

ASM Materials Camp[®]-Teachers

June 16-20, 2008

University of Missouri-Kansas City

ACKNOWLEDGEMENTS

An endeavor of this magnitude requires the time, talents and efforts of countless individuals and organizations, too many to list here. Any effort to acknowledge some will inevitably omit others who are very important and key to our success. If we somehow missed you, please know it was unintentional, and your volunteer efforts are very important to us.

Support for this program is provided by:

- ASM Education Foundation
- Ewing Marion Kauffman Foundation
- Linda Hall Library of Science, Engineering & Technology
- University of Missouri – Kansas City

Community Partners include:

- ASM International – Kansas City Chapter
- Atchison Steel Casting & Machine
- Honeywell

ORGANIZERS

ASM International – Kansas City

Leonard E. Carr, Jr., P.E.
Manger, Engineering Projects Tooling and Development Support, Honeywell, Retired

Robert L. Hanlin
Senior Staff Engineer Metallurgical & Ceramics Engineering, Honeywell

Linda Hall Library

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Administrator, Foundation Programs

Virginia Shirk
Administrative Assistant

Master Teachers

Debbie Goodwin
Chillicothe High School, Missouri

Roger Crider
Kellam High School, Virginia

Apprentice Teacher

Beth Eddy
Westerville South High School, Ohio

PROGRAM OVERVIEW

The program is based on past experiences in the areas of curriculum development, teacher training and student programs in Materials Science developed at the University of Washington and Edmonds Community College and supported by the National Science Foundations Advanced Technology Education program. These programs have demonstrated that Materials Science is an excellent tool to bring together academic and vocational instructors in a common goal of exciting students about science, technology and engineering.

Materials Science excites students' interest because the student has everyday, hands-on experience with materials. Thus, materials topics are great motivators in any engineering, technology or science course. Materials are also a very important and an integral part of the manufacturing process.

During this one-week workshop, teacher participants will learn the basics of Materials Science Technology as taught at the high school level. They will work hands-on with metals, ceramics, polymers and composites, and will develop a greater appreciation for the importance of these materials to modern life. The teachers will see how this heavily project-based course excites students to learn science concepts as they complete projects of personal worth to them. Whether teachers use the information and concepts as a basis for teaching their own MST course or merely infuse the concepts into an existing science course to increase relevancy, they will finish the week prepared to make some important instructional changes as a result of their participation.

SCHEDULE

Sunday, June 15		
4:00 – 6:00 PM	ARRIVAL Unload at the Oak Street Hall Park at Linda Hall Library Check-in at the Oak Street Hall	http://www.umkc.edu/housing/oakhall.asp 5109 Cherry Street, Kansas City, MO 64110 www.lindahall.org
Monday, June 16		
8:00 AM	Registration & Continental Breakfast Spencer Chemistry Building (SCB) Main Floor Breezeway	Organizers/Master Teachers
8:30 AM	Welcome SCB 212	Organizers / UMKC
8:45 AM	Introductions	Master Teachers
9:00 AM	Intro Experiments – SOLIDS	
10:00 AM	BREAK	
10:15 AM	SOLIDS	
11:15 - 6:00	Access to the Lab SCB 201-203	
12:00 PM	LUNCH / WORKING LUNCH	
1:00 PM	SOLIDS	
4:00 PM	BREAK - SCB Main Floor Breezeway	
4:15 PM	SOLIDS	
5:00 PM	Dismissal	
7:00 – 8:30 PM	Tour the Linda Hall Library	

Tuesday, June 17		
8:00 AM	Continental Breakfast SCB Main Floor Breezeway	
8:00 AM – 6:00 PM	Access to the Lab SCB 201-203	
8:30 AM	METALS	
10:00 AM	BREAK	
10:15 AM	METALS	
12:00 PM	LUNCH / WORKING LUNCH	
1:00 PM	METALS	
4:00 PM	BREAK - - SCB Main Floor Breezeway	
4:15 PM	METALS	
5:00 – 7:00 PM	UMKC Campus Tour	
Wednesday, June 18		
6:45 AM	Load at Linda Hall Library Parking Lot	
8:00 AM	Fieldtrip: Atchison Casting Company	Breakfast on the bus
10:15 AM	Depart Atchison	
11:15	Arrive at Linda Hall Library	
11:15 - 6:00	Access to the Lab SCB 201-203	
11:30	CORROSION - SCB 212	
12:00	LUNCH / WORKING LUNCH	
4:00 PM	BREAK - - SCB Main Floor Breezeway	
4:15 PM	CORROSION	
5:00 PM	Dismissal	

Thursday, June 19		
8:00 AM	Continental Breakfast SCB Main Floor Breezeway	
8:00 AM – 6:00 PM	Access to the Lab SCB 201-203	
8:30 AM	POLYMERS	
10:00 AM	BREAK	
10:15 AM	POLYMERS	
12:00 PM	LUNCH / WORKING LUNCH	
1:00 PM	POLYMERS	
4:00 PM	BREAK - - SCB Main Floor Breezeway	
4:15 PM	POLYMERS	
6:00 PM	Dismissal	
Friday, June 20		
8:00 AM	Continental Breakfast SCB Main Floor Breezeway	
8:30 AM	COMPOSITES, CERAMICS & GLASS	
10:00 AM	BREAK	
10:15 AM	COMPOSITES, CERAMICS & GLASS	
11:00 AM	RAKU FIRING – FLARSHEIM HALL DOCK	
11:15 - 6:00	Access to the Lab SCB 201-203	
12:45 - 1:00 PM	Walk over to the Linda Hall Library	
1:15 PM	GRADUATION LUNCH <u>Linda Hall Library Auditorium</u> PRESENTATION OF CERTIFICATES	Organizers, Master Teachers, UMKC, Kauffman Foundation, UpLink
3:00 PM	Dismissal	
4:00 – 6:00 PM	Check-out of Oak Street Hall	
Saturday, June 2		
8:00 – 10:00 AM	Check-out of Oak Street Hall	

MASTER TEACHERS

Ms. Debbie Goodwin has 25 years of teaching experience in biology, chemistry, and general science. Debbie has taught at Chillicothe High School for 13 years and just completed her 11th year of teaching Materials Science and Technology (MST). She has made MST presentations at National Science Teachers Association (NSTA) and National Tech Prep Network (NTPN) conferences. She has also instructed at summer workshops on Applied Biology/Chemistry (ABC) and MST in various states. Debbie has a B.S. in Education (Biology/Chemistry) from Southwest Missouri State University and her MS in Education at Central Methodist College. She was selected to become a Polymer Ambassador for the Intersociety Polymer Education Council in the fall of 2003. Email Debbie at nywin@hotmail.com

Mr. Roger Crider is a 29 year veteran of teaching in a wide variety of settings. For the past 7 years, he has taught Material Science and Bioengineering to students that are drawn from all 11 school zones in the city that have shown interest in engineering. Beginning in a new school with the material science curriculum from Energy Concepts Incorporated, Roger sought all available training opportunities. These included ECI orientation, MST Summer institutes, and National Education Workshops, and hosting a one day workshop for Virginia Teachers. This then lead to co-teaching a NSF funded Summer Institute in Norfolk, VA, a Summer Conference Workshop in Richmond, VA, and a NEW sponsored Institute for HS teachers in Phoenix, AZ. Roger has a B.A. in Industrial Arts from Penn State University and a Masters in Supervision from George Washington University. Email Roger at criderc5@cox.net

APPRENTICE TEACHER

Mrs. Beth Eddy spent five years as a research chemist for the Gulf Research & Development Company and then 24 years teaching chemistry. She is a National Board Certified Teacher and presently teaches at Westerville South High School, near Columbus, Ohio, where she has developed the curriculum for and teaches IB and AP chemistry. She just completed a successful first year of Materials Science Engineering for high school students. Beth has a B.S. in chemistry and an M.A. in Science Education from Allegheny College in Meadville, PA. Email Beth at tbeddy@hotmail.com

TEACHER DELEGATES

	First Name	Last Name	School	City	State	Room
1	Leisa	Albers	Lyndon High School USD 421	Lyndon	KS	N/A
2	Eileen	Ball	St. Peter Catholic School	Wichita	KS	2042
3	Trudi	Cadenbach	Dakota Valley High School	Westfield	IA	2043
4	Michelle	Cauwels	Bethany Blackhawk Phoenix Program	East Moline	IL	2045
5	Keely	Cox	Lawton High School	Lawton	OK	2046
6	Stephen	Draper	University of Nebraska at Omaha	Bellevue	NE	2034
7	Cassandra	Fight	Urban Community Leadership Academy	Kansas City	MO	N/A
8	Steven	Harshfield	Sequoyah High School	Broken Arrow	OK	2040
9	Karen	Hoff	Timberland High School	Wentzville	MO	2048
10	Aileen	Johnson	Great Bend High School	Hays	KS	2047
11	Betty	Jones	B&B High School	Seneca	KS	2049
12	Loukea	Kovanis-Wilson	Clarkston High School	Fenton	MI	2049
13	David	LaFevre	Washburn Rural High School	Topeka	KS	2034
14	Matthew	Lazzarotto	Elmwood Park High School	Berwyn	IL	2038
15	Staci	Maul	Conway High School East Campus	Conway	AR	2044
16	Gissel	McDonald	Spring Hill High School	Olathe	KS	N/A
17	Mary	Montag	St. Teresa's Academy	Kansas City	MO	N/A
18	Sui Sum	Olson	St. Thomas Aquinas High School	Overland Park	KS	2047
19	Ellen	Pederson	Knob Noster High School	Warrensburg	MO	2048
20	Diane	Ray	Webb City High School	Stark City	MO	2046
21	Jeffrey	Rosenblatt	Science City at Union Station	Kansas City	MO	N/A
22	Barbara	Roth	Yutan High School	Yutan	NE	2045
23	Wendy	Russell	Mead Middle School	Park City	KS	2043
24	Carol	Sayers	Fort Zumwalt North High	St. Paul	MO	2044
25	Kathleen	Teel	Notre Dame de Sion	Overland Park	KS	N/A
26	Vince	Thompson	Kansas City Robotics Society / Winnetonka High School	Kansas City	MO	2038
27	Erin	Tveitnes	Sturgeon High School	Columbia	MO	2042
28	Arthur	Wells	Shawnee Mission South High School	Basehor	MO	2040
29	Catherine	White	TAPC-Kansas City Missouri School District	Kansas City	MO	N/A
30	Susan	Wilson	Robinson Middle School	Tecumseh	KS	N/A