



Executive Memorandum 22-011

May 11, 2022

From: Gayle E. Hutchinson, President

A handwritten signature in blue ink that reads 'Gayle E. Hutchinson'.

Subject: Approval to Change the Name of the Minor in Manufacturing

Upon the recommendation of the Academic Senate and with the concurrence of the Provost, I approve changing the name of the Minor in Manufacturing to the Minor in Advanced Manufacturing. This name change will be effective fall 2023.

Policy Title:	EM 22-011 Approval to change the name of the Minor in Manufacturing
Contact:	Department of Mechanical and Mechatronic Engineering and Advanced Manufacturing
Supersedes:	
Revision:	
Enabling Legislation or Executive Order:	

Undergraduate Program Name Change

Current Program Name: Minor in Manufacturing

Propose Name Change to: Minor in Advanced Manufacturing

Complete only if applicable

Program named above is:

Option within _____
(degree program name)

Minor

Certificate

Please attach the following required documents:

1. **Rationale for Change.** Provide as much detail as possible; rationale should address disciplinary convention, recruitment and employment issues, and titles used at other institutions. For Degree Name Changes see Chancellor's Office requirements.
2. **Evidence of Consultation.** Provide evidence of consultation with faculty, students, and other stakeholders (staff, community members, etc.)
3. **Catalog copy of program.**

Required Signatures:

The Department of MMEM
has reviewed and approved this name change:

Gregory K. Watkins 9/29/2021
Chair, Department Curriculum Committee Date

Gregory K. Watkins 9/29/2021
Department Chair Date

The College of ECC
has reviewed and approved this name change:

Tyson R. Henry Oct 28, 2021
Chair, College Curriculum Committee Date

Blake Wentz Oct 29, 2021
College Dean Date

Send completed form to Curriculum Services at zip 128; SSC 464B

Note: The department will be notified of the dates for EPPC, Academic Senate, and, if applicable, WASC and Chancellor's Office review.

Justification of the Program Name Change

The MMEM department has offered the Minor in Manufacturing for many years. It was most recently based on the B.S. in Sustainable Manufacturing major. The major underwent a significant curricular revision and is now called the B.S. in Advanced Manufacturing and Applied Robotics.

Subsequently, the minor in manufacturing was revised to align with the new major. The department now proposes renaming the program to the Minor in Advanced Manufacturing to reflect the name change of the major. Note that Applied Robotics is not included in the proposed name as three of the groupings do not include courses in robotics.

Evidence of Consultation

The MMEM department discussed the proposed name change at a regular department meeting. All were in agreement that the name change is appropriate to reflect the new name of the major.

Advisory Board Feedback on the Name Change to the Minor in Advanced Manufacturing

Sixteen IAB members for the Advanced Manufacturing and Applied Robotics program were consulted about the name change. The following members responded. All supported the name change and no reservations were expressed.

Name	Position	Company
Emi Hansen	Product Engineer	Coin Cloud
Jason Larocco	Division Manager	SMC Ltd
Luke Putnam	Manufacturing Engineer	Sierra Pacific Industries
Stanley Ottolini	Mechanical Engineer	HAAS Automation Inc.
Ryan Higuera	Controls Engineer	Pacific Coast Producers
Jason Teixeira	Production Manager	Sel-Tech
Anthony Tran	Manufacturing Engineer	SMC Ltd
Chris Shmatovich	VP Engineering and Owner	Joy Signal Technology
Geoffrey Leeds	Technical Development Engineer	INSULECTRO

Corequisites: MECH 100L.

MECH 100L	Graphics I Laboratory	1.0	FS
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Corequisites: MECH 100.

MECH 200	Graphics II	2.0	FS
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Prerequisites: MECH 100 and MECH 100L.

2 courses selected from:

AMAR 352W	Industrial Management (W)	3.0	FA	GW	W
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Prerequisites: GE Written Communication (A2) requirement, junior standing.

AMAR 451	Quality Management	3.0	FS
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Prerequisites: OSCM 306 or faculty permission; MATH 105 or MATH 108 for Business majors only.

This course is also offered as OSCM 451.

AMAR 458	Project Management	3.0	FA
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Prerequisites: Senior standing.

Group 2- Manufacturing Materials Focus

5 courses required:

AMAR 160	Manufacturing Processes	3.0	FS
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AMAR 260	Applied Advanced Manufacturing	4.0	SP
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Prerequisites: AMAR 160 (with a grade of C- or higher), MATH 119 or MATH 120, MECH 100, PHYS 202A or PHYS 204A. Recommended: MATH 105.

MECH 100	Graphics I	1.0	FS
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Corequisites: MECH 100L.

MECH 100L	Graphics I Laboratory	1.0	FS
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Corequisites: MECH 100.

MECH 210	Materials Science and Engineering	3.0	FS
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Prerequisites: CHEM 107 or CHEM 111, PHYS 202A or PHYS 204A.

Corequisite: MECH 210L for MECA, MECH, and AMAR majors only.

1 course selected from:

CHEM 107	General Chemistry for Applied Sciences	4.0	FS	GE
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Prerequisites: GE Mathematics/Quantitative Reasoning Ready, Intermediate Algebra.

CHEM 111	General Chemistry I	4.0	FS	GE
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Prerequisites: GE Mathematics/Quantitative Reasoning Ready; second-year high school algebra; one year high school chemistry. (One year of high school physics and one year of high school mathematics past Algebra II are recommended.)

2 courses selected from:

AMAR 316 Introduction to Plastics 3.0 FA
Prerequisites: CHEM 107 or CHEM 111, MECH 210 (may be taken concurrently).
AMAR 318 Advanced Plastics & Composites 3.0 SP
Prerequisite: AMAR 316.
AMAR 477 Nanoscale Device Manufacturing 3.0 SP
Prerequisite: EECE 315 or MECH 210.

Group 3- Applied Robotics Focus

3 courses required:

AMAR 420 Robotics for Advanced Manufacturing 4.0 FA
Prerequisite: EECE 344 or MECA 380.
MATH 121 Analytic Geometry and Calculus 4.0 FS
Prerequisite: MATH 120.
MECH 208 Introduction to Technical Computing 2.0 FS
Prerequisite: MATH 121. Recommended: PHYS 204A.

1 course selected from:

AMAR 460 Robotic Manufacturing Systems 4.0 SP
Prerequisite: AMAR 420.
CSCI 585 Robotics and Machine Intelligence 3.0 SP
Prerequisites: CSCI 211, EECE 237 both with a grade of C or higher.

4 units selected from:

EECE 211 Linear Circuits I 3.0 FS
Prerequisite: PHYS 204B (may be taken concurrently).
Corequisite: EECE 211L.
EECE 211L Linear Circuits I Activity 1.0 FS
Corequisites: EECE 211.

OR (the following course may be substituted for the above)

EECE 215 Practical Circuits and Electronics 4.0 FS
Prerequisites: MATH 109 and MATH 119 (or high school equivalent), or MATH 120, or passing score on the Math department administered calculus readiness exam.

1 course selected from:

EECE 314	Bioinstrumentation	3.0	FA
Prerequisites: EECE 211 and EECE 211L, or EECE 215, or PHYS 327; PHYS 204A.			
EECE 344	Digital Systems Design	4.0	FS
Prerequisites: EECE 144, EECE 237; EECE 110 or EECE 215 or EECE 211 and EECE 211L (All with a grade C- or higher).			
MECA 380	Measurements and Instrumentation	3.0	FS
Prerequisites: EECE 211 and EECE 211L or EECE 215; and CSCI 111, MECH 208 or AMAR 300.			

Group 4- Business Management Focus

5 courses required:

AMAR 160	Manufacturing Processes	3.0	FS
AMAR 260	Applied Advanced Manufacturing	4.0	SP
Prerequisites: AMAR 160 (with a grade of C- or higher), MATH 119 or MATH 120, MECH 100, PHYS 202A or PHYS 204A. Recommended: MATH 105.			
AMAR 451	Quality Management	3.0	FS
Prerequisites: OSCM 306 or faculty permission; MATH 105 or MATH 108 for Business majors only. This course is also offered as OSCM 451.			
MECH 100	Graphics I	1.0	FS
Corequisites: MECH 100L.			
MECH 100L	Graphics I Laboratory	1.0	FS
Corequisites: MECH 100.			

1 course selected from:

MATH 105	Introduction to Statistics	3.0	FS	GE
Prerequisite: GE Mathematics/Quantitative Reasoning Ready.				
MATH 108	Statistics of Business and Economics	3.0	FS	GE
Prerequisite: GE Mathematics/Quantitative Reasoning Ready.				

2 courses selected from:

AMAR 352W	Industrial Management (W)	3.0	FA	GW	W
Prerequisites: GE Written Communication (A2) requirement, junior standing.					
AMAR 458	Project Management	3.0	FA		
Prerequisites: Senior standing.					

BSIS 308	Decision Analysis for Business	3.0	FS
BLAW 413	Employment Law	3.0	FS
Prerequisites: At least junior standing.			
BLAW 450	Intellectual Property Law	3.0	SP
ECON 355	The Economics of Government Regulations	3.0	SP
Prerequisites: ECON 103.			
MGMT 303	Survey of Management	3.0	FS
MINS 301	Corporate Technology Integration	3.0	FS
Prerequisite: Junior Standing			
OSCM 306	Operations Management	3.0	FS
Prerequisites: Business Administration or Business Information Systems status required for business majors. Completion of GE Pathway Foundation Quantitative Reasoning required for all majors.			
OSCM 440	Supply Chain Management	3.0	SP
Prerequisites: OSCM 306.			
OSCM 441	Purchasing and Global Sourcing	3.0	FA
Prerequisite: OSCM 306.			
OSCM 442	Production Planning and Inventory Control	3.0	FA
Prerequisites: OSCM 306.			