

April 21, 2011

To: Enrique J. Lavernia, Dean
College of Engineering

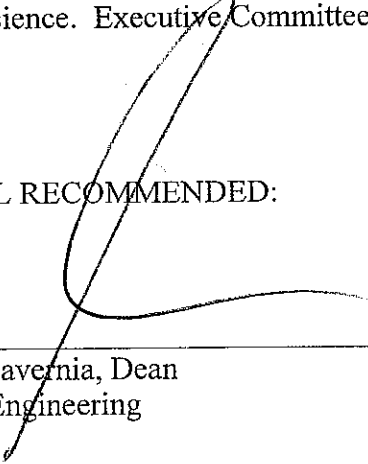
Robert Powell, Chair
Academic Senate

Fr: Matthew Farrens, Chair 
Engineering Executive Committee

Re: Approval of New Minor in Engineering

The Engineering Executive Committee met and discussed one new proposed minor in Engineering at their meeting scheduled April 21, 2011. The proposed new minor is for Materials Science to be administered by the Department of Chemical Engineering and Materials Science. Executive Committee members approved the proposed minor.

APPROVAL RECOMMENDED:



Enrique J. Lavernia, Dean
College of Engineering

UC Davis Minor in Materials Science:

Offered by the Department of Chemical Engineering & Materials Science
3118 Bainer Hall
(530) 752-0400

Background on the minor

There is a constant need for professionals with more knowledge and experience in understanding the behavior of materials from which products such as electronics, sensors, biological implants, transportation vehicles, medical devices and infrastructure are made. The goal of this minor is to prepare students for careers that require training in materials science, including the fundamentals of thermodynamics and kinetics and their effects on phase composition and structure, as well as the complex relationships between composition, structure, processing and behavior/performance. Topics covered include material thermodynamics and kinetics, materials structural analysis, and structure-property relationships for electronic, optical, magnetic and mechanical behavior. The minor is expected to accommodate persons of diverse backgrounds, such as those majoring in engineering, physical sciences, biological sciences, and mathematics.

Completion of the minor

Courses for the minor are listed below. **No more than one course may be counted toward both the minor and the major.** Successful completion of the minor requires the following:

1. Minimum overall GPA of 2.0 for coursework completed in the minor, and
2. No grade lower than a C- for any course counted toward the minor.

Transcript notation requires successful completion of the minor. Notation will appear as a minor in "Materials Science".

Materials Science Minor

Total units for the minor: 20 units. All courses must be taken for a letter grade. No grade lower than a C- will be accepted.

Minor Advisor: Professor Julie M. Schoenung

The following courses are required (20 units):

Dept	Course #	Title	Units	Quarter offered	Prerequisites
EMS	160	Thermodynamics of Materials	4	F	ENG 45, CHE 2C, MAT 22B and PHY 9B
EMS	162	Structure and Characterization of Engineering Materials	4	W	ENG 45, MAT 22B, and PHY 9B
EMS	164	Rate Processes in Materials Science	4	Sp	ENG 45 and EMS 160
EMS	172	Electronic, Optical & Magnetic Properties of Materials	4	F	ENG 45; CHE 110A or PHY 9D; ECM 6 (recommended) or ENG 6
EMS	174	Mechanical Behavior of Materials	4	F	ENG 45, EMS 162 and EMS 164