

National Resource Center for Materials Technology Education

John Rusin
Tom Stoebe
Mel Cossette



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Introduction – Edmonds CC

- Established in 1967
- Location: North of Seattle (Lynnwood) within 10 miles of Boeing Everett Campus
- Onsite Learning: ~11,000 Students
- Associate of Science Degree - Engineering, Computer Science, Physics and Atmospheric Sciences
- Associate in Applied Science –Transfer Degree - Materials Science Technology

Recent NSF Program History

- Materials Aspects of Manufacturing Technology Institute (MTI) – at Un. of Washington to train high school teachers and community college instructors in materials science (WA state) 1997-2001
- Enhancement of Materials Technology for Manufacturing (EMTECH) – at Edmonds CC to train high school teachers in materials science (Nationwide) 2001-2003
- Planning Grant – at Edmonds CC to submit National Resource Center proposal 2004-2005

Project Information

Funding: \$1,499,986 over 4 years starting July 2005

Location : Edmonds Community College, Lynnwood, WA

Project PI's

- Mel Cossette, Edmonds CC
- Tom Stoebe, Consultant (retired U. of Washington)
- John Rusin, Consultant (retired Edmonds CC)
- Mike Kenney, ASM International
- Bob Simoneau, Keene State University

Community College Partners

- Cerritos College, Norwalk, CA
- Connecticut College of Technology, Hartford, CT
- Cuyahoga Community College, Cleveland, OH
- Gadsden State Community College, Gadsden, AL
- McHenry Country College, Crystal Lake, IL
- Metropolitan Community Colleges, Kansas City, MO
- South Piedmont Community College, Polkton, NC
- Tidewater Community College, Virginia Beach, VA
- Un. of New Mexico Los Alamos, Los Alamos, NM

Technical College Partners

- Central Washington University, Ellensburg, WA
- Kettering University, Flint, MI
- Wentworth Institute of Technology, Boston, MA

National Resource Center for Materials Technology Education

Goals of the National Resource Center:

1. Develop a set of core competencies
2. Provide faculty with access to curriculum
3. Provide mentoring and professional development
4. Provide communication systems and web-based resources

Goal 1: Develop a set of core competencies to define the materials-related skills a technician needs in today's advanced manufacturing environment

- Facilitator: Prof. Bob Mott, Un of Dayton and Sinclair CC
- Process:
 - Focus groups
 - Lynnwood, WA – August 2005
 - Los Angeles, CA – August 2005
 - Detroit, MI – October 2005
 - Cleveland, OH – November 2005
 - Draft report December 2005

Goal 2: Provide faculty with access to curriculum to introduce the competency-related concepts into their manufacturing and engineering technology courses.

- Collect, review and catalog existing resources
- Develop new resources only as needed to support core competencies identified in goal 1
- Faculty from partner institutions will review, test, and evaluate curriculum

Goal 3: Provide mentoring and professional development for faculty to assist them to teach the basic subjects of materials technology to their students.

- Mentoring for instructors
 - Industry, professional societies, universities
 - Web based mentoring system
- Mentoring for colleges
 - Partner colleges
- Regional support groups
 - Partner colleges

- Workshops and institutes for faculty
 - Variable lengths depending on need
 - ASM Teachers Camp for HS level
- Master teachers
 - Provide mentoring, support
 - Assist with curriculum review, updating

Goal 4: Provide the communication systems and web-based resources needed to create a community of users to disseminate and sustain the Resource Center activities

- Proven Practices and Annual Update Conference
 - Held in conjunction with MS&T and NEW annual conferences
 - First conference to be held in October 2006

- Resource Center Website as a repository for materials and information.
 - Developed and sustained in collaboration with ASM International
 - Full curriculum database
 - Database tracking system
- Fully catalogued, cross references, peer reviewed data base of module, courses, demonstrations, laboratories, capstone projects, etc

Resource Centers

NCME, NJCATE, MATEC

Professional Societies

ASM, SME, SAMPE, TMS, ACERS

Education Groups

NSTA, AACC, ITEA

How to Participate

- Join a focus group
- Contribute curriculum
- Become a mentor or master teacher
- Attend the annual conference

WANTED

INNOVATIVE
MATERIALS SCIENCE
RESOURCES

WWW.MATERIALEDUCATION.ORG

CURRICULUM

MODULES

DEMONSTRATIONS

LAB ACTIVITIES

Contact Information

- Tom Stoebe - tgstoebe@earthlink.net
- John Rusin - ceramist@nwlink.com
- Mel Cossette - mel.cossette@edcc.edu
- Web Site – www.materialseducation.org