

Materials Science & Engineering

Rev. Date:
10/27/11

Freshman Year

Fall Semester

Chem 1061/62 Chem Prin I
(placement into course or 1015)

4

Math 1371 Calc I
(placement into course or pre-req)

4

ChEn/MatS 1001
(optional)

1

Phys 1301W Intro Phys I
(&Math 1371)

4

Lib Ed*

3/4

Spring Semester

Chem 1022 Chem Prin II
(C- or better in 1061/62)

4

Math 1372 (or 1272) Calc II
(C- or better in 1371)

4

Phys 1302W Intro Phys II
(1301, &Math 1372)

4

Lib Ed*

3/4

*Take Writ 1301 or 1401 in freshman year

Sophomore Year

Fall Semester

Chem 2301 Org Chem I
(C- or better in 1022)

3

CE 3101 Computer Appl I
(CE, GeoE student, Math 1372)

3

Math 2374 Multivar Calc.
(C- or better in 1372)

4

MatS 3011 Intro MatSci
(Chem 1061/62, Math 1372, Phys 1302)

3

Lib Ed

3/4

Spring Semester

AEM 2011
(Phys 1301, &Math 2374)

3

Phys 2303: Phys III :Matter
(Phys 1302, Math 1272)

4

OR

Chem 3502 Quantum Chem
(Phys 1302, &Math 2374)

3

Math 2373 Lin Alg/Diff Eq
(C- or better in 1372)

4

Lib Ed

3/4

Lib Ed

3/4

Junior Year

Fall Semester

MatS 4013 Electrical Matls
(UD, Chem 3502 or Phys 2303)

3

MatS 3012 Metals and Alloys
(UD, 3011)

3

MatS 3801 Struct Char Lab
(UD, 3011)

3

MatS 4001 Thermodynamics
(UD)

4

Lib Ed

3/4

Spring Semester

MatS 3851W Mtls Prop. Lab
(3801, 4013)

3

MatS 4002 Mass Tns & Kinet.
(4001, CE 3101, Math 2373)

4

MatS 4214 Polymers
(UD, 3011, 4001 or ChEn 4101/3101)

3

AEM 3031 Deform. Body Mech.
(2011, Math 2374, &Math 2373)

3

Tech Elective I

3

Senior Year

Fall Semester

MatS 4212 Ceramics
(UD, 3011, 4001 or ChEn 4101/3101)

3

MatS 4221 Mat. Performance
(3012)

4

Tech Elective II

3

Tech Elective III

4

Lib Ed

3/4

Spring Semester

AEM 4511 Composite Matrl.
(IT UD or grad stdt, 3031)

3

MatS 4301W Mat. Processing
(4212, 4214)

4

MatS 4400 Sr Design Proj.
(MatS Sr)

3

Tech Elective IV

3

About This Plan

- This plan is not a contract. Curriculum can change.
- Shaded courses are only offered in the indicated semester.
- Course pre-requisites and co-requisites (designated by &; can be taken concurrently) are listed below the course number and title.
- Students can take either the IT or non-IT version of the math course (Math 1371/1271, 1372/1272, 2373/2243, 2374/2263).

Required for Admission into Major

Admission into the major is competitive and based on specific courses and technical GPA.

Total Credits Needed for Degree: 128

Department Contact Information

- Website: www.cems.umn.edu
- Main Phone: 612-625-1313
- Main Office: 151 A mundson Hall
- Director of Undergraduate Studies: Professor Chris Leighton
- Departmental Advisor: Laura Ericksen, erick073@umn.edu

Liberal Education Information

All students must complete the following lib ed requirements:

WRITING:

- Freshman Writing (Writ 1301, 1401 or equivalent)
- 4 WI courses (2 must be 3/4/5xxx level, 1 of those must be in major); WI courses are designated by a W after the course number

CORES:

Bio/L
Phys/L
HP
SSci
Lit
AH
Math

THEMES:

CLE
DSJ
Env't
GP
TS