Fall 2007 - Spring 2008 Freshman Course Matrix

Major	First Semester (if appropriate!)	Second Semester (if appropriate!)
Civil (CIE)	CHE 107, MTH 141, EAS 140, ENG 101 or 102, Gen Ed, CIE 101	MTH 142, PHY 107, CHE 108, MAE 177, ENG 201 or gen ed
Environmental (ENV)	CHE 107, MTH 141, EAS 140, ENG 101 or 102, Gen Ed	MTH 142, PHY 107, CHE 108, MAE 177, ENG 201 or gen ed
Chemical (CE)	CHE 107, MTH 141, EAS 140, ENG 101 or 102, Gen Ed	MTH 142, PHY 107, CHE 108, EAS 230, ENG 201 or gen ed
Mech (ME)/Aero (ASE)	CHE 107, MTH 141, EAS 140, ENG 101 or 102, Gen Ed	MTH 142, PHY 107, EAS 230, MAE 177, ENG 201 or gen ed
Industrial (IE)	CHE 107, MTH 141, EAS 140, ENG 101 or 102, Gen Ed	MTH 142, PHY 107, CHE 108 (see #5), ENG 201 or gen ed, Gen Ed, IE 101
Electrical (EE)	CHE 107, MTH 141, EAS 140, ENG 101 or 102, Gen Ed	MTH 142, PHY 107, EE 101, ENG 201 or gen ed, Gen Ed
Eng. Physics (EGP)	CHE 107, MTH 141, EAS 140, ENG 101 or 102, Gen Ed	MTH 142, PHY 107, CHE 108, ENG 201 or gen ed, Gen Ed
Computer Eng. (CEN)	CHE 107, MTH 141, CSE 115, ENG 101 or 102, Gen Ed	MTH 142, PHY 107, CSE 116, ENG 201 or gen ed, Gen Ed

Some Helpful Generalities:

All engineering majors require:

* MTH 141, 142, 241, and 306. Usually recommended in this order, with the exception of EE's and CEN's who take MTH 306 prior to MTH 241 because of EE 202 corequisite (MTH 306 should be taken at least at the same time as EE 202).
* PHY 107, PHY 108/158 (except environmental engineers who don't need PHY 108/158)
* CHE 107 (CHE 101 or CHE 105 are approved equivalents)
* EAS 207 (except chemical) (option between EAS 204 in CEN and EE)
* EAS 230 (except CEN and ENV, although it can be a TE in ENV) (option between CSE 113 in CIE)

Notes Regarding Chemistry Requirement:

1. CHE 101 or 105 (Honors) is OK for CHE 107; CHE102 or 106 (Honors) is OK for CHE 108.
2. Chemical, Civil, Environmental, and Engineering Physics all require Chem I and II sequence.
3. Computer, Electrical, Industrial, Mechanical, and Aerospace Engineering only require first semester of CHE sequence.
4. EE will allow the second semester of the CHE sequence (CHE 108, 102 or 106) to substitute for EE 101 requirement.
5. ME, ASE, and IE students can choose between CHE 108, PHY 207/257, or an approved BIO w/lab class to fulfill their science elective.
6. BIO 201 (Cell Bio; Sp/Su) will satisfy the science elective for ME/ASE/IE majors (instead of CHE 108 or PHY 207/257); is required for CE majors; is an approved TE for ENV Majors.

Therefore, students who want to leave their options completely open are advised to take CHE 108 unless they have ruled out serious interest in CE, CIE, EGP, or ENV. CHE 108 will fulfill a requirement for all majors except CEN.

Notes Regarding Spring Only Offerings:

* EE 101 and IE 101 are only offered in the spring and they don't have any prerequisites.
* CHE 108 and 106 (Honors) are only offered in the spring. CHE 102 is an acceptable alternative with one lecture offered every summer and fall.
* CHE 101 is the only Chem I class offered in the spring. As noted above, this is acceptable for any CHE 107 requirement.
* PHY 117 (Honors) is only offered in the spring.

Note Regarding MAE 177 Requirement:

Students in Aerospace, Civil, Environmental, or Mechanical Engineering who have previously taken a course in Engineering Drawing, either in high school or in college, may petition for an exemption from the MAE177 requirement. If the petition is accepted, the student will not have to take MAE 177 and will not be required to replace the credit hours with another course. Complete the petition form available in 410 Bonner or online at: **http://www.eng.buffalo.edu/requirements/MAE177.pdf.** Submit it to the undergrad director noted on the form. If approved, submit it to 410 Bonner Hall.

MAE 177 : Introduction To Engineering Drawing And CAD, 2 credits, Lec and Lab (NOT CHAINED TOGETHER!)

Semester: Fall, Spring, and usually summer

Prerequisites/Corequisites: None

A first exposure to mechanical design for mechanical, aerospace, civil, and environmental engineers . Includes the nature and visual representation of mechanical components and principles of engineering drawing and sketching for mechanical design. Utilizes up-to-date computer-aided design software (such as AutoCad) for mechanical drawings and mechanical designs.

Registration Windows for Spring 2008:

Credits Already Completed	*Window Begins*
36+, according to window	Sat, Oct 20 - Sun, Nov 4
33-35	Tuesday, November 6
30-32	Wednesday, November 7
26-29	Thursday, November 8
16-25	Saturday, November 10
11-15	Sunday, November 11
6-10	Tuesday, November 13
1-5	Wednesday, November 14
0	Sunday, November 18

How to Register Step-by-Step Guides:

http://www.eng.buffalo.edu/registrationprocedures.php
http://advising.buffalo.edu/help/webreg/undergrad/index.html
http://src.buffalo.edu/bird/registration.shtml

Registration open 7 a.m. - 11 p.m. 7 days a week
Not available Thanksgiving Day, Christmas Day, New Year's Day.

Credits Already Completed: includes any AP, IB, transfer, etc. credit already showing on DARS. Does not include credit currently in progress fall 2007.

You should verify your window by calling BIRD or checking Web Registration through MyUB. Check for checkstops too!

Academic Planning: Registering for Courses

Learn how to build a class schedule using the Undergraduate Catalog, DARS, electronic class schedule, and web registration system. Free workshop; register online: http://workshops.buffalo.edu/

Thursday, October 25	1:00 - 1:50 p.m., Norton 111	Monday, November 5	4:00 - 4:50 p.m., Norton 111
Friday, October 26	2:00 - 2:50 p.m., Norton 111	Tuesday, November 6	3:30 - 4:30 p.m., 275 Park Hall
Wednesday, October 31	4:00 - 4:50 p.m., Norton 111	Friday, November 9	2:00 - 2:50 p.m., Norton 111
Thursday, November 1	12 noon - 12:50 p.m., Norton 111	Tuesday, November 13	3:30 - 4:30 p.m., 275 Park hall

"Chaining" of Courses

To register in a course that is chained you must enter the 6-digit registration number for the first course in the chain (usually the lab or recitation). The following chart helps you identify the first course in the chain: the course component that carries the registration number you use to register. When you register for the first course in the chain you automatically get registered into the component that comes with it (usually the lecture).

Abbreviations used to identify type of instruction:

LEC – Lecture: classroom instruction, primarily through lecture, presented by an instructor, with discussion not precluded but incidental to lecture

SEM – Seminar: classroom instruction for a limited number of students who share with the instructor responsibility for preparation of material to be discussed in class.

DIS – Discussion: classroom instruction carried on primarily through interaction among students and instructor. In some cases, it may supplement a large lecture

REC – Recitation: classroom instruction carried on through interaction between instructor and students, which is designed to supplement a large lecture.

LAB – Laboratory: and aggregate of individual activity under supervision as a group; the meeting place has substantial facilities, instruments, or equipment for the purpose of the meeting and for specific use by the individual student.

TUT – Tutorial: individual study and instruction, usually arranged by mutual agreement of instructor and student.

Course #	Components (Underlined components are the ones you register in)
CHE 107, 101	LEC/LAB/REC
CHE 108	LEC/LAB/REC
MTH 115	LEC
MTH 141, 142, etc.	LEC/LAB
PHY 100	LEC
PHY 107, 108	LEC/REC
PHY 158	LAB (required; should be taken with PHY 108)
MAE 177	LEC/LAB
EAS 200, 204	LEC/REC
EAS 207, 208, 209	LEC/LAB (chaining varies each semester)
CSE 115, 116, etc	LEC/REC
EE 101, 311, 353, etc.	LEC/LAB
EE 202, 203	LEC/REC
CIE 101, IE 101	LEC
UGC 111, 112	LEC/REC
ENG 101, 102, 201	LEC

If you're not sure, keep track of all registration numbers for each class and try them all. If you aren't using the correct one you will get a message to register for the first course in the chain. If you've used the correct one you will get a message indicating that " 'xyz 123' course and one chained course added."

CEN/EE Double Major:

Follow all requirements for CEN major and add:

PHY 207/257 Physics III w/Lab or EE 240/342 Nanotechnology w/lab (5 credits total)
EE 203 Circuits II (4 credits)
EE 311 Electrical Devices and Circuits (3 credits) - spring only
EE 353 Elec Circ Lab (3 credits) - spring only
EE 324 Electro Magn Theory (3 credits) - fall or spring
EE 408 Senior Seminar (1 credit) - fall only

CSE 115, 116, 191, and 250 from CEN satisfy the EAS 140, EAS 230, free elective, and EE 101 requirements in EE; the CSE 442 and CSE 453 sequence required in CEN satisfies the EE TE w/Design requirements in EE; CSE 321 and 341 in CEN satisfy the two EE/CSE requirements in EE; CSE 4** and MTH 309 from CEN satisfy the two unrestricted TE's in EE; the fourth credit from almost any one of these CEN requirements covers the missing credit from the EE 312 lab in CEN that satisfies the EE 352 lab in EE.

ME/ASE Double Major:

Follow all requirements for ASE major and add:

MAE 311 Machines I (3 credits)
MAE 364 Manufacturing Process (3 credits)
MAE 494 Design Project (3 credits)
Applied Math Elective (3-4 credits)

Double Majors: A double major is the awarding of one degree with two majors (e.g., the student completing a double major of psychology and social sciences interdisciplinary studies earns one B.A. degree). Students must be accepted into each major and fulfill all requirements of each major in addition to satisfying all university requirements. This may be completed within the usual 120-credit minimum. Following conferral of the degree, the student's transcript will note one baccalaureate degree with two majors.

Math Minor:

Follow basic math requirements for any engineering major and add MTH 309 and two additional upper level math courses
Acceptance Criteria: Minimum GPA of 2.5 in MTH141-142, and 241 (or approved transfer equivalent). Complete an application for a minor (available in the Math Undergraduate Office) and submit it together with a copy of the most recent UB DARS report. Note: A GPA of 2.0 is required in these courses for departmental recommendation for a minor in mathematics.

MTH141 College Calculus I
MTH142 College Calculus II
MTH241 College Calculus III
MTH306 Introduction to Differential Equations
MTH309 Introductory Linear Algebra (Applied math elective in ME/CIE/CEN, TE in CE/EE/IE)
Two additional 300/400-level mathematics electives from within the Department of Mathematics (sometimes can fulfill free elective or TE requirements)

Other typical combinations include Chemistry (minor or major), Physics (minor or major), or the biotechnology minor through the BIO dept (for chemical engineering majors).