

Program Change Request

Date Submitted: 09/19/18 3:31 pm

Viewing: **CERT-MIND : Materials, Informatics and Design - Certificate**

Last approved: 04/02/18 4:03 pm

Last edit: 11/08/18 7:31 pm

Changes proposed by: jules.henry

Catalog Pages Using [Materials, Informatics and Design - Certificate](#)
this Program

In Workflow

1. MSEN Department Head
2. Curricular Services Review
3. EN Committee Preparer GR
4. EN Committee Chair GR
5. EN College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services

Contact(s)

Name	E-mail	Phone
Jules Henry	jules.henry@tamu.edu	979-862-1089

Academic level Graduate
 Effective Term 2019-2020
 Department Materials Science & Engr
 College Engineering
 Program type Certificate
 Associated Program **Not Applicable**
 With a certificate in Materials Informatics and Design

Catalog Program Title
Materials, Informatics and Design - Certificate

CIP and Fund code 4010010006

Rationale for Proposal

The proposed changes are part of a routine curriculum review. The "Certificate in Materials, Informatics and Design" addresses the need to develop approaches for the accelerated discovery and design of materials to meet technological challenges of the 21st century associated with environmental, national security, energy and medical issues. The program provides an interdisciplinary framework that employs informatics and engineering system design tools to the development of materials. The curriculum includes (i) cross-disciplinary components on materials science, informatics and design; (ii) an interdisciplinary, integrative studio course on the application of informatics and design tools to develop materials; (iii) elective tracks on entrepreneurship, energy, computational materials science as well as professional internships in industry and national laboratories. The educational goals of the "Certificate in Materials, Informatics and Design" program are to train the next generation of scientists and engineers who 1) are grounded in their own disciplines; 2) are capable of applying tools and methods from other disciplines to their own fields; 3) are able to translate tools developed in their own disciplines to engineering problems in other fields; 4) can communicate with experts in other fields; 5) can effectively contribute to interdisciplinary efforts while developing a comprehensive understanding of the potentials and limitations of their own as well as other disciplines; and 6) and have the skills necessary to thrive in their chosen career path.

Program hours 15

Is this program eligible for financial aid?

Will program hours change (increase/decrease) **No**

Approval Path

1. 09/20/18 12:21 am Ibrahim Karaman (karaman): Approved for MSEN Department Head
2. 09/25/18 8:17 am Angel Mario Carrizales (carri1214): Approved for Curricular Services Review
3. 10/02/18 5:12 pm Jennifer Veracruz (jveracruz): Approved for EN Committee Preparer GR
4. 11/11/18 11:10 pm Harry Hogan (h-hogan): Approved for EN Committee Chair GR
5. 11/11/18 11:19 pm Harry Hogan (h-hogan): Approved for EN College Dean GR
6. 11/27/18 11:07 am LaRhesa Johnson (lrjohnson): Approved for GC Preparer
7. 12/13/18 4:22 pm LaRhesa Johnson (lrjohnson): Approved for GC Chair

History

1. Apr 2, 2018 by Jules Henry (jules.henry)

due to the proposed
curriculum changes?

Certificate type Stand-alone

Program delivery mode On-campus

Catalog Program Requirements

Code	Title	Semester Credit Hours
MEEN 601	Advanced Product Design	3
or MEEN 683	or Multidisciplinary System Analysis and Design Optimization	
MSEN 655	Materials Design Studio	3
MSEN 659	Materials Design ePortfolio	0
MSEN 660/ECEN 769	Materials Informatics	3
Select one of the following:		3
CHEM 466	Polymer Chemistry	
CHEM 468	Materials Chemistry of Inorganic Materials	
CHEM 623	Surface Chemistry	
CHEN 641	Polymer Engineering	
CHEN 642	Colloidal and Interfacial Systems	
MEEN 607/MSEN 607	Polymer Physical Properties	
MEEN 610	Applied Polymer Science	
MEEN 686/MSEN 618	Composite Materials Processing and Performance	
MSEN 601	Fundamental Materials Science and Engineering	
MSEN 603	Fundamentals of Soft and Biomaterials	
MSEN 618/MEEN 686	Composite Materials Processing and Performance	
PHYS 617	Physics of the Solid State	
Select one of the following:		3
CHEM 483	Green Chemistry	
CHEM 658	Molecular Modeling	
CHEM 684	Professional Internship	
CHEN 459	Gas and Petroleum Processing	
CHEN 665	Sustainable Design of Chemical Processes	
CHEN 684	Professional Internship	
ECEN 684	Professional Internship	
ECEN 711	Sustainable Energy and Vehicle Engineering	
ECEN 712	Power Electronics for Photovoltaic Energy Systems	
ECEN 715	Physical and Economical Operations of Sustainable Energy Systems	
ENGR 681	Professional Development Seminar	
MEEN 633	Combustion Science and Engineering	
MEEN 647	Fundamentals of Energy Storage	
MEEN 662	Energy Management in Industry	
MEEN 665	Application of Energy Management	
MEEN 684	Professional Internship	
MGMT 632	Technology Commercialization	
MGMT 637	Foundations of Entrepreneurship	
MGMT 640	Managing for Creativity and Innovation	
MSEN 619	Materials Modeling of Phase Transformation and Microstructural Evolution	
MSEN 657	Multiscale Modeling in Materials	
MSEN 670	Computational Materials Science and Engineering	
MSEN 684	Professional Internship	
PHYS 619	Modern Computational Physics	
Total Semester Credit Hours		15

Additional
Requirements

Additional information

Required Proposal Forms [D3EM_Certificate_Programs_Request-Final.doc](#)
[D3EM-PHYS-Support Letter.pdf](#)
[D3EM-ECEN-Support Letter-Dougherty.pdf](#)
[D3EM-ECEN-Support Letter-Braga-Neto.pdf](#)

[D3EM-MEEN Support Letter.pdf](#)
[D3EM-CHEM Support Letter.pdf](#)
[D3EM-MSEN Support Letter.pdf](#)
[D3EM-CHEN Support Letter.pdf](#)
[012218PresidentApprovalMemo.pdf](#)
[CERT-MIND Degree Evaluation Adjustments FY19.pdf](#)

Reviewer Comments

Key: 854

[Print](#)

Detail Requirements

Julianne S. Henry
Sep 19, 2018 01:53 pm

Viewing: [Degree Evaluation](#) (DEGEVAL, , [Email](#))
[Change Student](#)

Information for Degree Evaluation

This is NOT an official evaluation.

Print Instructions

Program Evaluation

Limitation: Students must maintain a minimum 3.0 Program GPA for graduation purposes.

Program :	Cert-Matls Informatics & Desgn	Catalog Term :	Fall 2018 - College Station
Campus :	College Station	Evaluation Term :	Fall 2018 - College Station
College :	Engineering	Expected Graduation Date :	
Degree :	GR Certificate	Request Number :	7
Level :	Graduate	Results as of :	Sep 19, 2018
Majors :	Materials, Informatics & Design	Minors :	
Departments :	Materials Science & Engr	Concentrations :	

	Met	Credits	Courses		
		Required	Used	Required	Used
Total Required :	No	15.000	0.000		0
Program GPA :	No	3.00	.00		
Overall GPA :	Yes	.00	.00		
Other Course Information					
Transfer :			0.000		0

This is NOT an official evaluation.

Area Courses Counting in GPR - Not Met

Met	Condition	Rule	Subject	Attribute	Low	High	Required Credits	Required Courses	Term	Subject	Course Title	Attribute	Credits	Grade	Source
No	A.		Additional Unused Courses												
													Total Credits and GPA	0.000	.00

unofficial evaluation

Area Certificate Coursework (15.000 credits) - Not Met

Met	Condition	Rule	Subject	Attribute	Low	High	Required Credits	Required Courses	Term	Subject	Course Title	Attribute	Credits	Grade	Source
No	A.		MEEN 601 or MEEN 683 3hrs												
No	AND	B.	MSEN 655 3hrs												
No	AND	C.	MSEN 660 or ECEN 649 3hrs					MSEN 660/ECEN 769; REMOVE ECEN 649							
No	AND	D.	Elective I 3hrs					REMOVE MEEN 686 as course is being deactivated; MSEN 686 does not exist.							
Select from CHEM 466, 468, 623, 641-642; MEEN 607, 610, 686; MSEN 601, 603, 607, 618, 686; PHYS 617															
No	AND	E.	Elective II 3hrs					ADD ENGR 681							
Select from CHEM 483, 658, 684; CHEN 459, 665, 684; ECEN 684, 711-712, 715; MEEN 633, 647, 662, 665, 684; MGMT 632, 637, 640; MSEN 619, 657, 670, 684; PHYS 619.															
													Total Credits and GPA	0.000	.00

unofficial evaluation

Area Non-Credit Requirement (1 courses) - Not Met

:

Met	Condition	Rule	Subject	Attribute	Low	High	Required Credits	Required Courses	Term	Subject	Course Title	Attribute	Credits	Grade	Source
No		A.	MSEN 659												
Total Credits and GPA													0.000	.00	

unofficial evaluation

[Back to Display Options](#)

3

[Print](#)