to new transfer students who matriculated in Fall 1986 and later. It does not apply to students who matriculated as freshmen before Fall 1985 or as transfer students before Fall 1986.

Foreign language proficiency examinations are usually offered by the language departments early in the fall and spring semesters. Students planning to satisfy their language proficiency requirement by examination should make arrangements with the appropriate department no later than the first day of classes for that semester.

Mathematics
The Mathematics Proficiency Examination will be given on November 12 and December 10, by appointment. It will also be given during the first week of classes in the Mathematics Learning Center, Mathematics Building, Room S-235. Students are advised to review seriously the topics of "elementary algebra," which make up the bulk of the examination. Students should bring their SUSB I.D. and a No. 2 pencil to the test.

After the first week of classes, the proficiency examination is offered throughout the term on the second Wednesday of each month at 11:30 a.m. in the Mathematics Learning Center. It is necessary, however, to call Ms. Frank (246-3660 or 632-8245) for an appointment.

Distribution Requirements

Students may use HAS 290 and HMC 361 to satisfy the Arts and Humanities requirement. EST 310 may be used for Natural Sciences and Mathematics.

Course Credit and Prerequisites

Arts and Sciences students may now use 10 credits in physical education toward the University Credit Hour Requirement, but no more than 4 of these PEC credits may be in 100-level courses.

Departmental Announcements and Courses

Africana Studies

Changes in expected semester of course offerings: AFS 249, 275, and 372 will not be offered in Spring 1987.

Special Topics for Spring 1987

AFS 420 Topics in Africana Studies
Sec. 1: Social Issues in the Black Experience
An exploration (using some statistical and quantitative methods) of social, political, and economic issues affecting black lifestyles. Household structures and voting patterns will be studied using databases gathered from federal and state census reports.
Prerequisite: Permission of instructor (W. McAdoo)

Sec. 2: Marcus Garvey and Social Change
The life and times of Marcus Garvey and the U.N.I.A. The focus is on the concept of black nationalism, its origins, and the kinds of awareness of the black past that it highlighted.
(L. Owens)
Anthropology

A brochure with extended descriptions of Anthropology courses for Spring 1987 is available in Social and Behavioral Sciences S-507.

Changes in expected semester of course offerings: ANP 320, 391, 403, 421; ANT 201, 219, 255, 260, 307, 312, 316, 330, 361, 366, 392, will not be offered in Spring 1987. ANT 330 and 372 have been deleted from the curriculum. ANT 251, 312, 316, and 392 will be offered in Fall 1987; ANT 201, 219, 255, 260, and 357 will be offered in Spring 1988.

The physical anthropology program has been revamped and expanded. Courses in this area are identified by the new designator, ANP. All ANP courses satisfy the Natural Sciences and Mathematics distribution area.

There is a typographical error in the prerequisite for ANT 360 shown in the BULLETIN. It should be ANT 316.

Revised Major Requirements

The major now requires at least 21 credits of upper-division courses. Details of the revised major requirements are available from the Anthropology Department.

Revised Minor Requirements

The Anthropology Department has revised its minor to include four tracks: general anthropology, sociocultural anthropology, archaeology, and physical anthropology. Details of the requirements for these tracks are available from the Anthropology Department.

ANP 120 Introduction to Physical Anthropology (REVISED—formerly ANT 120)


ANP 121—Laboratory in Introductory Physical Anthropology (REVISED—formerly ANT 121)

Only the designator has been changed.

ANP 220 Human Evolution (REVISED—formerly ANT 220)

A comprehensive survey of the fossil record for human evolution from the appearance of the earliest hominids to the emergence of modern humans, with emphasis on morphological and behavioral evolution in the human lineage.

ANP 320 Primate Ethology (REVISED—formerly ANT 320)

The comparative study of behavior of primates and other animals not closely related to humans but ecologically similar. Special emphasis will be placed on social organization and environmental parameters, as well as to the relationship between habitat and feeding strategies.

Prerequisites: ANT 120; one ANT course or two relevant courses in biological or social sciences as approved by the instructor.

ANP 321 Primate Evolution (NEW)

The evolution of the order Primates from the earliest origins up to the appearance of the human family. Relationships among living primates; reconstruction of common ancestral conditions. Primate origins: Eocene primates; anthropoid and catarrhine origins. Evolution, and adaptations; hominoid origins, evolution, and adaptations.

Prerequisites: ANT 120; either ANT 220 or two relevant courses in biological sciences as approved by the instructor.

ANP 322 Human Osteology (NEW)

An introduction to the anatomy of the human skeleton, with special emphasis on the interpretation of skeletal remains from archaeological contexts. Consideration will be given to the growth, structure, and function of bones, and to forensic aspects such as the determination of age, sex, stature, and pathology from skeletal remains.

Prerequisites: ANT 120, 220, ANT 104; permission of instructor.

Spring, 3 credits

ANP 391 Topics in Physical Anthropology (NEW)

Discussion of a topic of current interest in physical anthropology. Topics may include human biology, dental anthropology, primate locomotion, diet and evolution, functional morphology. Prerequisite: ANT 120; one other ANT course to be specified when topic is announced.

Fall or spring, 3 credits

ANP 403 Problems in Physical Anthropology (REVISED—formerly ANT 403)

Prerequisites: ANT 120; one other ANT course to be specified when the topic is announced.

Fall or spring, 3 credits

ANP 421 Field Methods in Physical Anthropology (NEW)

Methods, problems, and experience in field techniques. Course will focus on field methods such as fossil excavation, reconstruction of skeletal and dental remains, anthropometry, cranio metric. The specific focus may vary each year and will be announced in advance. May be repeated as topic varies.

Prerequisites: ANT 220 or 321; permission of instructor.

Fall or spring, 3 credits

ANP 447 Readings in Physical Anthropology (NEW)

Individual advanced readings on selected topics in physical anthropology. Work may be submitted for honors in anthropology. May be repeated twice.

Prerequisites: ANT 220 and 321; permission of instructor.

Fall and spring, 3 credits

ANP 475 Undergraduate Teaching Practicum (NEW)

Each student will conduct a regular recitation or tutorial section to supplement a lecture course and will receive regularly scheduled supervision from a faculty member. Responsibilities may include preparing material for discussion and helping students with research papers. Satisfactory/ Unsatisfactory grading only.

Prerequisites: ANT 220 and 321; permission of instructor.

Fall and spring, 3 credits

ANP, ANT 476 Advanced Undergraduate Teaching Practicum (NEW)

Advanced training in the techniques of organization and management in the teaching of anthropology courses. Students will be expected to assume greater responsibility in such areas as leading discussions, designing homework, analyzing and evaluating test results, and observing and assisting new teaching assistants to develop new teaching techniques. Students may not serve as teaching assistants in the same course twice. It is expected that the course in which a student is permitted to work as a teaching assistant will be of at least equal difficulty as the course in which she or he previously served as teaching assistant. Satisfactory/ Unsatisfactory grading only.

Prerequisites to ANP 476: ANT 475; permission of instructor.

Prerequisites to ANT 476: ANT 475; permission of instructor.

Fall and spring, 3 credits each
ANT 391 Topics in Anthropology: The Old Stone Age
The earliest prehistory of humans and human ancestors, beginning with the origins of material culture over 2.5 million years ago. The role culture performed in human adaptation to changing environments of the Pleistocene. Paleolithic technology and the methods employed by archaeologists to interpret Paleolithic social organization, economics, and behavior.
Prerequisites: ANT 104; ANP or ANT 120
(R. Donahue)

ANT 402 Problems in Archaeology: Long Island Archaeology
Theoretical problems dealing with hunting and gathering adaptations to a coastal environment. The prehistory of Long Island will be used as a case example with emphasis on the economic and social organization of the island’s earliest inhabitants.
Pre- or corequisite: ANT 317
(K. Lightfoot)
Art

Changes in expected semester of course offerings: ARH 211, 317, 318, 320, 329, and 335 will not be offered this year; ARS 251 will not be offered in the spring: ARH 110, 204, 315, 323, 326, 331, 338, and ARS 190, 365, 366, 373, 374, 376 have been deleted from the curriculum.

There are two typographical errors in the list of requirements for the studio art major listed in the BULLETIN, p. 65. The correct requirement 2 is ARS 151, and the correct requirement 4 is ARH 341 and 342.

Advanced undergraduates may elect certain graduate courses in aspects of art history/criticism and studio art of particular interest to them. The requirement for registration is a 3.0 average in ARH or ARS courses and departmental permission. The courses are: ARH 501 History of Renaissance and Baroque Art Criticism and Theory, ARH 502 History of 19th-Century Art Criticism and Theory, ARH 503 History of 20th-Century Art Criticism and Theory, ARH 541 Topics in Ancient Art, ARH 542 Topics in Medieval Art, ARH 543 Topics in Renaissance Art, ARH 544 Topics in Baroque Art, ARH 545 Topics in 19th-Century Art, ARH 546 Topics in 20th-Century Art, ARH 547 Topics in Primitive Art; ARS 560 Graduate Sculpture Studio, ARS 570 Graduate Printmaking Studio. See the Graduate Bulletin for course descriptions.

Studio art majors may participate in open monitored model sessions every Friday from 10 a.m. to 1 p.m. It is not necessary to register for these sessions, and they bear no credit.

ARH 207 Art of the Ancient Near East (REVISED)
Prerequisites: COR 101, 102 or ARH 101

ARH 230 Analysis and History of Western Architecture (NEW)
The development of skills in the interpretation of Western architecture in the light of world history and culture, in terms of its technological as well as aesthetic aspects, architectural structures as human environments as well as forms in space, buildings as expression of a society, class, or social structure, as well as historical styles.
Prerequisites: ARH 101; one other humanities or social sciences course with a historical perspective
Alternate years, 3 credits

ARH 300 Greek Art and Architecture (REVISED)
Prerequisites: COR 101, 102, or ARH 101 and two other courses in the humanities

ARH 301 Roman Art and Architecture (REVISED)
Prerequisites: COR 101, 102, or ARH 101 and two other courses in the humanities

ARH 303 The Art and Architecture of the Early Middle Ages, ca. 400–1050 (REVISED)
Prerequisites: COR 101, 102, or ARH 101 and two other courses in the humanities

ARH 310 Renaissance Art in Venice (NEW)
Venetian painting of the 15th and 16th centuries studied through the works of such major figures as Bellini, Mantegna, Giorgione, Titian, Veronese, and Titoretto, stressing the special character and continuity of the art of Venice.
Prerequisites: ARH 102, two other courses in the humanities
Alternate years, 3 credits (not offered in 1987-88)

ARH 313 Art of the United States (REVISED)
Prerequisites: COR 101, 102, or ARH 101 and two other courses in the humanities

ARH 314 Baroque Painting in the Netherlands (NEW)
The work of the major Flemish and Dutch painters of the 17th century with special emphasis on Rubens, Van Dyck, and Rembrandt. The various genres that flourished in Holland in the 17th century (portraiture, genre painting, landscape, etc.) will be studied through the works of the major figures in each field, such as Hals, Vermeer, and van Ruisdael.
Prerequisites: ARH 102, two other courses in the humanities
Alternate years, 3 credits (not offered in 1987-88)

ARH 316 Baroque Art in Italy and France (NEW)
Italian and French painting and sculpture in the 17th century. The painting of Caravaggio, the Carracci, and their schools, and the sculpture of Bernini will be studied in detail with special emphasis on Rome. The study of French art both in Italy and France will focus particularly on the painting of the French caravagisti; on Poussin and Claude Lorrain, and on the sculptors of Versailles.
Prerequisites: ARH 102, two other courses in the humanities
Alternate years, 3 credits (not offered in 1986-87)

ARH 324 Architecture and Design of the 19th and 20th Centuries (REVISED)
Prerequisites: ARH 101, 102, or ARH 230

ARH 329 Primitive Art (REVISED)
Prerequisites: COR 101, 102, or ARH 101 and two other courses in the humanities

ARH 342 Art of the 20th Century (REVISED)
Prerequisites: COR 101, 102, or ARH 101 and two other courses in the humanities

ARS 281 Photography I (REVISED)
Prerequisites: Sophomore standing; interview; permission of instructor

ARS 291 Theory and Practice of Two-Dimensional Design (REVISED)
A course in the exploration, analysis, and interpretation of the formal organization of the visual elements on two-dimensional surfaces. Elements such as line, shape, value, color, and space (including perspective studies) will be analyzed and applied to projects, according to principles that develop an organic unity in the total work of art.
Prerequisites: ARS 151, 152; permission of department

ARS 292 Theory and Practice of Three-Dimensional Design (REVISED)
A course in the exploration, analysis, and interpretation of the formal organization of the visual elements in three-dimensional space. Elements such as mass, volume, plane, shape, and line will be analyzed and applied to projects in varied media, according to principles that develop an organic unity in the total work of art.
Prerequisites: ARS 151, 152; permission of department

ARS 355 Anatomical and Biological Illustration (NEW)
An introduction to human anatomy for the studio artist who is interested in biological illustration. The course will provide an introduction to techniques of illustration utilizing as subject matter the skeleton, prospection, and cadaver dissection. Details of human anatomy will often be discussed by comparison of humans with other vertebrates. Lectures will precede each
laboratory/studio class and involve proportion, topographic, and surface anatomy, bone-muscle relationships and human movement; comparative form of visceral organs, and the comparative anatomy of humans and higher primates. Crosslisted with HBA 325.

Prerequisites: ARS 152 or BIO 101 or 151.

Fall and spring. 2 credits

ARS 364 Advanced Theory and Practice of Ceramics

An advanced course in ceramics, stressing sophisticated sculptural forms. Classroom will be based on individual projects that will stress the expression of ideas and image-making.

Prerequisites: ARH 341, 342; ARS 264; permission of department.

Note: This course is acceptable retroactively as a studio/theory course. See Notes on the ARS major, item 1. 1985-86 BULLETIN, p. 65.

ARS 371 Intermediate Graphics: Intaglio and Relief Processes (REVISED)

Increasing development of craft in etching, engraving, and woodcut, with growing emphasis on technical specialization and individual growth as an artist.

Prerequisites: ARS 271, 272; permission of department.

ARS 372 Intermediate Graphics: Planographic Processes (REVISED)

Increasing development of craft in lithography and silk-screen, with growing emphasis on technical specialization and individual growth as an artist.

Prerequisites: ARS 271, 272; permission of department.

ARS 376 Advanced Theory and Practice of Graphics (REVISED)

A graphic arts workshop and critique, stressing individual development and refinement of craft for the advanced student with professional intent. Theories and methods of various printmakers and their times will be examined. May be repeated once.

Prerequisites: ARH 341 and 342; ARS 371 or 372; permission of instructor

ARS 390 Special Directed Studio Projects (REVISED)

Explorations in studio areas not covered by the core curriculum. The student works under the guidance of a sponsor and is expected to complete a report, portfolio, or project. May be repeated once.

Special Topics for Spring 1987

ARS 422 Special Topics in Studio/Theory and Practice: Topics in Photography

An in-depth course dealing with the photographic studio environment.

Special emphasis on color printing from both transparency and negative and 4x5 view camera techniques.

Concurrent lecture, studio critique, and darkroom laboratory. Students must provide their own 35mm cameras and materials.

Prerequisites: ARS 281 and 282; portfolio review; permission of instructor (M. Edelson)

Biochemistry

Revised Major Requirement

PHY 251 is no longer required, and PHY 103, 104 may be taken in place of PHY 251. In Group B, item 5, is increased to two additional courses instead of only one. Group B, item 5 is now:

5. Two additional courses, totaling at least 5 credits, chosen from the following list, including at least one course which is marked with an asterisk (*): BIO 310, 315, 322*, 347, 355, 366*, 374*, 409*, 410*, CHE 302, 303, 345, 365, HBP 390*, MAR 413, PHY 251, or selected graduate courses in Molecular Biology (BMO) or the Health Sciences Center, with the permission of the Undergraduate Advisor and the course instructor. Additional courses to meet this requirement may be approved each semester; a complete list can be obtained from the Biochemistry Department office.

Biological Sciences

Changes in expected semester of course offerings: BIO 102, 111, 113, 327, 341, and 379 will not be offered in Spring 1987. BIO 103, 104, 229, 345, 350, 356, 383, and 386 have been deleted from the curriculum.

The biology teacher preparation courses have been absorbed into the science (SCI) teacher preparation courses. See Science Teacher Preparation Program section for descriptions.

Revised Minor Requirements

Up to two credits of biology, research (BIO 486, 487, 488, 489) and one credit of tutorial readings (BIO 446, 447, 448, 449) may be applied toward the minor. The list of substitute electives for the major does not apply to the minor.

BIO 204 Ecology of Food Production

A survey of the ecology of agricultural systems and the natural limits of food production. Topics include the impact of environmental factors on agricultural systems; the biology of food production by major crop plants, and the role that human population growth and evolution may play in global patterns of feast or famine. May not be taken for credit after BIO 347.

Prerequisites: Sophomore standing; a Natural Sciences Category A course. Fall, 3 credits

BIO 230 Mammalian Physiology

The title and description references to "human physiology" have been changed to "mammalian.

BIO 231 Anatomy Laboratory for Pre-Nursing Students

Mammalian anatomy, including human material and an intensive dissection of the cat. Not for major credit. Pre- or corequisite: HBA 300. Fall, 2 credits

BIO 232 Physiology Laboratory for Pre-Nursing Students

Laboratory studies in mammalian physiology. May not be taken for credit after BIO 335 or 339.

Prerequisites: BIO 231, HBA 300. Spring, 2 credits

BIO 302 Computers for Biologists

Fundamentals of programming concentrating on the C language and MS-DOS microcomputers. Introduction to assembly language stressing understanding of C constructs. Students gain experience in research applications by developing a program relevant to their field of interest.

BIO 303 Writing in the Biological Sciences

The process of writing within the biological sciences, practiced as a process of thought, explanation, analysis, and persuasion.

Prerequisite: At least 14 credits of biological sciences major courses. Fall, 1 credit.
BIO 315 Microbiology (NEW)
The organization structure: energetics and reproduction of microorganisms. Interactions of bacteria and viruses will be discussed.
Prerequisites: BIO 151, 152, CHE 322
Fall, 3 credits

BIO 341 Aquatic Organisms (REVISED)
Only the title has been changed.

BIO 347 Botany and Biotechnology (REVISED)
Only the title has been changed.

BIO 355 Computer Programming and Modelling Techniques in Biology (REVISED)
The computer language to be used in this course has been changed to Pascal.

BIO 359 Animal Behavior (REVISED)
This course is now crosslisted with PSY 343.
Prerequisites: BIO 101 or 151, PSY 103 or 104

BIO 379 Developmental Neurobiology (REVISED)
Prerequisite: BIO 230 or PSY 241

BIO 380 Entomology (NEW)
A survey of the anatomy, development, classification, biogeography, physiology, ecology, and evolution of the insects. The laboratory will stress a knowledge of insect diversity and morphology. Two hours of lecture and one three-hour laboratory per week.
Prerequisites: BIO 151, 152
Fall, alternate years, 3 credits (not offered in 1988-89)

Special Topics for Spring 1987

BIO 403 Seminars in Biology: Intertidal Biology
Lectures and student presentations on the biology of intertidal organisms and their interactions in communities.
Prerequisite: BIO 341 or 343 or 353

Chemistry

Changes in expected semester of course offerings: CHE 347 will not be offered this spring. CHE 355 has been deleted from the curriculum.

The following major electives to be offered in the spring are suitable for the B.S. elective requirement:
CHE 344, 376, 502, 503, 528 (graduate courses require permission)

CHE 111 Elementary Chemistry I (REVISED)
An introduction to the concepts of chemical composition, structure, and reactions, illustrated with examples from the life sciences. Appropriate for students preparing for admission to nursing and some other undergraduate health professions programs. Liberal arts students, and those lacking high school preparation for CHE 131. Not open to students who have completed high school chemistry, except by permission: nor to students who have completed any college chemistry course.

CHE 112 Elementary Chemistry II (REVISED)
A terminal course in fundamental organic and biological chemistry, appropriate for students preparing for admission to nursing and some other undergraduate health professions.

CHE 344 Spectroscopy of Organic Compounds (NEW)
Modern spectroscopic methods applied to organic compounds. Structural effects on spectroscopic properties are surveyed with dual emphasis on fundamental aspects and problem solving. The student learns how spectroscopy is used both to solve complex structural problems and to investigate bonding features in organic molecules.
Prerequisite: CHE 322 or 332
Spring, 3 credits

CHE 345 Structure and Reactivity in Organic Chemistry (REVISED)
Electronic and stereochemical theories relating to organic structure and reactions. Topics such as bonding, strain, aromacity, MO theory, molecular rearrangements, pericyclic reactions, and photochemistry will be covered.

CHE 350 Research Frontiers in Physical Chemistry (NEW)
Selected topics of active research interest introduced at the advanced undergraduate level and developed to the level of the current research literature. The topics will vary from year to year and will be taken from areas such as spectroscopy, molecular kinetics and dynamics, polymer and biophysical chemistry, solid state and surface chemistry, and nuclear chemistry, and may include theoretical developments of interest to chemists. May be repeated as the topic varies.
Prerequisites: CHE 302, MAT 306
Fall or spring, 3 credits

CHE 351 Quantum Chemistry (NEW)
Concepts of quantum theory, Schrodinger wave mechanics, and related mathematical techniques illustrated by application to systems of chemical bonding, spectroscopy, molecular structure, and molecular collision phenomena.
Prerequisites: CHE 302, MAT 306
Fall, 3 credits

CHE 353 Chemical Thermodynamics (NEW)
A rigorous development of thermodynamics and its application to systems of interest to chemists, including electrochemical cells, gases, polymers, and homogeneous and heterogeneous equilibrium. An introduction to statistical mechanics is included.
Prerequisites: CHE 302, MAT 306
Fall, 3 credits

Child and Family Studies

Four courses have been added to the list of related courses acceptable for the Child and Family Studies minor: SSI 210 Images and Realities of Childhood; SSI 308 Battered Women; Endangered Children; SSI 320 The Special Child; and SOC 384 Sociology of the Life Course.
The designator for the minor has been changed to CFS.

Classics

Changes in expected semester of course offerings: CLS 120 and 311 will not be offered in Spring 1987.

Comparative Literature

A brochure with extended descriptions of Comparative Literature, Classics, Humanities, and Judaic Studies courses will be available in Library E-4309, starting November 14.

Changes in expected semester of course offerings: CLT 108 and 120 will not be offered in Spring 1987. CLT 202 has been deleted from the curriculum.
Earth and Space Sciences

Changes in expected semester of course offerings: GEO 103 and 307 and ATM 343 and 345 will not be offered in Spring 1987, but the fall courses GEO 102, 303, and 312 and AST 248 will be offered. GEO 321, 331, and 363 have been deleted from the curriculum.

All ESS courses have been deleted. The Teaching Practicum has been divided into GEO 475 Teaching Practicum—Geology and AST 475 Teaching Practicum—Astronomy. The teacher preparation courses have been replaced by SCI courses. See Science Teacher Preparation Program section.

Revised Major Requirements:
Geology
GEO 307 is no longer required for the major in geology under requirement A; it may be used as an elective under requirement B.

AST 248 The Search for Life in the Universe (REVISED—formerly AST 108)
Prerequisite: Any Natural Science Category A course.

Economics

Changes in expected semester of course offerings: ECO 237, 318, 386, and 395 will not be offered in Spring 1987; ECO 335, 344, 352, and 379 will not be offered this year. ECO 105 has been deleted from the curriculum.*
ECO 368 Modern Portfolio Theory  
(NEW)  
The economics of uncertainty and modern portfolio theory. Topics will include expected utility theory, measurement of risk, the capital asset pricing model, and efficient markets. Students will maintain a portfolio of common stocks and evaluate its performance.  
Prerequisites: ECO 251. 3 credits  
Corequisite: ECO 321  
Spring, 3 credits

ECO 370 Application and Theory of Financial Markets  
(NEW—offered as ECO 408 in Fall 1985)  
The study of financial markets. The course reviews net present value as an investment criterion. Capital asset pricing models and market efficiency are covered briefly. Pricing of stocks, bonds, options, and futures, together with hedging strategies using options and futures, are covered in more detail.  
Prerequisites: ECO 251. 320  
Fall, 3 credits

Special Topics for Spring 1987

ECO 408 Topics in Applied Economics  
Sec. 1: The International Dollar and the U.S. Debt Crisis  
An institutional study of the international dollar beginning with the Bretton Woods Agreement—how it worked, why it collapsed, the Eurodollar market, the dollar crisis of the 1970s, the Third World debt crisis and the current U.S. balance of payments crisis.  
Prerequisites: ECO 251. 252  
(E. Fuller)

Sec. 2: Economics of the Elderly  
An analysis of the financial status of the elderly in the U.S., with particular emphasis on the impact of the Social Security System. Topics covered include retirement savings, consumption, health care, and financial transfers between generations.  
Prerequisite: ECO 251  
(M. Hurd)

English

A brochure with extended descriptions of Spring 1987 courses offered by the Department of English is available in Humanities 245. Extended descriptions of the various sections of EGL 191, 192, 193, and 202 are also available in the Writing Programs Office, Humanities 196.

Changes in expected semester of course offerings: EGL 260, 262, 304, and 344 will not be offered in Spring 1987. EGC 103 and 104, and EGL 272 have been deleted from the curriculum.

Students taking EGL 487, 488, and 496 must have proposals for these courses approved before the last week of the fall semester. Proposal forms are available in Humanities 245.

Revised Major Requirements
EGL 338 has been added to the list of courses satisfying the Major Authors requirement and EGL 376 to the Interdisciplinary or Genre course list.

EGC 100 Introduction to the Writing Process  
Prerequisite: Placement by English Department examination or by ESL instructor

EGC 101 Writing Workshop  
(REVISED)  
Intensive practice in writing frequent short papers. Emphasis on strategies for drafting and revising. Students must earn a C or higher in this course to satisfy the University Writing Requirement. A through C/unsatisfactory grading only.

EGC 102 Writing Workshop II  
(REVISED)  
A continuation of EGC 101. Emphasis on the development of expository writing skills, research skills, and documentation. Frequent short research papers and one longer one.

EGL 192 Introduction to Fiction  
(REVISED)  
An analysis of fictional prose in terms of a section’s theme. A goal of each class is to interpret various pieces of literature in relation to a political or historical view, or a particular literary technique. (Not for English major credit.)

EGL 202 Advanced Writing Workshops  
(REVISED)  
Intensive work on advanced problems in writing. Different sections will have different emphases (e.g., argument, research methods, a theme such as technical writing). Consult the Writing Programs Office for descriptions of current offerings.

EGL 276 Women and Literature  
(REVISED)  
An examination of works written by or about women that studies the development and conception of women in drama, poetry, and fiction. The course focuses on literature seen in relation to women’s sociocultural and historical position. May be repeated with permission of the Director of Undergraduate Studies as the subject matter varies.

EGL 376 The Literature of Imperialism  
(NEW)  
A course in the history and culture of European imperialism as it is evidenced primarily in the literary texts produced both by Europeans and by the indigenous populations which they colonized. The course will present the colonial/imperial experience from three different perspectives: the imperial ideology, the liberal reaction by colonizers to the injustice of imperialism; the response of colonial and formerly colonial peoples to their experience as the colonized.  
Prerequisite: A literature course at the 200 level or higher. Fall or spring, 3 credits

Special Topics for Spring 1987

EGL 199 Freshman Honors Seminar in English: Classical Tragedy  
(T. Kranidas)

EGL 348 Major Writers of the Romantic Period in England: Blake  
(D. Erdman)

EGL 352 Major Writers of Modern British and American Literature: The Whitman Tradition  
(W. Harris)

EGL 353 Major Writers of Contemporary British and American Literature: Faulkner, Walker, and Welty  
(J. Ludwig)

EGL 362 Poetry in English: “Voice” and Audience in Post-Modern Poetry  
(S. Fontaine)

EGL 366 Fiction in English  
Sec. 1: The Short Story  
(D. Fortuna)

Sec. 2: New Novels by Young Writers  
(R. Elman)

EGL 372 Literature in English and Its Relation to Other Literatures  
Sec. 1: Psyches of Man and God in the Bible  
(J. Stampler)

Sec. 2: Modern Literature  
(S. Spector)

EGL 374 Literature in English and Its Relations to Other Disciplines: Christians and Jews  
(S. Spector)

EGL 385 Advanced Creative Writing: Poetry  
(J. Jordan)

EGL 490 English Seminar: 20th-Century Literature  
Honors course.  
(S. Olster)
Federa ted Learning Communities (FLC)

Flyers describing current FLC programs in detail are available in the program office, Educational Communications Center 237.

Issues in Management and Business (IMB)
The 1986-87 FLC program identifies and studies significant issues related to the world of management and business. One of the primary objectives is to enable students to understand the broad social, cultural, political, and ethical contexts within which management and business activity takes place. Successful completion of the two-semester program will earn the FLC minor in management and business. The courses selected for federation are as follows:

Fall Semester
- PHI 372 Ethical Inquiry
- PAM 345 Special Topics in Management
- POL 321 American Federalism and Intergovernmental Relations
- IMB 301 Program Seminar

Spring Semester
- PAM 345 Special Topics in Management
- SOC 381 Sociology of Complex Organizations
- A third course selected from a list of courses prepared by FLC
- IMB 302 Program Seminar

The Master Learner for this program is Professor Michael Simon, Department of Philosophy.

IMB 301, 302 Program Seminar: Issues in Management and Business (NEW)
Each seminar will integrate the material of its three corequisite courses. The agenda of the seminar will be determined by the problems, difficulties, and interests of the students. Discussions and frequent written and oral reports will focus on assisting the students in learning how to learn, deepening understanding of the concerns and ideas of the corequisite courses, comparing, contrasting, and synthesizing the material of these courses: developing confidence to think and write independently.
Corequisites to IMB 301: PAM 345, PHI 372, POL 321
Corequisites to IMB 302: PAM 345, SOC 381, another approved course Fall (301) and spring (302), 3 credits each semester.

French and Italian

Changes in expected semester of course offerings: FRN 113, 301, 302, 390 and ITL 320, 325, 390 will not be offered in Spring 1987. ITL 324 has been deleted from the curriculum.

Revised Major Requirements
All upper-division courses offered for the major in French and Italian must be passed with a grade of C or higher, and all courses must be taken for a letter grade (except that P is acceptable for courses completed through Challenge credit).
Transfer students who wish to graduate with a major in French or Italian must take at least 12 credits of French or Italian in residence at Stony Brook.
Concentration A in Italian now requires ITL 322 Advanced Conversation and Composition II. Prior permission of the department is necessary to transfer credit for ITL 321 and 322.

Revised Minor Requirements
All upper-division courses intended to fulfill minor requirements in French or Italian must be passed with a grade of C or higher, and all courses must be taken for a letter grade (except that P is acceptable for courses completed through Challenge credit). Transfer students who wish to graduate with a minor in French or Italian must take at least six credits of upper-division French or Italian courses in residence at Stony Brook.

FRN 300 French Poetry (NEW)
The development of French poetry from the Middle Ages to the 20th century, including poetry from francophone countries.
Prerequisite: FRN 222 or 295 or 296
Alternate years. 3 credits (not offered in 1987-88)

FRN 475 Undergraduate Teaching Practicum in French (REVISED)
Not for major or minor credit.
Prerequisites: Fluency in French; permission of instructor and department

ITL 199 Modern Italy (in English) (NEW)
A survey of contemporary Italy and its political, social, and economic structure, as well as the study of cultural life and institutions with comparisons to American models and standards.
Cannot be used to satisfy the foreign language proficiency requirement. Fall or spring, 3 credits

ITL 351 Studies in 17th- and 18th-Century Italian Literature (REVISED)
The time span for topics under this rubric has been expanded to the 17th century.

ITL 393 Free Seminar (REVISED)
May be repeated as the topic varies.

ITL 475 Undergraduate Teaching Practicum in Italian (REVISED)
Not for major or minor credit
Prerequisites: Fluency in Italian; permission of instructor and department

Special Topics for Spring 1987
FRN 381 French Literature in Translation: Camus
A study of the evolution of Camus' thought through such works as The Stranger, The Plague, The Myth of Sisyphus, The Rebel, and The Fall (A. Rizzuto)

FRN 393 Free Seminar: French Women Writers of the 20th Century
Intensive reading of fiction and autobiography by Simone de Beauvoir, Colette, Nathalie Sarraute, Marguerite Duras, and Marie Cardinal. Their representation of the experience of childhood and adolescence, mother-daughter ties, and the struggle for independence will form the central issues for discussion and written work. (H. Allentuch)

ITL 351 Studies in 17th- and 18th-Century Italian Literature
Readings and discussion of selections from major works of poetry, prose, and theatre from the Baroque period to the
A brochure with extended descriptions of Germanic and Slavic courses will be available in Library N-3009 starting November 12.

Changes in expected semester of course offerings: GER 141, 231, PSH 112, RUS 110, 339, SWE 112, 192, EEL 394, and YDH 112, 192 will not be offered in Spring 1987. GER 195, SWE 320, and EEL 120 have been deleted from the curriculum.

GER 200 Landeskunde (REVISED)
The cultural and physical geography of Central Europe with emphasis on the German-speaking areas. Particular emphasis will be placed on the definition of cultural units and their reflections in regionality and particularism. Pre- or corequisite: GER 192

Hispanic Languages and Literature

A brochure with extended descriptions of Spring 1987 Spanish courses is available in Library N-3009.

Changes in expected semester of course offerings: SPN 461 will not be offered in Spring 1987. SPN 302 has been deleted from the curriculum.

Revised Major Requirements

SPN 301 is now required for the major; and students must choose three courses from among SPN 396, 397, 398, and 462 or 463.

POR 191 Intermediate Portuguese I (NEW)
An intermediate course in Portuguese featuring a review of grammar and intensification of reading, writing, and speaking skills.
Prerequisites: POR 112 or 113
Fall, 3 credits

POR 192 Intermediate Portuguese II (NEW)
An intermediate course in Portuguese intended to develop competence in reading, writing, and speaking Portuguese through the study of grammar and the interpretation of selected literary texts.
Prerequisite: POR 191
Spring, 3 credits

SPN 199 Modern Spain (in English) (NEW)
An examination of major cultural and social developments in Spain during the 20th century, with special emphasis on the Spanish Civil War, the Franco era, and the transition to democracy. Presented in English, the course seeks to enhance understanding of Spain through analysis of such issues as national character, change and continuity, and regional diversity. May not be used to satisfy the foreign language proficiency requirement.
Spring, 3 credits

SPN 463 Contrastive Spanish-English Grammar (REVISED)
In-depth investigation of particular areas of Spanish and English grammar for purposes of language teaching.

SPN 465 Topics in Hispanic Linguistics (NEW)
Investigation of selected topics of Hispanic linguistics. The topic, which will be announced before each semester, may be drawn from such subjects as the development of Spanish for teachers or analysis of meaning in the Spanish language.
Prerequisites: SPN 301: permission of instructor
Schedule to be announced, 3 credits

SPN 475 Undergraduate Teaching Practicum in Spanish (REVISED)
An opportunity for selected upper-division students to collaborate with the faculty in teaching a language class. Responsibilities may include preparing material for practice sessions, initial correction of homework and tests, and helping students with problems. Application for approval must be submitted to the Director of Undergraduate Studies the previous semester. Satisfactory/Unsatisfactory grading only.

Special Topics for Spring 1987

SPN 431 Topics in 18th- and 19th-Century Peninsular Literature and Culture: The Evolution of 19th-Century Spanish Fiction
Special emphasis on the major currents (naturalism, realism) and novelists (Valera, Pereza, Perez Galdos, Pardo Bazan, Clarin).
(L. Deutsch)

SPN 442 Topics in Spanish-American Literature and Culture from 1880 to the Present: The Quest for Cultural Decolonization and National Identity
An examination of the cultural aspects of decolonization. The principal questions to be addressed in all works are: "How does a people become itself after centuries of colonization? How does a people deal with the problems of alienation, legitimation, and depersonalization that were part of the colonial experience?" (M.L. Nunes)

History

A brochure with extended descriptions of Spring 1987 History courses is available in Social and Behavioral Sciences S-301.

Changes in expected semester of course offerings: HIS 101, 102, 201, 221, 216, 241, 249, 301, 316, 317, 322, 337, 370, 386, and 396 will not be offered in Spring 1987. See the Class Schedule for the many fall and 1985-86 courses being offered this spring instead.

HIS 133 The Medieval Imagination (NEW)
An introductory course in the civilization of medieval Europe and its immediate neighbors. The main emphasis is upon culture and society as depicted in creative literature, women and marriage, contemporary view of social structure, the impact of Islam, popular science and religion, travel: the role of "outsiders," and marginal people and groups.
Fall, alternate years, 3 credits (not offered in 1987-88)
HIS 326 History of Popular Culture (NEW)
The development of popular culture in Europe and the United States. The course will examine different aspects and genres of popular mentality beginning with peasant cultures in the 16th century. Other aspects include artisanal culture in the 18th century in Europe and America, commercial cultures in 19th-century England and America, and the rise of mass media culture in the 20th century.
Prerequisite: One course in history, preferably in the area of U.S. history. Fall, alternate years, 3 credits (not offered in 1986-87)

HIS 333 Women in U.S. History (NEW)
Crosslisted with WNS 333. See Women's Studies section.

HIS 336 Women, Work, and Family in Modern European History (NEW)
Crosslisted with WNS 334. See Women's Studies section.

HIS 352 The Social History of Science (REVISED—formerly HIS 332)
Prerequisite: HIS 102 or 136 or 292 or SOC 103 or 105 or 106

HIS 382 Politics and Political Change in Latin America (REVISED—formerly HIS 334)
Only the number has been changed.

HIS 383 Cultural and Intellectual History of Latin America to 1825 (NEW)
The cultural and intellectual history of Latin America during the Colonial Period. Major reports on the discovery and exploration, the spiritual conquest, universities, baroque times, scientific missions and the enlightenment, colonial newspapers, and the movement of independence May not be taken for credit in addition to the discontinued HIS 331.
Prerequisite: One history course, preferably in the area of Latin American history. Fall, 3 credits

HIS 384 Cultural and Intellectual History of Latin America from 1825 to Present (NEW)
The cultural and intellectual history of Latin America during the 19th and 20th centuries. Romanticism, liberalism, positivism, Arieism, university reform, Marxism in Latin America, liberation theology, major current trends. May not be taken in addition to the discontinued HIS 331.
Prerequisite: One history course, preferably in the area of Latin American history. Spring, 3 credits

HIS 385 Colonial Brazil and the Portuguese Empire (NEW)
The age of Portuguese expansionism, the conquest and settlement of Brazil, the rise of slavery and plantation agriculture. Brazil's transition from colony to nation.
Prerequisite: One course in history, preferably in the area of Latin American history. Fall, alternate years, 3 credits (not offered in 1986-87)

HIS 386 Modern Brazil (REVISED—formerly HIS 334)
Prerequisite: One course in history, preferably Latin American history, or women's studies.

HIS 447 Independent Readings in History (REVISED)
It is now permissible to enroll in more than one section in a semester.

Special Topics for Spring 1987

HIS 402 Colloquium in European History: Social Movements in Contemporary Europe (H. Lebovics)

HIS 403 Colloquium in European History: Topics in Modern Italian History (C. Esposito)

HIS 412 Colloquium in American History: A History of American Socialism (H. Cleland)

HIS 441 Colloquium in World History: Historical Perspectives on Women's Health Care Issues (H. Lennay)

### Human Development

The new minor in human development (LHD) is designed for the residents of Langmuir College who wish to add an academic dimension to their residence experience. The aim of the minor is to provide an integrated view of the human life course defined as infancy, childhood, youth, adolescence, and mid-life and aging.

### Requirements for the Minor in Human Development

<table>
<thead>
<tr>
<th>Credits</th>
<th>Requirements for the Minor in Human Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 18 credits from the approved list (available from the Minor Coordinator), including:</td>
<td></td>
</tr>
<tr>
<td>a. at least one three-credit course in one phase of the life course and at least one other in another phase or one which provides an overview of the life course;</td>
<td></td>
</tr>
<tr>
<td>b. at least one three-credit course in each of the following divisions: Biological Sciences, Humanities and Fine Arts, Social and Behavioral Sciences.</td>
<td></td>
</tr>
<tr>
<td>Note: Any one course may meet both the life course and divisional requirement of (a) and (b) at the same time.</td>
<td></td>
</tr>
<tr>
<td>c. any other three-credit courses to achieve a total of 18 credits.</td>
<td></td>
</tr>
<tr>
<td>2. 3 credits in human development:</td>
<td></td>
</tr>
<tr>
<td>a. LHD 301 to be taken during the first semester of this program;</td>
<td></td>
</tr>
<tr>
<td>b. LHD 302 to be taken during the second through fourth semesters of this program;</td>
<td></td>
</tr>
<tr>
<td>c. LHD 401 to be taken during the final year of this program.</td>
<td></td>
</tr>
<tr>
<td>3. One three-credit independent study course in either:</td>
<td></td>
</tr>
<tr>
<td>a. LHD 487 under the supervision of the Coordinator; or</td>
<td></td>
</tr>
<tr>
<td>b. an independent study course in any department approved by the Coordinator.</td>
<td></td>
</tr>
</tbody>
</table>

| Total: | 24 |

Note: No more than one three-credit course in the minor may be taken P/NF. At least twelve credits for the minor must be in upper-division courses.

### Declaration of the Minor

Students must declare the human development minor no later than the middle of their third year, at which time they will consult with the Minor Coordinator, Prof. William Arens, and plan their course of study for fulfillment of the requirements.
**LHD 301 Introductory Seminar in Human Development (NEW)**
An interdisciplinary introduction to human development through the consideration and discussion of major works on the human life course. An emphasis will be placed on reading, integration of material, and critical discussion in a seminar format.

**Prerequisites:** Residence in Langmuir College; human development minor
Fall and spring, 1 credit

**LHD 302 Colloquium in Human Development (NEW)**
A series of lectures by Stony Brook and visiting scholars on various aspects of human development pertaining to the life course. Students will be expected to participate in subsequent discussions. Content will vary from semester to semester.

Prerequisites: LHD 301; residence in Langmuir College; human development minor
Fall and spring, 1 credit

**LHD 401 Advanced Seminar in Human Development (NEW)**
An interdisciplinary seminar in human development through consideration of topics and issues raised by any of the disciplines concerned with the human life course. The content will vary in relation to the interests and experience of seminar participants.

Prerequisites: LHD 301, 302; residence in Langmuir College; human development minor
Fall and spring, 1 credit

**LHD 487 Independent Study in Human Development (NEW)**
The completion of an individual project by one or a group of students on human development and the life course. Projects may include library, laboratory, or field research, or literary or artistic endeavor. Each project must result in an individual or group production or written report and be approved in advance by the minor coordinator. May be repeated.

Prerequisites: LHD 301, 302; residence in Langmuir College; human development minor
Pre- or corequisite: LHD 401
Fall and spring, 3 credits

**Special Topics for Spring 1987**

**HUM 291, Sec. 1: Blind Ambition**
See Unaffiliated Courses section for description.

**Humanities**

Changes in expected semester of course offerings: HUM 122 will not be offered in Spring 1987. The fall course, HUM 176 will be offered in the spring.

### Interdisciplinary Humanities and Social Science

**Under the new University Core Curriculum requirements, which apply only to students matriculating as freshmen in 1986-87, the following course satisfies part of the humanities and fine arts and the social and behavioral sciences requirements. Students must take both semesters of this course if they wish to count it toward distribution requirements.**

**COR 101, 102 Art, Literature, and Philosophy in Historical Perspective**
(NEW—offered in 1985-86 as HUM 101, SBS 102)
An historical introduction to the art, literature, and philosophy of the West; cultural achievements are studied in relation to their historical conditions of emergence, and emphasis is given to the ways in which Western culture is influenced by and influences other cultures.

Prerequisite to COR 102: COR 101
Fall (101) and spring (102), 3 credits each semester

### International Studies

The interdisciplinary minor in international studies is open to residents of Keller College who wish to add an academic dimension to their residential experience. It provides an integrated view of institutions, ideas, historical traditions, and aspirations of peoples of other countries or regions.

**Requirements for the Minor in International Studies**

1. Students must select a world region for specialization from among the following: Western Europe, Eastern Europe (including the Soviet Union), Southern Europe, the Middle East, East Asia, South Asia, Africa, or Latin America.

2. ANT 102 Introduction to Cultural Anthropology or
ANT 230 Peoples of the World 3

3. Fifteen credits selected from courses in the social and behavioral sciences and humanities and fine arts that relate to the world region chosen:

   Three courses dealing with the region's history, sociology, economic or political institutions, or general culture 9
   One course dealing with the region's philosophical ideas, religious institutions, literature, painting, or music 3
   One course from any of the above topics 3

4. KIS 301 Introductory Seminar in International Studies 1

5. KIS 401 Advanced Seminar in International Studies 1

6. KIS 487 Independent Study or an independent study course in any department approved by the Coordinator: 3

Total 24

**Notes:**

a. With the approval of the Coordinator up to 15 credits may be taken as part of the study abroad program.

b. No more than one three-credit course in the minor may be taken P/NC. All other courses must be passed with a grade of C or higher.

c. At least twelve credits for the minor must be in upper-division courses.

d. Students are urged to spend at least one semester studying abroad. Upon returning, students are required to present a talk in one of the seminars or colloquia offered in the minor.

### Declaration of the Minor

Students must declare the international studies minor no later than the middle of their third year, at which time they will consult the coordinator, Professor David Hicks, and plan their course of study.
KIS 301 Introductory Seminar in International Studies (NEW)
An introductory seminar dealing with both topical and regional issues on a global scale. Topics, which will be chosen on a cohesive series of themes, may focus on general subjects such as population problems, comparative political systems, Islam, and genocide or on regions such as Oceania, the Mediterranean world, and Latin America.
Prerequisites: Residence in Keller International College; sophomore standing; minor in international studies
Fall and spring. 1 credit

KIS 302 Colloquium in International Studies (NEW)
A colloquium on international studies, involving guest experts who will discuss particular world topics or regional specialties. Students will also contribute class discussions, oral presentations, and a substantial essay on themes drawn from various topics and regions.
Prerequisites: Residence in Keller International College; KIS 301
Spring. 1 credit

KIS 401 Advanced Seminar in International Studies (NEW)
An advanced seminar focusing on a particular topic or region of the world. Students will demonstrate a close familiarity with the region of their specialty and with the minor themes of significance to that region, as for example population control, industrialization, and political changes in China. They will also compare how such themes relate to the regional studies of other students in the seminar.
Prerequisites: Residence in Keller International College, upper-division standing; KIS 302
Fall and spring. 1 credit

KIS 487 Independent Study in International Studies (NEW)
Independent research projects on international studies by upper-division students in the minor under the supervision of an instructor.
Prerequisites: Residence in Keller International College; upper-division standing; KIS 401
Fall and spring. 3 credits

Judaic Studies

Changes in expected semester of course offerings: JDH 298 and JDS 241 will not be offered in Spring 1987, but the fall course, JDH 320, will be offered.

JDH 226 The Shaping of Modern Judaism (REVISED)
Only the title has been changed

JDH 261 Biblical Narrative (NEW)
An examination of selected portions of the Bible, using literary and historical modes of interpretation. These texts will be analyzed from such perspectives as genre, narrative strategy, language, imagery, redactional skill, legend, chronicle, and epistle.
Fall. 3 credits

JDS 327 Women in Judaism (NEW)
Crosslisted with WNS 320. See Women's Studies section for description.

JDS 366 The American Jewish Experience in Fiction (NEW)
A study of the American Jewish Experience as it is revealed in the fiction of the Jewish writers in the period of 1917 through the present. The course will explore the long-range affect on the second, third, and fourth generations of immigration; acculturation: the impact of the depression: World War II and the Holocaust: the emergence of the State of Israel; suburbanization: the entry of the Jewish writer into the center of the literary world: and the new search for Jewish identity.
Prerequisite: One literature course at the 200 level or higher
Fall, alternate years. 3 credits (not offered in 1987-88)

Linguistics

Changes in expected semester of course offerings: LIN 333, 376, and 421 will not be offered in Spring 1987. LIN 330 will be offered next spring.

Revised Major Requirements
LIN 201 Phonetics is now specifically required for the major, reducing the number of additional linguistics courses (requirement 2) to six.

LIN 111 Language: An Interdisciplinary Perspective (NEW)
The study of language related to issues in other social science disciplines, such as the nature-nurture controversy, models of mental functioning, social class and cultural differences, the maintenance of ethnic identity and assimilation, the reconstruction of proto-history, and the establishment of cultural influences.
Fall. 3 credits

LIN 311 Advanced Syntax (REVISED)
A detailed consideration of recent developments in syntactic theory, applied to problems in English and other languages.

LIN 450 Supervised Student Teaching in English as a Second Language (CORRECTION)
The credit listing in the Bulletin is wrong. This is a 12-credit course.

Special Topics for Spring 1987

LAN 112 Selected Languages (Elementary) II
Sec. 1: Modern Greek
(E. Tournari)
Sec. 2: Irish
(C. Sorochin)
Sec. 3: Korean
(C. Oh)

LAN 192 Selected Languages (Intermediate) II
Sec. 1: Arabic
(Z. Mustafa)
Sec. 2: Irish
(C. Sorochin)

LIN 425 Special Topics in Linguistics: Bilingualism
Prerequisites: LIN 101 and one 200-level linguistics course
(C. Von Schon)

LIN 431 Structure of an Uncommonly Taught Language: Kirundi
(D. Finer)

Mathematics

MAP 106 and MAT 111 have been deleted from the curriculum.

MAP 102 will be designated "remedial" beginning in Fall 1987 (postponed from Fall 1986). This means that starting next fall, this course will count for registration credit in the semester it is taken but will not count toward graduation.

The Mathematics Placement Examination tests a student's knowledge of precalculus mathematics. This examination is one of the alternative prerequisites for MAT 125 and 131. It is also used for the Mathematics Proficiency Requirement and to
provide advice about placement in: MAP 101, 102, and MAT 120. The examination will be given during the first week of both the spring and fall semesters in the Mathematics Learning Center, Room S-235, Mathematics Building. Exact times will be posted. No appointment is necessary. Students should bring their SUSB I.D. and a No. 2 pencil. A student who cannot make these times should call Ms. Frank (6-3660 or 632-8245) for an appointment.

MAT 112 Introductory Mathematics (REvised)
A course designed to acquaint the student with the nature of mathematics and what modern mathematicians do through consideration of specific topics chosen from logic, set theory, number theory, algebraic systems, limit concepts, combinatorial topology, and geometric structures. This course may not be taken for credit after credit has been earned for any MAT course numbered above 300. Does not satisfy the mathematics proficiency requirement nor the quantitative literacy requirement.

MAT 120 Preparation for Calculus (REvised)
An introduction to the skills and knowledge needed during the early stages of learning calculus, including work with polynomials, rational functions, and trigonometric functions. Intended for students who have not completed 12th year high school mathematics. May not be taken after any college calculus course has been passed with a grade of C or higher.

MAT 306 Calculus IV: Multivariate Calculus (REvised)
Prerequisites: MAT 221 or 231 or 241, or AMS 210 and MAT 127 or 132.

MAT 373 Analysis of Algorithms (REvised)
Prerequisites: MAT 221 or 231 or 241, or AMS 210, MAT 251 or CSE 110 or 111 or 114.

Music
Changes in expected semester of course offerings: MUS 239 and 394 will not be offered in 1986-87. MUS 434, offered this fall, will not be offered next spring. MUS 107, 304, and 431 have been deleted from the curriculum.

The prerequisite for any course in the music major program is the Ear Training Examination, which will be given on Saturday, December 6, 1986. Students must sign up in advance in the Department of Music office, Fine Arts 3304. Those who have not passed this placement test may not register for courses in the major program. The examination will be given again on January 31, 1987.

Instrumental instruction is, as a rule, only available to majors. Occasionally there are openings for lessons for non-majors. Students should contact the Music Department office (6-5672 or 632-7330) for appointments for auditions. Students who have not had an audition may not register for lessons.

MUS 120 Elementary Sight-Singing and Dictation (NEW)
Beginning ear-training, including rhythmic and melodic dictation and sight-singing. Intended for students who are not prepared to enter MUS 121. May be repeated, but credit counts toward graduation only once. Prerequisite: MUS 119 or placement examination. Fall and spring, 3 credits.

MUS 222 Modal Counterpoint (REvised)
An introduction to fundamental principles of musical structure through exercises in two-part species counterpoint in 16th-century style.

MUS 261 University Chorus (REvised)
Study and performance of a repertory from the Middle Ages to the present. Grading is based on attendance. May be repeated.

MUS 262 University Orchestra (REvised)
Study and performance of works from the repertory of the concert orchestra. Grading is based on attendance. May be repeated. Fall and spring, 1 credit.

MUS 263 University Wind Ensemble (REvised)
Study and performance of works for ensembles of woodwinds, brass, and percussion in various combinations. Grading is based upon attendance. May be repeated.

MUS 340 Western Music Before 1600 (REvised—formerly MUS 241)
Only the number has been changed.

MUS 363 Advanced Performance Study in Harpsichord (NEW)
Prerequisites: Audition, permission of instructor. Fall and spring, 4 credits.

Philosophy
A brochure with extended descriptions of Spring 1987 Philosophy courses will be available in Old Physics 221, beginning November 12.

Changes in expected semester of course offerings: PHI 112, 249, and 268 will not be offered in Spring 1987. PHI 109, 110, 150, 239, 264, 285, 304, 308, 320, 324, 325, 342, 363, 366, 368, 374, 378, and 382 will not be offered in 1986-87. PHI 405 and 408 have been deleted from the curriculum.

PHI 111 Introduction to Eastern Philosophy: Classical Texts (REvised)
A study of main classical texts drawn from Hinduism, Buddhism (Indian, Chinese, Japanese), Taoism, Confucianism, and Neo-Confucianism (2500 B.C. to 300 B.C.). The emphasis will be on the structural and contextual background of these traditions and on relating them to what may be implicit in the American experience.

PHI 112 Introduction to Eastern Philosophy: Interpretations (REvised)
Analysis of texts drawn from the Eastern tradition in an effort to recover the different modes of knowledge, language, identification, liberation, etc. and a study of different systems of Eastern philosophy that have dealt with these problems.

PHI 223 Introduction to Metaphysics (REvised)
An introduction to philosophy through a study of the methods by which philosophers construct systematic accounts of knowledge and reality. Topics such as mind and matter, appearance and reality, freedom and determinism are discussed. The logical principles of system-formation as well as
the power of specific systems in resolving particular metaphysical problems are demonstrated.

**PHI 239 Japanese Philosophy and Aesthetics (REVISED)**

An examination of how modernization has affected the philosophical process in Japan focusing on such philosophical and literary authors as Fukuzawa, Natsume, Mori, Watsuji, Nishida and the Kyoto School, and more recent thinkers such as Tanizaki, Kawabata, and Mishima.

**PHI 264 Philosophy of the Arts (REVISED)**

A study of the arts focusing on the nature of the creative process, methods of interpretation, essential differences among the various arts, and the relation of performance to text.

**PHI 310 American Philosophy (REVISED)**

A study of selected major figures in the American tradition, e.g., Jefferson, Emerson, Edwards, James, Perce, Dewey, and Whitehead, includes consideration of such issues as the global relevance of the ethical issues engaged, the effects of the science of the day on the philosophical perspectives of these thinkers, and the philosophical problems addressed.

**PHI 323 Philosophy of Perception (REVISED)**

An inquiry into the philosophical and methodological problems pertaining to sensing, perceiving, and observing the world with special attention to vision. Various scientific solutions will be examined and a comparison will be made between psychological and physical methods for studying such phenomena as visual illusions and object recognition. Biological, psychophysical, neurophysiological, and computational methods are among those considered.

**PHI 332 Theories of Knowledge (REVISED)**

A study of a variety of conceptions of the structure and content of knowledge as found in classical and contemporary epistemologies. Fundamental methods and principles of philosophical inquiry are applied to questions about the ways in which concepts and theories are generated in the physical and social sciences and to questions about the nature of knowledge, of what is of value, of philosophy and knowledge in the arts.

**PHI 362 Scientists on Science (NEW)**

The study of the methods, goals, and achievements of science as well as the ethical and social commitments of scientists through the writings of selected natural scientists from Galileo and Newton to Bohr, Einstein, and Feynman. Topics will include: the criteria for choice among theories, e.g., simplicity, beauty, usefulness; the use of mathematics and the role of experiment in science: objectivity, reality of the scientific image; scientific images of the person and of society; social and ethical values in science: religion and science.

**Prerequisites:** Two semesters of science; one philosophy course

**PHI 363 Philosophy of the Social Sciences (REVISED)**

A study of the philosophical foundations of the social sciences, applying principles and methods of philosophical analysis to questions concerning the structures of social reality, the methodological and epistemological status of the social sciences, and the criteria for evidence and theory formation in the social sciences.

**PHI 364 Philosophy of Technology (REVISED)**

A systematic study of the interrelations of human beings and their social institutions with the surrounding world of nature and of technological artifacts. The impact of technological culture on human beliefs and perceptions of the world will be explored. The course will be interdisciplinary in scope, with readings from philosophy, anthropology, sociology, history, environmental studies, and other areas where technology is of concern.

**PHI 372 Ethical Inquiry (REVISED)**

An intensive study of the methodological principles governing the formation of ethical theories and ethical judgments through an investigation of selected ethical problems.

**PHI 380 Literature and Philosophy (REVISED)**

An intensive study of the methods and principles of the philosophical analysis of literature and the relations between literature and philosophy. Primary texts are selected to demonstrate the precise nature of this relationship. Topics will vary from term to term.

**PHI 381 Aesthetics (REVISED)**

An intensive study of methods and principles specific to the philosophical analysis of art through selected classical texts in aesthetics (e.g., Plato's Phaedrus, Aristotle's Poetics, Kant's Critique of Judgement, or Nietzsche's The Birth of Tragedy). Discussions will focus on such problems as the ontology of the work of art, its epistemological significance, the relation between fact and fiction, criteria of interpretation, or the political import of art. Readings in the classical texts may be supplemented by selections from contemporary authors.

**PHI 415 The Philosophical Methodology of the Rig Veda (REVISED)**

The philosophical methodology of this great Indian text is interpreted within the text's own cultural context but also with a view to discerning a universal meaning that enriches Western understanding of such topics as knowledge, expression, and the need to structure experience, as well as the different forms and insights generated by such structures.

**Special Topics for Spring 1987**

**PHI 312 Topics in Contemporary European Thought: Contemporary French Thought (E. Casey)**


**PHI 393 Analysis of Philosophic Texts: Plato's Works (R. Sternfeld and H. Zyskind)**

**Physical Education**

Changes in expected semester of course offerings: PEC 117, 129, 135, 147, 154, and 171 will not be offered in Spring 1987.

Fees for Horsemanship courses are $100 for PEC 180 and 181, and $110 for PEC 282.

**PEC 123 Lifeguard Training I (NEW)**

The first in a two-semester sequence leading to certification as an American Red Cross lifeguard. Course content includes elementary rescue techniques, boating and equipment rescues, and swimming rescues.

**Prerequisite:** PEC 122

**Fall and spring, 1 credit**

**PEC 124 Lifeguard Training II (REVISED)**

**Prerequisite:** PEC 123

**PEC 134 Aerobic Dance II (NEW)**

Advanced body conditioning to enhance cardiovascular fitness. Energetic dance forms will be combined with warm-ups, muscle-strengthening exercises, and cool-down.

**Prerequisite:** PEC 133

**Fall and spring, 1 credit**

**PEC 136 Basic Social Dance (REVISED)**

Only the title has been changed.
PEC 137 Intermediate Social Dance (NEW)
The presentation of additional steps to
dances taught in PEC 136, as
as well as the introduction of several new
dances. Emphasis will be placed on the
following: use of proper footwork,
positioning, and styling; appreciation of
music, recognition, and interchanging
certification in
certain steps from one style of dance to
another.
Prerequisite: PEC 136
Spring, 1 credit

PEC 138 Beginning Jazz Dance (NEW)
The fundamental techniques of jazz
dance. The course develops body
awareness through limbering and
strengthening exercises, stretches, and
body alignment. Students will learn
body isolations, followed by center floor
combination and movement phrases
through space to jazz and related music.
Fall and spring, 1 credit

PEC 139 Intermediate Jazz Dance (NEW)
A technique class in jazz dance, which
will focus on intermediate skills.
developing a synthesis of material.
Students should have the fundamental
knowledge of alignment, centering,
placement, and basic terminology of:
Jazz dance upon entering the class.
The purpose of the class will be to combine
this knowledge with more difficult
technical demands in warm-up, floor
combinations, and patterns across the
floor. Elements of time (i.e., tempo and
rhythmic structure) will also be
investigated through movement.
Prerequisite: PEC 138
Fall and spring, 1 credit

PEC 145 Basic Physical Conditioning (REVISED)
Only the title has been changed.

PEC 146 Advanced Physical Conditioning (NEW)
The maintenance and improvement of
advanced levels of fitness. Instruction
will be primarily devoted to
improvement of muscular strength,
flexibility, and endurance. Activities will
include weight training with the
Universal gym machine and free
weights, stretching calisthenics, and
other activities known for their physical
conditioning benefits.
Prerequisite: PEC 145
Fall and spring, 1 credit

PEC 227, 228 Instructor of Lifeguard
Training I, II (NEW)
A two-course sequence designed to
meet the American Red Cross
certification in Instructor of Lifeguard
Training. The course will include
teaching methods for physical skills in
advanced lifesaving and general
rescues.
Prerequisites to PEC 227: PEC 124 and
223
Prerequisite to PEC 228: PEC 227
Fall (227) and spring (228), 2 credits
each semester

PEC 229 Fieldwork in Adapted
Aquatics Instruction (NEW)
Provided currently certified instructors of
adapted aquatics with additional
knowledge and practical experience in
teaching swimming to disabled persons.
The course may also be used by
experienced instructors who wish to
update or renew Red Cross certification
in aquatics.
Prerequisite: PEC 226
Fall and spring, 1 credit

PEC 230 Dance Performance
Techniques I (NEW)
The development of dance technique
as well as the theory and practice of
creativity through choreography and
movement improvisation. Specific
performance tools (i.e., focus, energy,
quality, and projection) will be
discussed and applied.
Prerequisite: PEC 131
Spring, 2 credits

PEC 270 First Aid and Safety
(REVISED—formerly PEC 170)
This is now a 2-credit course.

PEC 312, 313, 314 Athletic Training
Practicum (NEW)
Advanced practical experience under
professional supervision in athletic
training. The student is assigned to a
sport-related activity (such as an
intercollegiate sport or an intramural
season) and assumes the responsibility
for injury prevention, recognition,
emergency care, and rehabilitation.
Prerequisite: PEC 311
Fall (312) and spring (313, 314). 2
credits each

PEC 475 Undergraduate Teaching
Practicum in Physical Education I
(REVISED)
Selected undergraduates will assist
faculty members teaching physical
education activity classes. In addition to
working as tutors during instructional
periods, students will have regular
conferences with a faculty supervisor.
Student effort will concentrate on
Teaching motor skills, class safety,
principles of sportmanship, and basic
coaching strategies. Satisfactory/
Unsatisfactory grading only.
Prerequisites: Advanced skill level;
permission of instructor and department.
Fall and spring, 2 credits

PEC 476 Undergraduate Teaching
Practicum in Physical Education II
(REWISED)
The course continues on a more
advanced level training in the methods
of planning for physical education
classes; administration of sports skills;
testing and advanced coaching
strategies. Students will be expected to
assume greater responsibility in small
unit coaching in team sports and
concentrated individual coaching in
lifetime sports. Satisfactory/Unsatisfactory/
grading only.
Prerequisites: PEC 475; permission of
instructor and department
Fall and spring, 2 credits

PHYSICS

Changes in expected semester of
course offerings: PHY 110, 308, and
333 will not be offered in
Spring 1987.

PHY 100 Introductory Physics
(REVISED)
A quantitative introduction to basic
ideas of physics: space and time, static
force and pressure, temperature,
velocity, acceleration, force and motion,
and energy. Strong emphasis is laid on
the handling of numbers, treatment of
experimental data, graphing, functions,
vector algebra, the slope of a curve
and the area underneath it. Three
lectures, one recitation, and two
laboratory hours per week.

PHY 101 Classical Physics I
(REVISED)
An introductory survey of mechanics,
wave motion, kinetic theory, and
thermodynamics. Calculus is used,
concurrently with PHY 101, 102.
Prerequisites: MATH 131 or 141.
Three lectures, one recitation, and two
laboratory hours per week.

PHY 102 Classical Physics II
(REVISED)
An introductory survey of
 electromagnetism, electric circuit theory,
and optics. Calculus is used,
concurrently with PHY 101, 102.
Prerequisites: MAT 132 or 142 or
Note: Some students who have
sufficient preparation may be
permitted to register for PHY 101 without having
taken PHY 100; but only after they have
received permission from Professor C.E.
Swartz, Room B-104 in the Physics
Building. (The College of Engineering
and Applied Sciences will arrange
permission for freshmen accepted
directly into one of its majors.)

PHY 105, 106 Classical Physics I, II:
Honors (NEW)
A course intended for students with
strong interests and abilities in science
and mathematics. The topics covered
are similar to those in PHY 101, 102, but are treated in more depth in a small
class setting. Students will be able to
transfer to PHY 101, 102 at any time.
during the first half of each semester without penalty. Three class hours, one recitation hour, and one two-hour laboratory per week.

Prerequisite to PHY 105. Permission of department.

Co-requisite to PHY 105: MAT 131 or 141 or 126.

Prerequisite to PHY 106: PHY 105 or permission of department.

Corequisite to PHY 106: MAT 132 or 142 or 127.

Fall (105) and spring (106). 4 credits each semester.

PHY 137, 138 The Nature and Use of Physical Science (REVISED)

An introductory physics course using a minimal amount of mathematics to provide scientific background for the educated citizen in an increasingly technological society. (The rest of the description is the same as in the BULLETIN.)

PHY 251 Modern Physics (REVISED)

An introductory survey of modern physics, which completes a three-semester general physics sequence. The elements of the special theory of relativity are discussed. Wave-particle duality, the concept of wave function, and other fundamentals of the quantum theory are introduced and related to atomic structure, nuclear structure, and the physics of the solid state. In the laboratory, students perform some of the pivotal experiments of the 20th century. Three lecture hours and one three-hour laboratory per week.

PHY 252 Optics and Waves (REVISED)

A survey of geometrical and physical optics with associated laboratory. Ideas important to the development of contemporary physics are stressed. Three lecture hours and one three-hour laboratory per week.

Prerequisite: PHY 102 or 106.

Corequisite: MAT 221 or 231 or 241.

PHY 308 Quantum Physics (REVISED)

Prerequisites: PHY 251, 301, and 303.

Special Topics for Spring 1987

PHY 137, 138 The Nature and Use of Physical Science

Module 1: The Physics of Vacuum: More than Nothing

Module 2: Lasers and Unconventional Light Sources

Module 3: The Physics of Strategic Defense (P. Koch)

Political Science

A brochure with extended descriptions of Spring 1987 courses is available in Social and Behavioral Sciences S-701.

Changes in expected semester of course offerings: POL 250, 326, 339, 350, 362, 370, and 373 will not be offered in Spring 1987. POL 240, 351, 353, and 368 have been deleted from the curriculum.

The new course POL 105 Honors Introduction to American Government, below, may be used as an alternative to POL 102 in satisfying major requirements and as the prerequisite for the following courses: POL 220, 221, 260, 261, 305, 320, 322, 323, 324, 326, 327, 348, 352, 366, and 369.

The new course POL 106 Statistical Methods in Political Science, below, replaces POL 104 in satisfying major requirements and as the prerequisite for the following courses: POL 317, 346, 348, 349, 360, and 375.

Political Science majors accepted for a New York State Assembly or Senate Internship in Albany (and who meet the rest of the prerequisites) should register for POL 489 and 490 rather than POL 488.

Honors Program

The new honors program is open to seniors majoring in political science who have maintained a G.P.A. of 3.5 in the major and 3.0 overall, and who have completed 21 credits in political science of which 12 credits have been in 300-level courses. Students should apply for the honors program before the beginning of their senior year. The student must find a member of the department faculty to act as sponsor. With the approval of the sponsor, the student must submit a written proposal for a major paper or research project to be completed during the senior year. Acceptance into the honors program depends on the approval of the proposal by the department.

During the senior year the student will enroll in POL 447 during the first semester and POL 487 during the second semester. for a total of six credits. The student's major paper or research project must be completed no later than four weeks prior to the end of the second semester. It will be read and evaluated by a committee consisting of the student's sponsor, one other political science faculty member, and one faculty reader from an outside department in the Social and Behavioral Sciences Division.

If the honors program is completed with distinction and the student has achieved a 3.5 G.P.A. in all political science courses taken in the senior year, honors will be conferred.

POL 105 Honors Introduction to American Government (NEW)

An enriched introduction to American government. Topics covered include political participation, public opinion, voting and elections, parties, interest groups, federalism, Congress, the Presidency, the bureaucracy, the judiciary, and public policy formation. This course requires more reading and more written work than does POL 102. May not be taken for credit in addition to POL 102.

Prerequisite: Permission of department.

Priority given to Freshman Incentives Program students.

Fall or spring. 3 credits

POL 106 Introduction to Statistical Methods in Political Science (NEW)

An introduction to the methods and statistics used by political scientists in their analysis of the opinions and voting behavior of the average American voter. These basic skills are examined in the context of major substantive literature on electoral behavior and public opinion in the United States and other democracies. May not be taken for credit in addition to the discontinued POL 104.

Spring. 3 credits

POL 306 Politics of International Organization (NEW)

Analysis of the structures and functions of international organizations with a particular emphasis on the United Nations and regional organizations such as the League of Arab States, the Organization of American States and the Organization of African Unity. Examination of the roles of international organization in peace and security, economic and social development, human rights, and disarmament.

Prerequisite: POL 101 or 103.

Spring. 3 credits
POL 307 Politics in West Germany
(NEW)
An examination of the German Federal Republic, with special emphasis on the country's twisted path toward democracy, the international constraints of domestic politics, the role of political parties in government: coalition building; and the electoral process. 
Prerequisite: POL 103
Fall or spring, 3 credits

POL 321 American Federalism and Intergovernmental Regulations
(NEW)
A survey of the constitutional, institutional, and political interrelationships among federal, state, and local governments, covering grant-in-aid and other intergovernmental impacts.
Prerequisites: POL 102 or 105
Fall or spring, 3 credits

POL 355 Ancient and Medieval Political Philosophy (NEW)
Power, authority, social conflict, justice, and the goals of government as seen by such thinkers as Plato, Aristotle, Augustine, Thomas Aquinas, John of Salisbury, Marsilio of Padua, Machiavelli, Bodin, More, and Hooker. May not be taken for credit in addition to POL 250.
Prerequisites: Two political science courses; upper-division standing
Fall, 3 credits

POL 356 Modern Political Philosophy (NEW)
Power, authority, social conflict, justice, and the goals of government as seen by such thinkers as Hobbes, Locke, Rousseau, Hume, Burke, Hegel, Bentham, Mill, and Marx. May not be taken for credit in addition to POL 250 and 351.
Prerequisites: Two political science courses; upper-division standing
Spring, 3 credits

POL 360 Political Decision Making
(NEW)
Exploration of economic models of political choice. Topics include decision theory, game theory, and social choice theory. Substantial problem areas include voting in small groups, candidate competition in mass elections, and the normative study of democratic decision making.
Prerequisites: POL 102 or 104 or 105; one of the policy or behavior courses listed in BULLETIN, p. 167; satisfaction of mathematics proficiency requirement
Fall of spring, 3 credits

POL 365 Bureaucracy and Public Administration (NEW)
Intended for students interested in a public service career. Topics include functions of bureaucracy in American society and in various cultural contexts; relationships between policy and administration; development of organizational and bureaucratic theories, with emphasis on decision making, innovation, and responsibility.
Prerequisite: POL 350
Spring, alternate years, 3 credits (not offered in 1986-87)

POL 372 Politics in the Third World (NEW)
Analysis of problems and prospects of non-industrialized nations that are experiencing political and economic development. Particular attention will be paid to the impact of colonialism, social problems, economic modernization, and foreign policy orientations of the Third World nations.
Prerequisite: POL 103
Spring, 3 credits

POL 373 Politics in South Asia (NEW)
Analysis of the political systems of India, Pakistan, and other major nations of South Asia. The course will explore the relationships between political cultures, economic structures, party systems, and institutions for formulating public policy.
Prerequisite: POL 103
Spring, 3 credits

POL 374 Health Politics and Policymaking (NEW)
An intensive examination of the formulation and implementation of public policy in the United States through in-depth scrutiny of one policy area. health care. Topics include the politics of smoking, health care financing, restructuring federal programs, procompetitive reforms of the health care system, and aging.
Prerequisites: POL 102 or 105; POL 260 recommended
Spring, 3 credits

POL 375 American Politics and Social Change (NEW—offered as POL 402, Sec. 1 in Spring 1986)
An examination of the dynamics of social change from theoretical and historical perspectives. The course focuses on competing models of the American political process and questions how well they explain the origins of movements seeking social change and the state's responsiveness to political demands of disadvantaged groups.
Prerequisites: POL 102 or 105 and POL 104
Fall, alternate years, 3 credits (not offered in 1987-88)

Psychology

The Psychology Department publishes a brochure each semester that contains extended descriptions of special course offerings and other announcements of interest to undergraduates. These are available in the Psychology Undergraduate Office (Psychology-B 116), which is open from 8:30 a.m. to 4:00 p.m. every day. The bulletin board outside Psychology-B 116 also contains up-to-date information about community service opportunities and research.

Changes in expected semester of course offerings: PSY 121, 309, and 351 will not be offered in Spring 1987. PSY 242, 305, 306, 322, and 344 will not be offered this year. PSY 317, 318, and 348 have been deleted from the curriculum.

Revised Major Requirement
1. A grade of C- or higher must be obtained in all courses (within and outside the Psychology Department) required for the major.
2. No transferred psychology course with a grade lower than C- will be accepted for credit toward the major.

PSY 121 Library Skills for Psychological Research (NEW)
An introduction to basic library skills and bibliographic resources for psychological research, using a self-paced workbook approach. Reference and other library materials of special interest to psychology students are covered. Such skills as the efficient use of card catalogs, bibliographies, and specialized indexes are also treated. No class sessions are held, but an opportunity for a good contact between students and librarian is provided.
Prerequisite: PSY 103 or 104
Fall or spring, 1 credit

PSY 321 Sensation-Perception (REvised)
An examination of the processes of perception, the sensory mechanisms involved, and the subjective experience of perceiving. Emphasis is given to classical sensory psychology, but reference is made to new developments and new techniques.
Prerequisite: PSY 121
Fall, 3 credits

PSY 343 Comparative Psychology (NEW)
A consideration of observed patterns and underlying mechanisms of animal and human behavior in ecological and evolutionary perspective. Crosslisted with BIO 359. May not be taken for credit in addition to the discontinued PSY 244.
Prerequisites: PSY 103 or 104; BIO 101 or 151
Fall, 3 credits

26
PSY 350 Cognitive Psychology (REVISED)
Prerequisites: PSY 103 or 104; PSY 201 or AMS 102

PSY 351 Topics in Cognition (NEW)
A study in depth of a selected topic from among (1) problem solving, (2) memory, (3) attention, and (4) imaginal processes. The topic will be announced and described in detail prior to advance registration. May be repeated once with permission of the instructor.
Prerequisite: PSY 350
Spring, 3 credits

PSY 353 Human Learning and Instruction (NEW)
The application of basic principles of cognition to the acquisition of knowledge (concepts, cognitive strategies, verbal information), with an emphasis on instructional design. May not be taken for credit in addition to the discontinued PSY 319.
Prerequisite: PSY 350
Fall, 3 credits

PSY 370 The Psychology of Language (REVISED)
Prerequisite: PSY 350

PSY 377 Psychology of Women (NEW)
Croslisted with WNS 307. See Women’s Studies section.

Special Topics for Spring 1987

PSY 311 Advanced Developmental Psychology: Children’s Learning
Basic principles of learning surveyed from experimental research with children. Topics will include perceptual development, language development, memory development, conceptual development, and the development of academic skills (reading, writing, and arithmetic).
(H. Waters)

PSY 390 Special Topics in Psychology: Cognition and Computers
The application of basic principles of learning and information processing to the use of computers in elementary age instruction. Topics include teaching programming skills (Logo), text processing skills, and the development of problem solving skills. The emphasis is on strategies for using computers as instructional tools, not on programming per se.
Prerequisite: PSY 211
(H. Waters)

PSY 492 Advanced Seminars in Psychology
Sec. 15: Early Education and Development
Overview of early childhood development during the preschool years in relation to preschool education. Development of the child during this period with emphasis on social, cognitive, psychomotor, and affective growth particularly as it occurs within the preschool environment. Three-hour practicum in University Preschool each week.
(H. Emmerich)

 Rahul 34: Psychology and the Nature of Human Nature
This seminar will look at the interface between philosophy and psychology by addressing questions such as the following: Are humans by nature aggressive or altruistic? Are they able to choose among alternatives? Can the mind-brain debate be resolved? The focus will be on what psychologists have had to say about these and similar questions and how they have gone about trying to answer them.
(A. Ross)

Sec. 45: Topics in Developmental Disabilities
The behavior of retarded and autistic children will be reviewed. The focus will be on severe behavior problems such as aggression, self-injury, and communication disorder. Students will read key papers and report and discuss the issues involved.
(E. Carle)

Religious Studies

Changes in expected semester of course offerings: RLS 280 and 350 will not be offered in 1986-87. RLS 372 has been deleted from the curriculum.

RLS 110 The Bible: A Critical Introduction (NEW)
An introduction to a modern critical understanding of the Bible, emphasizing both a study of the major Biblical books and the history of Biblical Israel and the early Christian community. The Biblical books will be studied in their original historical and religious context, apart from any ecclesiastical or theological tradition.
Fall, 3 credits

RLS 122 Religion and Ethics Today (REVISED)
An introduction to problems of method in the study of religion. This course analyzes the role of religion in the formation of moral, social, and political values, through a study in depth of selected contemporary areas of religious concern such as political economy, medicine, human rights, science and technology, war and peace.

RLS 150 The Religious Dimension (REVISED)
This is no longer an honors course: it is open to all students.

RLS 310 Biblical Theology (NEW)
Intensive introduction to the theological tendencies and implications of selected major texts from the Christian and Jewish scriptures. The course will survey historical and critical work on the selected texts, but will focus on the religious thinking reflected in them and their influence on later traditions. May be repeated once for credit as subject matter differs.
Prerequisites: RLS 230 or 270 or RLS 101 and one 200-level RLS course
Fall, 3 credits

RLS 321 Christian Classics (REVISED)
Intensive study of a particular influential classic Christian text or genre, orthodox or heterodox, selected from early Christian, medieval, Reformation, or modern works. May be repeated as subject matter differs.

RLS 345 Religion and Science (NEW)
Origins and development of the conflict between religion and modern science, along with contemporary efforts to reconcile their methods and goals. Topics include the Galileo case, the Enlightenment critique of dogmatic religion, and anti-religious theories such as Darwinism, psychoanalysis, sociobiology, and artificial intelligence. Recent efforts toward a new intellectual synthesis of religion and science will be discussed, with attention to its East-West dimension.
Prerequisites: Upper-division standing; two semesters of science and one 200-level RLS or PHI course
Fall or spring, 3 credits

Science Teacher Preparation

The Center for Science, Mathematics, and Technology Education offers undergraduate science education courses satisfying New York State requirements for provisional certification as a secondary school teacher of biology, chemistry, earth science, and general science. Persons seeking additional information about these courses or the program are invited to call 632-7075 or visit the Center in Harriman Hall, Room 202.

Requirements for the Science Teacher Preparation Program
In addition to completing major requirements in biological sciences, chemistry, earth and space
Supervised Teaching

One of the courses in a series for prospective secondary school teachers of science, including biology, chemistry, and earth science. It emphasizes instructional strategies and techniques necessary to create and implement inquiry and discovery activities within a science curriculum. The laboratories will include experiences in local public schools and campus laboratory courses. Curriculum development and independent science projects will be part of the course.

Pre- or corequisite: SCI 200
Spring, 3 credits

SCI 447 Readings in Science Education (NEW)

Tutorial studies on recent advances in scientific education.
Prerequisite: Permission of Center for Science, Mathematics, and Technology Education.
Fall and spring, 1 credit

SCI 450 Supervised Teaching—Science (NEW)

Extensive practice under selected cooperating teachers for prospective secondary school science teachers.

Student teachers work with one or two certified science teachers in one school each regular school day for the entire semester. Frequent consultations with University faculty members assist the student. Applications must be filed with the Center for Science, Mathematics, and Technology Education one semester prior to student teaching. Satisfactory/Unsatisfactory grading only.
Prerequisite: Senior standing with 2.7 G.P.A. in major.
Corequisite: SCI 454
Fall and spring, 12 credits

SCI 454 Student Teaching Seminar (NEW)

Seminar on problems encountered by student teachers and public school teachers at the secondary level. Study and analysis of many aspects of science teaching such as legal responsibilities and professional ethics.
Prerequisite: SCI 450
Fall and spring, 3 credits

SCI 475 Teaching Practicum (NEW)

Study of the literature, resources, and teaching strategies in science education with a supervised clinical experience in undergraduate instruction. Satisfactory/Unsatisfactory grading only.
Prerequisite: Senior standing; permission of instructor.
Fall and spring, 3 credits

Social Sciences

A brochure with extended descriptions of Spring 1987 courses is available in the Social Sciences office, Social and Behavioral Sciences S-201.

SSI 140 and 265 have been deleted from the curriculum. SSI 265 has been replaced by HAS 303 Drug and Alcohol Education for all teacher preparation programs. See Allied Health Professions section.

Women's Studies courses are no longer listed with the SSI designator, although some are crosslisted. All WNS (but not WNH) courses may, however, be applied to the Social Sciences Interdisciplinary major as if they were still SSI courses. See Women's Studies section, below.

Students planning to enter the Social Sciences Secondary Teacher Preparation Program during the 1987-88 academic year should consult with Professor Eli Seifman during the Spring 1987 semester. Failure to do so may result in a delay in meeting the New York State teacher certification requirements.

Students planning to take SSI 450 Supervised Student Teaching in Spring 1987 must contact Professor Seifman before the end of the Fall 1986 semester to make arrangements for a secondary school student teaching placement.

Students accepted for a New York State Assembly or Senate Internship in Albany (and who meet the rest of the prerequisites) should register for SSI 489 and 490 rather than SSI 488.

SSI 102 Introduction to Women's Studies (REVISED)
Crosslisted with WNS 102.

SSI 210 Images and Realities of Childhood (NEW)
Contemporary views of childhood as reflected in societal values and attitudes. Emphasis will be placed upon present-day society whose books, films, television, music, and child-rearing customs will be analyzed to determine contemporary social roles and expectations.
Prerequisite: SSI 103
Spring, 3 credits

SSI 308 Battered Wives, Endangered Children (NEW)
Theories and research about physical and sexual abuse of women and children. Among the topics to be discussed are rape, incest, and spouse abuse. The approach will include sociological, psychological, and feminist perspectives. Solutions involving the medical and legal systems and the establishment of shelters will also be explored.
Prerequisite: 18 credits of social sciences
Fall, 3 credits

SSI 320 The Special Child (NEW)

Social, political, philosophical, and educational issues related to the habilitation and integration of children. The course focuses on the interaction between children who have developmental, sensory, communication, behavioral, orthopedic, and other health disorders as well as those who are gifted, and community response to their exceptional needs.
Prerequisite: SSI 103 or PSY 211
Spring, 3 credits

SSI 407 Senior Seminar in Women's Studies (REVISED)
Crosslisted with WNS 407.
Sociology

A brochure with extended descriptions of Sociology courses will be available at the department office, Social and Behavioral Sciences S-401, starting November 17.

Changes in expected semester of course offerings: SOC 106, 300, 302, 305, and 406 will not be offered in Spring 1987. SOC 106 will be offered next fall, and all these courses will be offered in Spring 1988. SOC 104 has been deleted from the curriculum.

The new courses, SOC 105 Structure and Method in Sociology, SOC 106 Introduction to Sociology, Honors, and SOC 305 Modernity and Identity, below, may be used as alternative prerequisites instead of SOC 103 whenever that course is listed as a prerequisite. Preferably, one of these three courses should be used instead of SOC 103 to satisfy major requirements.

Revised Major Requirements
1. SOC 211-212 will replace SOC 201 and 202 as requirements for the major for all students who had accumulated 45 graduation credits by the beginning of the Fall 1986 semester. (Students under the old requirement who have not yet completed SOC 201 and 202 must take the courses in 1986-87, the last year in which they will both be offered, or substitute SOC 211-212.)
2. Courses in linguistics, social sciences (SSI only), and women's studies (WNS only) may be used to satisfy the "related fields" requirements of three courses in one related social science.

SOC 105 Structure and Methods in Sociology (NEW)
A general introduction to the science of sociology. This course emphasizes sociological theory and methods. Students will be taught what is unique about the way in which sociologists analyze human behavior and society. Differences between the sociological perspective and perspectives of other social sciences are emphasized. There will also be a heavy emphasis on the types of methods and data that sociologists use to test the validity of their ideas. May not be taken for credit in addition to SOC 103, 106, 301, 305, or the discontinued 104.
Fall and spring, 3 credits

SOC 106 Introduction to Sociology: Honors (NEW)
An enriched introduction to the sociological perspective with an emphasis on how sociologists develop and test their hypotheses about human behavior. This course will require more reading and cover more difficult topics that SOC 105, providing an introduction to sociology in greater depth. May not be taken for credit in addition to SOC 103, 105, 301, 305, or the discontinued 104.
Fall and spring, 3 credits

SOC 300 Sociological Writing (NEW)
A practical in writing on sociological topics. Each semester the course will concentrate on different sociological topics to be selected by the instructor. The students read books and papers on this topic, discuss them in class, and then complete a series of writing assignments on the material discussed in class.
Prerequisite: SOC 103 or 104 or 105 or 106 or 301 or 305.
Pre- or co-requisite: SOC 211-212
Fall and spring, 3 credits

SOC 305 Modernity and Identity (NEW)
A sociological perspective applied to the emergence of modern society. Special attention is focused on the impact of the industrial revolution, urbanization, and the rise of modern democracies. The course will consider how new social structures, such as bureaucracies, lead to new definitions of personal identity, and how social order and culture become increasingly problematic as new social groups are formed and demands are made. May not be taken for credit in addition to SOC 103, 105, 106, 301, or the discontinued 104.
Prerequisite: Upper-division standing.
Fall, 3 credits

SOC 320 Demography (REVISED)
Only the title has been changed.

SOC 371 Gender and Work (NEW)
Gender differences in work force participation and occupational attainment, how changes in workforce participation, economic, legal, and social factors affecting employment; career options, and pay equity. Crosslisted with WNS 371.
Prerequisites: SSI 101 or WNS 102 or SOC 103 or 104 or 105 or 106 or 301 or 305, either SOC 201 or two other courses in the social sciences.
Spring, 3 credits

SOC 375 Biosociology (NEW)
Comparison of basic social processes in human and animal groups. Topics covered include dominance hierarchies, the distribution of scarce resources, cooperation, and the division of labor.
Prerequisites: SOC 103 or 104 or 105 or 106 or 301 or 305, either SOC 201 or two other courses in the social sciences or two courses in biology.
Spring, 3 credits

SOC 385 The Sociology of Economic Life (NEW)
The sociological approach to markets, production, distribution, and consumption. Special attention to the differences between sociological and economic theories of the same phenomena and to the embeddedness of economic action in social structure. Topics include the historical emergence of sociology and economics as separate disciplines, labor markets and the labor process, discrimination, vertical integration and industrial organization, the organization of professions such as law and medicine, fertility and population change, comparisons of tribal and non-Western economic systems to those familiar in modern industrial society.
Prerequisites: SOC 103 or 104 or 105 or 106 or 301 or 305, either SOC 201 or two other courses in the social sciences.
Spring, alternate years, 3 credits (not offered in 1987-88)

SOC 475 Undergraduate Teaching Practicum (REVISED)
Prerequisites: Upper-division standing. 12 credits of sociology, permission of instructor and Director of Undergraduate Studies.

Special Topics for Spring 1987

SOC 390 Special Topics: Health Care Delivery
The focus of this course is on the organization and component aspects of the health delivery systems in this country. Particular attention is paid to the effects of this system on the patient, the provider, the institutions of the system, and the general community. The health systems of other countries are used as comparative models.

(B. Waldman)

SOC 391 Special Topics: Theory and Practice in Student Leadership
A seminar for students interested in developing communication and leadership skills. It will offer a combination of readings, directed observations, and experiential learning. The course will draw on sociology, social psychology, and developmental theory and will focus on organizations, small groups, leadership, and individual student development.
Prerequisites: SOC 103 or 104 or 105 or 106 or 301 or 305, either SOC 201 or two other courses in the social sciences; permission of instructor.

(P. LaManda)
Theatre Arts

Changes in expected semester of course offerings: THR 218, 222, 316, 332, 372, 375, and 376 will not be offered in Spring 1987. The fall course, THR 371, will be offered this spring. THR 130, 213, and 307 have been deleted from the curriculum. (THR 307 has been replaced by THR 297 and 397, below).

Information on changes in major and minor requirements resulting from course deletions is available in the department office.

The new courses, THR 297 and 397, have been added to the list of performance courses that may not count toward the 90 liberal arts credits required for the B.A. degree.

Although all the projects courses have been made repeatable up to a maximum of six credits in any one (see THR 481-487 and 489 below), the limit of six credits that may be earned in any combination of these courses remains in effect.

THR 223 Stage Costume I (REVISED)
An introduction to costume design. Combining theory and practice, students learn the tradition and history of costume design and complete exercises in rendering and conceiving designs and working through design ideas of their own. Written reports will detail the processes followed.

THR 230 Voice and the Actor (REVISED—formerly THR 331)
A practical course in voice production for the actor. Students will participate in exercises for developing the speaking voice with an emphasis on the involvement of the body. Increasing resonance, range, articulation, and their link to acting and improvisation will be explored. The International Phonetic Alphabet will be studied.
Prerequisite: THR 105 or 112

THR 246 Stage Lighting (REVISED)
Prerequisite: THR 101 or 116

THR 256 Stage Design I (REVISED)
An introduction to the aesthetics and worldwide traditions of stage design. The study will include exercises in design rendering with opportunities for students to conceive and work through design ideas.
Prerequisite: THR 101 or 116

THR 297 Rehearsal and Performance I (NEW)
Development of skills in performance through the preparation and rehearsal of a production. Students must audition, be cast in a principal role in a major department production, or be engaged in the entire rehearsal process to receive credit. May be repeated once. Fall and spring, 1 credit

THR 312 Readers’ Theatre (NEW)
The preparation and performance in a readers’ theatre of plays selected from the department’s list of required reading for majors. There will be performances for a local audience and for a community audience off campus. May be repeated once.
Prerequisite: THR 205
Fall or spring, 3 credits

THR 330 Oral Interpretation (NEW)
Continuation of voice study, exploring the voice as an instrument for readers’ theatre. Emphasis on adaptation of non-dramatic material for the stage and on choral reading.
Prerequisites: THR 230; permission of instructor
Fall or spring, 3 credits

THR 340 Summer Theatre Workshop II (NEW)
Advanced students will be assigned to positions of responsibility for the running of the Summer Theatre. May count toward the major with THR 244 for a combined total of 6 credits.
Prerequisites: THR 244; permission of instructor
Summer, 1 to 6 credits

THR 397 Rehearsal and Performance II (NEW)
Further development of skills in performance through the preparation and rehearsal of a production. Students must audition, be cast in a principal role in a major department production, or be engaged in the entire rehearsal process to receive credit. May be repeated once.
Prerequisite: THR 297
Fall and spring, 3 credits

THR 481 Projects in Production Management (REVISED)
May be repeated up to a maximum of 6 credits. This is now a variable-credit course. 1 to 3 credits

THR 482 Projects in Performance (REVISED)
May be repeated up to a maximum of 6 credits.

THR 483 Projects in Theatrical Design (REVISED)
May be repeated up to a maximum of 6 credits.

THR 484 Projects in Theatre History, Theory, Literature, and Criticism (REVISED)
May be repeated up to a maximum of 6 credits

THR 485 Projects in Script Writing (REVISED)
May be repeated up to a maximum of 6 credits.

THR 486 Projects in Technical Theatre (REVISED)
May be repeated up to a maximum of 6 credits.

THR 487 Projects in Media (REVISED)
May be repeated up to a maximum of 6 credits.

THR 489 Projects in Directing (REVISED)
May be repeated up to a maximum of 6 credits.

Special Topics for Spring 1987

THR 299 Special Workshop: Costume Construction
3 credits
(J. Wing)

Unaffiliated Courses

Changes in expected semester of course offerings: INT 200 will not be offered in Spring 1987. INT 224 and SBS 360 have been deleted from the curriculum.

HUM, SBS, SCI 291 Seminar on Contemporary Issues (REVISED)
May be repeated as the topic varies.

HUM, SBS, SCI 491 Seminar on Contemporary Issues (REVISED)
May be repeated as the topic varies.

INT 101 Support Skills for LD Students (NEW)
A remedial course for students with learning problems. Students will be taught how to take notes, improve memory, develop listening, reading, and writing skills, prepare for and take examinations, use the library, and develop individual compensatory strategies. Satisfactory/Unsatisfactory grading only. May be repeated once. Does not count toward graduation.
Prerequisite: Permission of Resource Center staff and instructor
Fall and spring, 1 credit

Special Topics for Spring 1987

HUM 291 Seminar on Contemporary Issues: Blind Ambition—The Seduction and Danger of Power
Students will examine the opportunity for highly placed individuals in various
state systems to suspend their own moral accountability in order to achieve personal or political gain. Examples will be drawn from Nixon’s America, Stalin’s Russia, and Hitler’s Germany. The class will read memoirs which exhibit the tension between ethical constraints and opportunity in contexts not governed by traditional morality.

Prerequisite: Residence in Langmuir College (P. Chase)

HUM 491 Seminar on Contemporary Issues: Issues in Contemporary Catholicism
An examination of a number of issues in Catholicism including the role of women, liturgy, authority in the Church, and with special emphasis on the influence of the clergy.

Prerequisite: Upper-division standing (A. Godfrey)

Women’s Studies

WNH 250 Women in the Third World (NEW)
The problems of women in Third World societies, as illustrated through narratives by and about women. Oppression, madness, the quests for freedom, love, identity, and fulfillment are themes to be approached through the texts of this course. The interrelationships between women and men, underlying the basic human need for personal fulfillment, will be studied.

Spring, 3 credits

WNS 102 Introduction to Women’s Studies (REVISED)
Croslisted with SSI 102

WNS 307 Psychology of Women (REVISED—formerly SSI 307)
Croslisted with PSY 377

WNS 320 Women in Judaism (NEW)
A survey of women in Judaism and in Jewish life from the Biblical period to the present, focusing on such topics as the representation of women in the Bible; Jewish law concerning women; the role of women in the enlightenment in Germany and America; immigrant women in America; women in the Holocaust; and women in Israel.

Croslisted with JDS 327

Prerequisite: One JDS or WNH or WNS course

Alternate years, 3 credits (not offered in 1987-88)

WNS 333 Women in U.S. History (REVISED—formerly SSI 333)
Croslisted with HIS 333

Special Topics for Spring 1987

Special topics are being offered in two departments that should be of interest to students in the women’s studies minor as well as other students interested in women’s issues: FRN 393 and HIS 441. Note, however, that the FRN course is offered entirely in French. See the appropriate sections of the Supplement for further information.
Notice to Engineering and Computer Science Majors

Effective Spring 1986, ESE 218 became ESE 318. ESE 218 will be counted as an upper-division course to meet graduation requirements.

Applied Mathematics and Statistics

Changes in expected semester of course offerings: AMS 491 will not be offered in Spring 1987. The fall courses AMS 301, 311, and 373 will be offered in the spring.

AMS 110 Probability and Statistics in the Life Sciences (REVISED)
Credit cannot be given for both AMS 102 and 110.

AMS 113 Foundations of Computer Science (NEW)
Crosslisted with CSE 113. See description under Computer Science.

AMS 201 Matrix Methods and Models (NEW)
Basic properties of matrix algebra, matrix norms, eigenvalues, solving systems of equations, applications to economics, growth models, Markov chains, regression, linear programming. Computer software packages used. May not be taken for credit by students with credit for MAT 231 or 241 or AMS 210.
Prerequisite: MAT 125 or 131
Fall, 3 credits

AMS 210 Applied Linear Algebra (REVISED)
Only the title has been changed.

AMS 315 Data Analysis (NEW)
Prerequisite: AMS 310
Spring, 3 credits

AMS 335 Game Theory (NEW)
Introduction to game theory fundamentals with special emphasis on problems from economics and political science. Topics include: strategic games and Nash equilibrium; games in coalitional form and the core; bargaining theory; measuring power in voting systems; problems of fair division; optimal and stable matching.
Prerequisite: One semester of calculus
Fall, 3 credits

Computer Science

Changes in expected semester of course offerings: CSE 105, 346, and 352 will not be offered in Spring 1987. The fall courses CSE 303, 304, and 373 will be offered this spring. Contrary to the information given in the Bulletin Supplement for Fall 1986, CSE 111 and 345 will be offered this spring.

Revised Major Requirements

B. CSE 380 may be substituted for CSE 345 (as a Group I course). This is effective retroactively to all CSE majors.

K. Natural Science Requirements:
PHY 105 may be taken instead of PHY 101 PHY 106 may be taken instead of PHY 102

Challenge and Proficiency Examinations
There is now a Challenge examination for CSE 111, as well as a proficiency examination. Proficiency and Challenge examinations for CSE 111, 113, 114, and 120, as well as the
proficiency examination for CSE 201, will be given in the first week of the spring semester. These examinations (with the exception of the proficiency and Challenge examinations for CSE 111) will also be given at the end of the semester. Consult the department for times and locations.

All transfer students planning to take CSE 114, 120, 201, or higher-level CSE courses must take proficiency examinations to establish equivalence of transferred courses to serve as the prerequisite.

All students intending to take one of these examinations must register in the department office (Lab Office Bldg. 1401) during the week before the examination.

Written information about the content of the examinations is available in the department office.

CSE 110 Introduction to Computer Science (NEW)

An introduction to fundamentals of computer science for non-majors. Topics covered include algorithms, problem-solving techniques, computer applications, data structures, and machine principles. Students will gain experience using a modern higher level computer programming language (currently PASCAL) to solve a variety of numeric and non-numeric problems. Primarily for students not planning to major in computer science. May not be taken simultaneously with CSE 111 or 114. Students who have a C or higher in CSE 111 or 114 may not take CSE 110.

Prerequisite: MAT 120 or passing Mathematics Placement Examination at entry level for MAT 125 or 131. Fall and spring. 3 credits.

CSE 111 Computer Science for Engineers (REVISED)

Students who have a C or higher in CSE 110 or 114 may not take CSE 111. May not be taken simultaneously with CSE 110 or 114.

CSE 113 Foundations of Computer Science (REVISED)

Rigorous introduction to the foundations of computer science. Problem-solving techniques and mathematical concepts will be stressed. Concentrates on general and algorithmic problem-solving principles and discrete mathematics concepts (sets, Boolean logic, relations, graphs, counting principles, functions, sequences, induction proof, algorithms, complexity verification, recursion). Prepares the student for further computer science courses and is primarily oriented toward computer science and applied mathematics and statistics majors and intended majors. Crosslisted with AMS 113.

Prerequisite: MAT 120 or passing Mathematics Placement Examination at entry level for MAT 125 or 131. Fall and spring. 3 credits.

CSE 114 Computer Science I (REVISED)

Introduces fundamental computer science concepts and applies the foundations of computer science built in CSE 113 to the analysis and development of software in the programming language Pascal. Important concepts introduced include: software documentation, design, verification and validation, data abstraction, operating systems, language translation, artificial intelligence, data processing, recursive programming, and basic machine architecture. Students will develop software systems for a variety of numeric and symbolic applications.

Prerequisite: Grade of C or higher in CSE 113 or passing CSE 111 proficiency examination.

Fall and spring. 3 credits.

CSE 120 Computer Organization and Systems Programming (REVISED)

Explores the physical structure of a computer, machine representation of information, architecture and organization of various mainframe and microcomputers, primary and secondary storage, and input and output communication. Introduces machine and assembly language programming, and systems programming techniques in the programming language C.

Prerequisite: Grade of C or higher in CSE 110 or 114 or passing proficiency examination for CSE 111 or 114.

Fall and spring. 3 credits.

CSE 201 Computer Science II (REVISED)

Development of advanced software techniques with particular emphasis on data representation. Rigorous treatment of abstract data types (e.g., stacks and queues), tree structures, recursive data structures, and algorithms for searching, sorting, and translation. Reinforces the concepts of top-down modular software design and testing strategies. During weekly recitation sessions, students will develop applications software using the PASCAL programming language.

CSE 300 Software Engineering (NEW)

Introduces students to the software life cycle, and modern techniques and tools for the proper engineering of software systems. Stresses the development of reliable and maintainable software via system requirements and specifications, software design methodologies, detailed design, and implementation, integration, and testing. Topics include software project management, lifecycle documentation, software maintenance, and human factors issues. Students will participate in the development of a large applications software system applying these techniques.

Prerequisite: CSE 201.

Fall. 3 credits.

CSE 328 Fundamentals of Computer Graphics (NEW)

An introduction to computer graphics including: graphics applications programming; data structures for graphics; representing and specifying color; fundamental hardware and software concepts for calligraphic and raster displays; two-dimensional geometric transformations; introduction to three-dimensional graphics; graphics standards; and input devices, interaction handling, and user-computer interface.

Prerequisites: CSE 120 and 201. Permission of instructor.

Fall or spring. 3 credits.

CSE 491 Honors Seminar (NEW)

Designed for upper-division CSE majors who have demonstrated excellence in computer science courses or a special interest in the topic being offered. Each time the course is offered, a topic will be selected comprising material not otherwise presented in undergraduate courses. May be repeated.

Prerequisites: Computer science major; upper-division standing; permission of department.

Fall or spring. 3 credits.

Electrical Engineering

Changes in expected semester of course offerings: ESE 310, 312, 321, 332, 333, 341, 349, and 351 will not be offered in Spring 1987. The fall courses ESE 304 and 331 will be offered in the spring.

ESE 305 Systems and Signals (NEW)


Prerequisite: ESE 271.

Fall. 3 credits.
ESE 318 Digital Systems Design
(REVISED—formerly ESE 218)
The physical and logical basis of digital
circuitry is covered in depth. Electronic
characteristics of gates and their
consequences are discussed including an
introduction to circuit theory. Gate
structure minimization is explained. The
design of basic digital devices
(counters, multiplexers, arithmetic
circuits) is stressed.
Note: In past years this course was
numbered 318, but it was changed for a
short time to 218. Digital Systems
Design meets appropriate major
requirements and prerequisites when
taken under either number.

Engineering Science

ESG 307 will not be offered in
Spring 1987. The fall courses ESG
301 and 372 will be offered this
spring.

ESG majors may substitute any of
the following courses for AMS 362:
AMS 301, 302, 310, 311, 312, 320,
326, 341, 342, MAT 310, 311, 313,
314, 315, 321, 322, 335, 342, 350,
353, and 371. It is recommended that
the prerequisites be honored.

ESG 355 has been revised (see
Materials Science and Engineering
section) and is now mandatory for
all students entering the ESG major
beginning with the Spring 1987
semester.

All students entering the ESG major
in or after the Spring 1986
semester will be required to fulfill,
as part of their graduation
requirements, at least three credits
of design in their technical elective
courses. The following courses
have been defined as constituting
100 percent design: ESC 310, 328,
333, 334, 361; ESE 315, 318, 380;
ESM 355

ESE 312 Engineering Laboratory II
(REVISED)
This is now a 3-credit course.

ESG 317 Engineering
Experimentation: Mechanical
Engineering
Introduction to advanced experimental
methodology. Application of electrical,
mechanical, and optical transducer
systems to engineering experiments in
solid, thermal, and fluid mechanics.
Engineering report writing.
Spring, 3 credits

Materials Science
and Engineering

Changes in expected semester of
course offerings: ESM 306, 327,
337, 347, 351, and 352 will not be
offered in Spring 1987. ESM 336,
normally offered in the fall, will be
given in the spring.

ESM 355 Materials and Processes in
Manufacturing Design
(REVISED)
The design of mechanical and electrical
systems, materials selection, and
fabrication processes will be surveyed
and shown to be essential components
of manufacturing engineering. The
mechanical and thermal processing of a
wide range of metallic and nonmetallic
materials will be reviewed. Modern
computer-based materials selection,
advanced processing methods, and
automation will be explored. 
Prerequisite: ESG 332 or 333

Mechanical Engineering

A brochure with information per­
taining to Spring 1987 course
offerings will be available in Light
Engineering 113 starting November 11.

Changes in expected semester of
course offerings: ESC 328 will be
offered this spring. ESC 336, 361,
and 365 have been deleted from the
curriculum.

ESM 355 is no longer a required
course. It may be used as a
technical elective in the approved
mechanical engineering technical
elective group, but only for
students meeting mechanical
engineering major requirements
with the revised ESG 317. (See
Engineering Science section.)

Current listings of the mechanical
engineering technical electives and
the mechanical engineering design
group are available in the
department office.

ESC 102 Weather and Climate
(NEW)
An introduction to the nature and
causes of common meteorological
phenomena; severe weather
occurrences, and climatic patterns.
Topics to be considered include
formation and movement of air masses
and large-scale storms; techniques for
weather prediction; weather satellites;
hurricanes, tornadoes, and thunder­
storms; cloud and precipitation types;
the climatic history of the earth; actual
and potential effect of human activities
on weather and climate; and of weather
and climate on humans.
Fall, 3 credits

ESC 310 Machine Design
(REVISED)
Introduction to design; fundamental
concepts of mechanisms, degrees-of­
freedom; linkages, velocity analysis;
acceleration analysis; cams; rolling
contact; gears, gear trains; design of
machine elements.
Prerequisites: ESC 202; ESG 261 and
363

ESC 330 Structural Analysis
(REVISED)
Structural stability. Statically
determinate and indeterminate structures. Analysis
of trusses and frames in two
dimensions. Displacement of structures using the method of virtual work.
Method of superposition for analyzing
statically indeterminate structures.
Computer projects using matrix analysis
for determinate and indeterminate
trusses. Three-moment equation.
Introduction to finite element analysis.
Prerequisites: ESG 363; CSE 111

ESC 363 Elements of Aircraft Design
(NEW)
As an introduction to aerodynamics,
performance, and stability and control;
the generation of lift forces and
calculations of aerodynamic forces in
two- and three-dimensional subsonic
flows is studied. Typical airplane
performance problems of range,
edurance, rate of climb, etc. are also
covered.
Prerequisite: ESG 364
Spring, alternate years. 3 credits (not
offered in 1986-87)

ESC 411 System Dynamics and
Control (NEW)
Differential equations for physical
systems and their solutions; Laplace
transformations; block diagram and
transfer function; system response;
system analysis and stability, system
compensation and design. Prerequisite:
MAT 221
Fall, 3 credits

ESC 412 Computer-Aided
Mechanical Design (NEW)
Introduction to mechanical design,
computing systems; graph input
devices; graph output devices;
computer graphics; application
packages; CAD/CAM systems.
Prerequisite: ESC 410
Spring, 3 credits

34
Changes in expected semester of course offerings: EST 300, 320, 361, 370, and 392 will not be offered in Spring 1987. The fall course EST 194 will be offered this spring.

EST 392 Engineering and Managerial Economics (REVISED)
Applications of fundamental economics principles and systems analysis to problems of planning and design in manufacturing or service sectors of industry. Includes the time value of money, analysis of various types of cash flows, development of rate of return, benefit to cost ratios in their use to evaluate competing investment programs. Studies the role of depreciation and investment tax credits on the level of corporate taxation, leading to the determination of after-tax rates of return. Cases from both manufacturing and service sectors illustrate techniques for analysis of multiple alternatives. Influences of inflation, sensitivity analyses, and probabilistic methods on economic forecasting are shown through problem-solving case studies.

EST 393 Production and Operation Analysis (REVISED)
Development of analytical techniques useful in supplying information for planning purposes in the manufacturing and service sectors. Introduction to mathematical modeling of production, inventory, distribution, and service systems using linear programming, network, and probabilistic methods. Applications of forecasting and materials requirements planning in the development of resources to meet anticipated needs. Practical, real-life case studies are used throughout with appropriate familiarization with the uses of the computer in problem solving and simulation.
Five-Year Bachelor's/Master's Degree Program in Government, Non-Profit, and Enterprise Management

Harriman College has expanded its Accelerated Program for Stony Brook students, allowing them to combine any Arts and Sciences or Engineering and Applied Sciences major on the undergraduate level with a master's degree program in government, non-profit, or enterprise management. This five-year program gives students ample time to develop expertise in their major area; and it makes the major marketable.

Coursework in the new Harriman program begins in the senior year (instead of the junior year, as was the case under the old program). Interested sophomores and juniors, who must have a G.P.A. of 3.0 or higher to be accepted, should take advantage of Prime Time advising hours to seek approval of their previous coursework and assistance in choosing appropriate courses for the next semester to complement the Harriman curriculum.

Stony Brook seniors start the curriculum with nine graduate courses and finish with ten courses in the next year, receiving the baccalaureate degree simultaneously with the graduate degree. Courses are tailored to the public, non-profit, or the private sectors. The nine graduate courses taken as a senior are counted as electives for the undergraduate degree. Application to the program is made at the end of the sophomore year and to the Graduate School at the end of the junior year. For further information, see Professor Owen Carroll, Director of Graduate Studies, in Harriman College, Harriman Hall.

PAM 345 Special Topics in Management (NEW)
An advanced course treating specific issues in the theory and practice of management. May be repeated for different topics.
Prerequisites: Upper-division standing; permission of Dean of Harriman College
Fall and spring, 3 credits
Minor in Health and Society

The following course may be used in partial satisfaction of Requirement C of the minor.

HMC 361 Literature and Medicine (NEW)
Exploration of major themes of medical care and illness as presented in works of poetry, prose, and drama. Themes include: personal and ethical dilemmas confronted by doctors; special characteristics and discourse of the medical setting; the experience of being ill; philosophical, social, and spiritual dimensions of the clinical encounter; and the search for meanings in medical events.
Prerequisite: One course in literature or HMC 200
Spring, alternate years. 3 credits (not offered in 1987-88)

Allied Health Professions

HAS 290 Medicine and Society (NEW)
An examination of some traditional concerns of the humanities and social sciences as they occur in basic health care and its delivery. Practicing physicians or other health professionals present clinical cases to emphasize such topics as allocation of scarce resources, issues of dying and refusing treatment, confidentiality, and cultural factors and disease. Discussion will focus on the social, historical, ethical, and humanistic import of the cases. Crosslisted with HMC 200.
Fall or spring. 3 credits

HAS 303 Drug and Alcohol Education (NEW)
Specific information on the psychological and physiological effects of substance use and misuse. Students will be introduced to strategies for making responsible decisions regarding alcohol and drugs (licit and illicit) consumption and to methods of providing education in these areas. This course will fulfill the drug and alcohol use and abuse education requirements for teacher certification for students enrolled in the secondary teacher preparation programs. Not for credit in addition to HAS 304.
Fall and spring. 1 credit

HAS 304 Health Concepts (NEW)
An overview of various health-related topics, including personal health, consumer health, preventive health care, and promotion of optimal health. Students are introduced to strategies for incorporating health decision making into their professional and personal lives. A specific unit within this course is devoted to alcohol and drug education. (Students wishing to take only this unit may do so by enrolling in HAS 303 for 1 credit, which will fulfill the teacher certification requirement for secondary teacher preparation programs.) Not for credit in addition to HAS 303.
Fall and spring. 3 credits

Anatomical Sciences

HBA 300 Human Biology (NEW)
A lecture course that examines the physiology and anatomy of the human body. The course includes an examination of cellular processes and a description of the tissues and the organ systems of the body. Throughout, function is correlated with structure. Not for biological sciences major credit.
Prerequisites: BIO 152; C or higher in CHE 112; permission of instructor for all non-Health Sciences students.
Fall. 4 credits
Microbiology

HBM 320 General Microbiology (REVISED)
Study of the molecular structure and function of bacteria and viruses. Emphasis is placed on the functional anatomy, energetics, and genetics of the prokaryotic cell, and on the replication cycle and host relationships of viruses. Infectious disease processes, the immune system, and the use of antibiotics also are studied. This course satisfies the microbiology requirement for admission to veterinary, optometry, and nursing schools.

Prerequisites: CHE 112 or 131; BIO 231; HBA 300; permission of instructor. CHE 131, 133 recommended.

HBM General Microbiology Laboratory (REVISED)
Designed to complement the lecture material of HBM 320, this optional laboratory covers basic and applied microbiological methods. Techniques such as growth of bacteria in liquid and agar media, quantitative methods of determination of bacterial concentration, antibiotic sensitivity and Gram staining are included. For pre-health sciences profession students.

Prerequisite: Permission of instructor
Corequisite: HBM 320

Pathology

HBP 390 Basic Mechanisms in Pathology (REVISED)
Biochemical mechanisms underlying human diseases, including connective tissue, macromolecules, inflammation, coagulation mechanisms, fibrinolysis, immunological defenses, and cancer.

Pre- or corequisite: BIO 361

Physiology and Biophysics

HBY 310 has been deleted from the curriculum.
Changes in expected semester of course offerings: The fall course MAR 333 will be offered in Spring 1987.

MAR 337 Primary Productivity in the Sea (NEW)
A review of classic and current research on primary production by marine phytoplankton and macroalgae. Topics will include phytochemistry and growth, nutrients, temporal and spatial variability, competition, and predation. Prerequisites: CHE 132 or 142; BIO 152 and one upper-division BIO course as approved by the instructor; CHE 322 or 332 recommended. Fall, 3 credits.

MAR 390 Development of Aquaculture (NEW)
A comprehensive, interdisciplinary description and analysis of the culture of aquatic organisms for human use. The course covers both marine and freshwater aquaculture of plants, shellfish, and finfish. Basic principles of aquaculture are illustrated with specific examples of organisms cultured for staple and luxury foods, biochemicals, wastewater treatment, etc. The development of aquaculture as an industry and its role in managing aquatic resources are covered. While much of the course is biological, economic, social, and legal aspects are also emphasized. Prerequisite: BIO 113 or 115 or MAR 104. Fall, 3 credits.

MAR 413 Marine Biochemistry (NEW)
Survey of biochemical features and adaptations characteristic of the marine biota. Specific topics to be discussed will include salinity, temperature and pressure adaptations, calcification and silification, marine natural products and toxins, bioluminescence, photosynthetic light adaptation, and marine lipids. Prerequisite: BIO 361. Spring, alternate years, 3 credits (not offered in 1986-87).

MAR 487 Research in Marine Sciences (REVISED)
The limit on repeating this course has been removed.
<table>
<thead>
<tr>
<th>HOUR</th>
<th>MONDAY</th>
<th>WEDNESDAY</th>
<th>FRIDAY</th>
<th>FINAL EXAMINATIONS</th>
<th>HOUR</th>
<th>TUESDAY</th>
<th>THURSDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8:30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9:25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9:35</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>9:50</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10:30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10:00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10:40</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>11:20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11:35</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11:45</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>11:30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12:40</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>12:50</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12:50</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1:00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1:45</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2:20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1:55</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2:50</td>
<td>MW</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3:00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2:30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4:20</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4:30</td>
<td>MW</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3:50</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5:00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5:30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5:20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6:00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6:00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7:20</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7:20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7:30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7:30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8:50</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8:50</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>