

CECS DISTRIBUTION Requirements 24**ENGLISH COMPOSITION**

Composition Placement Exam required, and
Take both COMP 105 (3) & COMP 270 (3)

HUMANITIES AREA (See Notes * & **)

TWO courses, 100- to 400-level, 6 credits, from

AFRICAN/AFRICAN-AMERICAN (AAAS)

239, 275, 333, 385, 389, 469, 470

ART HISTORY (ARTH)

COMMUNICATIONS (COMM)

COMPARATIVE LITERATURE (COML)

ENGLISH (ENGL)

JOURNALISM & SCREEN STUDIES (JASS)

FOREIGN LANGUAGE

MUSIC HISTORY (MHIS)

PHILOSOPHY (PHIL)

SCIENCE/TECH STUDIES (STS)

300, 307, 312, 360, 403, 410, 485, 488

WOMEN/GEN STUDIES (WGST)

303, 385, 386, 387, 416, 425, 445, 487

BEHAVIORAL/SOCIAL SCIENCES (* & **)

TWO courses, 100- to 400-level, 6 credits, from

AFRICAN/AFRICAN-AMERICAN (AAAS)

106, 275, 316, 320, 322, 325, 345,

349, 368, 369, 371, 386, 387, 403, 404

ANTHROPOLOGY (ANTH)

ECONOMICS (ECON)

ECON 201, 202, ECON 300-level only

GEOGRAPHY (GEOG)

GEOG 201, 205, GEOG 300-level only

HISTORY (HIST)

POLITICAL SCIENCE (POL)

PSYCHOLOGY (PSYC)

SCIENCE/TECH STUDIES (STS)

300, 305, 308, 309, 321, 325, 340,

345, 349, 365, 374, 383, 385, 386,

409, 421, 430, 441, 442, 464

SOCIOLOGY (SOC)

WOMEN/GEN STUDIES (WGST)

303, 325, 326, 338, 362, 370, 405

406, 407, 420, 446, 455, 3955

ECONOMICS (3 credits)

ECON 201 or ECON 202 (*Macro or Micro*)

* SEQUENCE W/ UPPER-LEVEL COURSE:

Two of the courses above, in Humanities Area

OR the Behavioral /Social Sciences Area,

OR ECON must be in the same discipline

AND at least one of them 300- or 400-level.

ADDITIONAL COURSE (3 credits)**

One course, 100 to 400 level, from above

OR one ME 400-level course

BASIC PREP Requirements 49**INTRO to ENGINEERING**

ENGR 100 (2)

ENGINEERING GRAPHICS

ENGR 126 (2)

MATHEMATICS – 5 courses (16)

MATH 115 (4) *Calculus I*

MATH 116 (4) *Calculus II*

MATH 205 (3) *Calculus III*

MATH 216 (3) *Diff Equations*

MATH 217 (2) *Matrix Algebra*

CHEMISTRY I and II

CHEM 144 (4)

CHEM 146 (4)

PHYSICS I and II

PHYS 150 (4)

PHYS 151 (4)

ME BASIC COURSES (13 credits)

ENGR 250 (3) *Engr Materials*

ENGR 216 (2) *Computer Methods*

ME 230 (4) *Thermodynamics*

ME 260 (4) *Design Stress Analysis*

OPTIONAL Concurrent Degree Requirements for ME/BENG

ME majors who also want a dual degree in BENG, need to take:

A) The following 15 credits:

BIO 103 (4) *Anatomy & Physiology*

BIO 140 (4) *Molecular & Cellular Bio*

BENG 351 (4) *Biosensors &*

Instrumentation

BENG 375 (3) *Biomaterials and Tissue*

Engineering

B) BENG 364 (3) *Bioengin Prob & Stats*

instead of ME 364 (3)

C) BENG 381 (3) *Bioprocessing* must be

taken and counts towards General

Electives requirement of ME degree.

D) Take BENG 370 (4) *Biomechanics I* as the

design elective

E) Take 3 courses (at least 10 credits) from

the list below as part of the ME degree

– at least one course must be a BENG

course:

ENGR 350, ENGR 450, ME 410, ME

4191, ME 4301, ME 4461, BENG 410,

BENG 425, BENG 470, BENG 420,

BENG 449, BENG 464, CHEM 490E,

CHEM 395, IMSE 4425, IMSE 4675

6 credits satisfy the Upper-level Tech

courses requirement

3 credits satisfy the “Fifth course”

requirement in column I

1 credit is used towards General Electives.

PROFESSIONAL Requirements 55**EE & CONTROLS – 2 Courses** (8 credits)

ECE 305 (4) *Intro Electrical Engr.*

ME 442 (4) *Control Systems Analysis*

ME CORE – 9 Courses (33)

ME 325 (4) *Thermal Fluid Sciences I*

ME 345 (4) *Engineering Dynamics*

ME 349 (3) *Instrumentation and*
Measurement Systems

ME 3601 (4) *Design & Analysis of*
Machine Elements

ME 364 (3) *Probability, Statistics, &*
Reliability in Machine Design

ME 375 (4) *Thermal Fluid Sciences II*

ME 379 (3) *Thermal-Fluids Lab*

ME 381 (4) *Manufact Processes I*

ME 4671 (4) *Senior Design I*

ELECTIVES (14 credits)**UPPER-LEVEL DESIGN COURSES** (3-4)

At least one course (3-4 credits) from:

ME 4191 (4) ME 4201 (4) ME 4202 (4)

ME 4361 (4) ME 4471 (4) ME 460 (3)

ME 469 (1-4) ME 483 (3) ME 493 (3)

BENG 370 (4)

OTHER UPPER-LEVEL TECH COURSES (6-7)

Two additional courses (6-7 credits) from

Upper-Level Design courses above and/or:

ME 410 (3) ME 430 or ME 4301 (3)

ME 481 (3) ME 496 (2-3) ME 4981 (4)

ME 452 (4) ME 4461 (4) ME 484 (3)

ENGR 350 (4) IMSE 421 (3) ME 492 (1-3)

BENG 375 (4) BENG 425 (4) BENG 470 (3)

(Upper-Level Design courses and Upper-level Tech

courses must total **at least 10 credits**)

GENERAL ELECTIVES (4 credits)

[Fewer than 4 credits of gen electives needed
if additional CECS credits were taken above.]

CECS, CASL, or COB courses may be

used here. See note below **

**** Beware NO-CREDIT courses. ****

NO-CREDIT courses posted outside 2000 HPEC

and listed at end of CECS Handbook:

www.engin.umd.umich.edu/SRA/pdf/

[Student_Handbook.pdf](#) <[link](#)>

NO-CREDIT courses DON'T count towards the
degree. NO-CREDIT courses include ARTH 105,
ECON 305, POL 300, PSYC 381, SOC 383,
and many others. Check the List!! [11/11]

A list of the pre-requisites for CECS

courses is available online: <[link](#)>

www.engin.umd.umich.edu/SRA/pdf/Prerequisites_for_CECS_Courses.pdf

NOTE: AAAS, STS, and WGST disciplines
have different courses for the Humanities Area
and the Behavioral or Social Sciences Area.