

TO: Engineering Curriculum Committee

FROM: The Faculty of the School of Materials Engineering



DATE: January 31, 2018

RE: Written and Communication requirement changes for the MSE Plan of Study.

The faculty of the School of Materials Engineering has approved the following changes to the prerequisites for the MSE plan of study.

This action is now submitted to the Engineering Curriculum Committee with a recommendation for approval.

Semester 1:

From: English Composition or equivalent (3/4 credit hours)

To: Written Communication Foundational Outcome course (3/4 credit hours)

Semester 2:

From: COM 11400 – Fundamentals of Speech (3 credit hours)

To: Oral Communication Foundational Outcome course (3 credit hours)

Reason: Provides students with greater choice of courses to meet the University requirements and to accommodate future alternatives in the first year engineering program.

--Current--

Plan of Study for the B.S. MSE Degree

Freshman Year

First Semester

- (4) MA 16500 (Analytic Geometry And Calculus I)
 - (4) CHM 11500 (General Chemistry I) (or CHM 13600 Honors)
 - (4/3) ENGL 10600 or equivalent (English Composition)
 - (2) ENGR 13100 or 1 (Transforming Ideas to Innovation I)
or ENGR 14100 (Honors version)
- (14 or 13)

Second Semester

- (4) MA 16600 (Analytic Geometry And Calculus II)
 - (4) CHM 11600 (General Chemistry II) (or CHM 13600)
 - (4) PHYS 17200 (Modern Mechanics)
 - (3) COM 11400 (Fundamentals of Speech)
 - (2) ENGR 13200 (Transforming Ideas to Innovation II)
or ENGR 14200 (Honors version)
- (17)

Sophomore Year

Third Semester

- (3) MSE 23000 (Structure and Properties of Materials)
Pre-CHM 11500, MA 16500
 - (3) MSE 23500 (Materials Properties Laboratory)
Pre-CHM 11500, MA 16500, Co-MSE 23000
 - (4) MA 26100 (Multivariate Calculus)
 - (3) PHYS 24100 (Electricity and Optics)+
 - (3) MA 26500 (Linear Algebra)
 - (0) MSE 39000 (Seminar)
- (16)

Fourth Semester

- (3) MSE 25000 (Physical Properties in Eng. Systems)
Pre-PHYS 17200, Co-MSE 23000, Co-MA 26500 (or MA 26200)
 - (3) MSE 26000 (Thermodynamics of Materials)
Pre-MA 26100, Co-MSE 23000 Co-CHM 11600 (or CHM 13600)
 - (3) MSE 27000 (Atomistic Materials Science)
Pre-MA 26100, Co-MA 26500 (or MA 26200), Co-MSE 23000
 - (3) MA 26600 (Ordinary Differential Equations)
 - (1) PHYS 25200 (Elec. And Optics Lab)
 - (3) General Education Elective
 - (0) MSE 39000 (Seminar)
- (16)

Junior Year

Fifth Semester

- (3) MSE 33500 (Materials Characterization Laboratory)
Pre-MSE 23500
 - (3) MSE 34000 (Transport Phenomena)
Pre-MA 26600 (or MA 26200)
 - (3) MSE 37000 (Elec,Opt, and Mag. Props. of Materials)
Pre-MSE 23000, MSE 27000, PHYS 24100 (or PHYS 27200)
 - (3) General Education Elective
 - (3) General Education Elective
 - (0) MSE 39000 (Seminar)
- (15)

Sixth Semester

- (3) MSE 33000 (Proc. and Props. of Matls.)
Pre-MSE 26000
 - (3) MSE 36700 (Materials Processing Laboratory)
Pre-MSE 26000
 - (3) MSE 38200 (Mechanical Response of Materials)
Pre-MSE 25000, MA 26500 (or MA 26200)
 - (3) MSE 420 (Structure & Props. of Organic Matls.)
 - (3) Technical Elective
 - (0) MSE 39000 (Seminar)
- (15)

Senior Year

Seventh Semester

- (3) MSE 43000 (Materials Processing and Design I)
Pre-MSE 33500 and 36700
- (3) MSE 44500 (Materials Engineering Systems Analysis)
Pre-MSE 33000, 34000, Co-MSE 43000
- (6) Technical Electives
- (3) General Education Elective

Eighth Semester

- (3) MSE 44000 (Materials Processing and Design II)
Pre-MSE 33500, 34000, 37000, 43000
- (9) Technical Electives
- (6) General Education Electives
- (0) MSE 39000 (Seminar)

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(18)

--Proposed--

Freshman Year

First Semester

- (4) MA 16500 (Analytic Geometry And Calculus I)
- (4) CHM 11500 (General Chemistry I) (or CHM 13600 Honors)
- ((4/3) **Written Communication Foundational Outcome course**)
- (2) ENGR 13100 or 1 (Transforming Ideas to Innovation I)
or ENGR 14100 (Honors version)

(14 or 13)

Second Semester

- (4) MA 16600 (Analytic Geometry And Calculus II)
- (4) CHM 11600 (General Chemistry II) (or CHM 13600)
- (4) PHYS 17200 (Modern Mechanics)
- 4/3) **Oral Communication. Foundational Outcome course**
- (2) ENGR 13200 (Transforming Ideas to Innovation II)
or ENGR 14200 (Honors version)

(17)

Sophomore Year

Third Semester

- (3) MSE 23000 (Structure and Properties of Materials)
Pre-CHM 11500, MA 16500
- (3) MSE 23500 (Materials Properties Laboratory)
Pre-CHM 11500, MA 16500, Co-MSE 23000
- (4) MA 26100 (Multivariate Calculus)
- (3) PHYS 24100 (Electricity and Optics)+
- (3) MA 26500 (Linear Algebra)
- (0) MSE 39000 (Seminar)

(16)

Fourth Semester

- (3) MSE 25000 (Physical Properties in Eng. Systems)
Pre-PHYS 17200, Co-MSE 23000, Co-MA 26500 (or MA 26200)
- (3) MSE 26000 (Thermodynamics of Materials)
Pre-MA 26100, Co-MSE 23000 Co-CHM 11600 (or CHM 13600)
- (3) MSE 27000 (Atomistic Materials Science)
Pre-MA 26100, Co-MA 26500 (or MA 26200), Co-MSE 23000
- (3) MA 26600 (Ordinary Differential Equations)
- (1) PHYS 25200 (Elec. And Optics Lab)
- (3) General Education Elective
- (0) MSE 39000 (Seminar)

(16)

Junior Year

Fifth Semester

- (3) MSE 33500 (Materials Characterization Laboratory)
Pre-MSE 23500
- (3) MSE 34000 (Transport Phenomena)
Pre-MA 26600 (or MA 26200)
- (3) MSE 37000 (Elec,Opt, and Mag. Props. of Materials)
Pre-MSE 23000, MSE 27000, PHYS 24100 (or PHYS 27200)
- (3) General Education Elective
- (3) General Education Elective
- (0) MSE 39000 (Seminar)

(15)

Sixth Semester

- (3) MSE 33000 (Proc. and Props. of Matls.)
Pre-MSE 26000
- (3) MSE 36700 (Materials Processing Laboratory)
Pre-MSE 26000
- (3) MSE 38200 (Mechanical Response of Materials)
Pre-MSE 25000, MA 26500 (or MA 26200)
- (3) MSE 420 (Structure & Props. of Organic Matls.)
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- (3) MSE 43000 (Materials Processing and Design I)
Pre-MSE 33500 and 36700
- (3) MSE 44500 (Materials Engineering Systems Analysis)
Pre-MSE 33000, 34000, Co-MSE 43000
- (6) Technical Electives
- (3) General Education Elective
- (0) MSE 39000 (Seminar)

Eighth Semester

- (3) MSE 44000 (Materials Processing and Design II)
Pre-MSE 33500, 34000, 37000, 43000
- (9) Technical Electives
- (6) General Education Electives
- (0) MSE 39000 (Seminar)

(18)