Current version

PROGRAM CRITERIA FOR MATERIALS[1], METALLURGICAL[2], AND SIMILARLY NAMED ENGINEERING PROGRAMS

Lead Society: Minerals, Metals & Materials Society

[1]Cooperating Societies for Materials Engineering Programs: American Ceramic Society, American Institute of Chemical Engineers, and American Society of Mechanical Engineers

[2]Cooperating Society for Metallurgical Engineering Programs: Society for Mining, Metallurgy, and Exploration

These program criteria apply to engineering programs including "materials," "metallurgical," "polymer," and similar modifiers in their titles. All programs in the materials related areas share these criteria, including programs with materials, materials processing, ceramics, glass, polymer, metallurgical, and similar modifiers in their titles.

1. Curriculum

The curriculum must prepare graduates to apply advanced science (such as chemistry and physics) and engineering principles to materials systems implied by the program modifier, e.g., ceramics, metals, polymers, composite materials; to integrate the understanding of the scientific and engineering principles underlying the four major elements of the field: structure, properties, processing, and performance related to material systems appropriate to the field; to apply and integrate knowledge from each of the above four elements of the field to solve materials selection and design problems, and; to utilize experimental, statistical, and computational methods consistent with the program educational objectives.

2. Faculty

The faculty expertise for the professional area must encompass the four major elements of the field.

Revision with track changes

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1. Curriculum

The curriculum must prepare graduates to apply advanced science (such as chemistry, biology and physics), computational techniques and engineering principles to materials systems implied by the program modifier, e.g., ceramics, metals, polymers, biomaterials, composite materials; to integrate the understanding of the scientific and engineering principles underlying the four major elements of the field: structure, properties, processing, and performance related to material systems appropriate to the field; to apply and integrate knowledge from each of the above four elements of the field using experimental, computational and statistical methods to solve materials problems including selection and design ~~problems, and; to utilize experimental, statistical, and computational methods~~ consistent with the program educational objectives.

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Revision - clean

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