
A VIEW FROM MY SIDE

Report to UMC

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Topics

- Academic Scene in Transition
 - Professional Society Cooperation
 - Outreach and Education
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IS THIS REALLY A DISCIPLINE?

Materials Programs offering Undergraduate Education

Total Programs = 69

Degree titles:

Metallurgical Engineering 11

Metallurgical and Materials Engr. 5

Materials Engineering 12

Materials Science 4

Materials Science and Mineral Engr. 1

Materials Science and Engineering 25

Materials Option under Chemical Engr. 4

Materials Option under Mechanical Engr. 5

Ceramic Engineering 7

Polymer Science & Engr. 4

Academic Scene in Transition

- Off-shoring of manufacturing and R&D reduces opportunities, effects funding decisions by agencies and hiring decisions by universities—who will teach metallurgy?
- Larger Departments diversify further (nano-, bio-) – what is MSE?
- Smaller Departments are often absorbed into ChE and ME Departments – at these schools, what constitutes a major in MSE?
- Materials Research is mostly done by faculty in departments not titled “Materials” –Who is really doing the Engineering in MSE?

Academic Scene in Transition---

Further Questions??

- There's too much to teach/learn- is there any longer a core curriculum for a BS in MSE?
 - Isn't it about time to recognize that the MS should be the first professional degree in MSE, and for that matter in all engineering?
 - Is an Academy study of these educational issues realistic? Useful?
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Outreach and Education

- NSF requires outreach-
 - REUs – Universal kudos!
 - RETs – Why do this?
 - Teaching Modules – All kinds and range of utility
 - Museums and other – Kits, visits, etc.
 - What about links to form a National network?
 - MRSECs and other Centers guided by NIH
 - Local circumstance focus mitigates against cooperation
 - Partnerships with entities outside of Academia seems the way to go
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Professional Society Cooperation

It is Happening!

- Technical meetings-MS&T
 - Student chapters-Materials Advantage
 - Washington DC Advocacy-FMS
 - Congressional Visit Days
 - Materials Information Luncheons
 - K-12 Education-ASM Materials Camps
 - Mini-camps
 - Modules for teachers
 - Full camp support?
 - FMS MI Poster Session for Congress?
 - Is there a further role for the UMC?
 - University Partnerships are one route!
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ASM Materials Camps

University Partners

ASM MATERIALS CAMP		Host		
EDUCATIONAL PARTNER		2003	Materials 2004	Camp 2005
1	Blackhawk College	0	0	1
2	Bradley University	0	0	1
	California State University -			
3	Long Beach	0	1	1
4	Carnegie Mellon University	0	0	0
5	Colorado School of Mines	0	0	1
6	Don Bosco Technical Institute	0	1	1
7	Drexel University	0	0	1
8	Edmonds Community College	0	0	2
9	Eldorado High School	1	1	1
10	Illinois Institute Technology	1	0	1
11	Indian Institute Technology	0	0	1
12	Lehigh University	0	1	1
13	McMaster University	0	1	1
	New Jersey Institute of			
14	Technology	0	0	0
	New Mexico Institute of			
15	Technology		0	0
16	Norfolk State University	0	0	0
17	North Carolina State University	0	0	1
18	Ohio State University	0	1	1
19	Princeton University	0	0	1
	Rensselaer Polytechnic Institute			
20		0	0	1
21	Rutgers University	0	0	0
22	Ryerson University	0	0	0
23	Shoreline Community College	0	0	0
	State University of New York -			
23	Stony Brook	0	0	0
25	U.British Columbia	0	0	0
26	U.California Merced	0	0	0
27	U.Missouri-Rolla	0	1	1
28	U.Central Florida	0	0	1
29	U.Cincinatti	0	0	1
30	U.Florida-Gainesville	0	0	1
			2005 GOALS	EDUC
31	U.Houston	0	1	1
32	U.Michigan-Ann Arbor	0	1	1
33	U.North Carolina - Raleigh	0	0	1
34	U.Pittsburgh	0	0	0
35	U.Tennessee-Knoxville	0	1	1
36	U.Toronto	0	0	0
37	U.Washington-Seattle	3	1	1
38	U. Texas- Arlington	0	1	1
39	Wingate University	0	0	1
40	Youngstown State University	0	0	1
	TOTALS	5	12	29