EXECUTIVE COMMITTEE
BOURNS COLLEGE OF ENGINEERING
REPORT TO THE RIVERSIDE DIVISION
DECEMBER 1, 2020

To be adopted**:**

PROPOSED CHANGES TO THE MATERIALS SCIENCE AND ENGINEERING MAJOR REQUIREMENTS

PRESENT:	PROPOSED:
College Requirements See The Marlan and Rosemary Bourns College of Engineering, Colleges and Programs section. The Materials Science and Engineering major uses the following major requirements to satisfy the college's Natural Sciences and Mathematics breadth requirement. 1. One course in the biological sciences chosen from an approved list 2. CHEM 001A, CHEM 001LA 3. MATH 008B or MATH 009A 4. PHYS 040A, PHYS 040B	No Change
Major Requirements 1. Lower-division requirements (75 units) a) CHEM 001A, CHEM 01LA, CHEM 001B, CHEM 01LB, CHEM 001C, CHEM 01LC b) CS 009M or CS 009P c) EE 001A, EE 01LA d) MATH 009A, MATH 009B, MATH 009C, MATH 010A, MATH 010B, MATH 046 e) ME 010 f) MSE 001, MSE 002L, MSE 003L, MSE 004L g) PHYS 040A, PHYS 040B, PHYS 040C h) CHEM 008A, CHEM 08LA	No Change
2. Upper-division requirements (~~72~~ units) a) BIEN 140A/CEE 140A b) CHE 100 c) EE 138	2. Upper-division requirements (76 units) a) BIEN 140A/CEE 140A b) CHE 100 c) EE 138

d) ENGR 180W e) ME 110, ME 114, ME 156 f) MSE 134, MSE 135, MSE 160, MSE 161, MSE 175A, MSE 175B g) STAT 155	d) ENGR 180W e) ME 110, ME 114, ME 156 f) MSE 134, MSE 135, MSE 160, MSE 161, MSE 175A, MSE 175B g) STAT 155
h) Technical Electives (20 units): chosen from BIEN/MSE 136, BIEN 140B/CEE 140B, CHE 105, CHE 161, EE 133, EE 136, EE 137, EE 139, EE 162, ME 153, MSE 155, MSE 197	h) Technical Electives (20 units): chosen from BIEN/MSE 136, BIEN 140B/CEE 140B, CHE 105, CHE 161, EE 133, EE 136, EE 137, EE 139, EE 162, ME 153, <u>MSE 142, MSE 143, MSE 148,</u> MSE 155, <u>MSE 156,</u> MSE 197
Visit the Student Affairs Office in the College of Engineering or student.engr.ucr.edu for a sample program.	No Change

<u>JUSTIFICATION:</u>

Four MSE upper division courses are requested to be added to program requirements and catalog as approved Technical Electives (MSE 142: Corrosion Science, MSE 143: Failure Analysis and Prevention, MSE 148: Advanced Solidification Processing, and MSE 156: Atomistic Modeling of Solid State Materials). These courses are being added based on AY18-19 ABET recommendations to strengthen the Computation and Modeling of Materials focus area (MSE 156) and the Structural Materials focus area (MSE 142, MSE 143, MSE 148) of the MSE undergraduate curriculum. The addition of these courses offer the students opportunities to engage in the study of structural materials and materials computation topics critical to industrial and technological materials applications.

<u>APPROVALS:</u>

Approved by the MSE Undergraduate Committee:	November 14, 2018
Approved by the Materials Science and Engineering faculty:	November 26, 2018
Approved by the Executive Committee of the College of Engineering:	July 23, 2020
Approved by the Committee on Educational Policy:	November 9, 2020