

DESCRIPTIONS OF ENGINEERING EDUCATION: FACULTY, STUDENT AND ENGINEERING PRACTITIONER PERSPECTIVES

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The Carnegie Foundation for the Advancement of Teaching (CFAT) has embarked on an ambitious research effort to study the current state of education for professions. This program entails a series of two- to three-year studies of the preparation for the professions of law, engineering, the clergy, medicine, and social work. Together these studies will provide the empirical basis for analyses of key issues that cut across fields, such as tensions between theory and practice, development of graduates' capacity to continue learning from experience, and development of practitioners' competent and ethical judgment in complex situations.

The specific goals of the CFAT study of engineering education are: (1) to provide a rich description of the teaching and learning of engineering education in the United States at the end of the twentieth century; (2) to highlight recent significant developments and approaches in the education of future engineers; and, (3) to offer suggestions and guidelines to various stakeholders for strengthening the relationships between engineering education and professional practice. The study will explore what lies inside the "black box" of preparation for the engineering profession in ways that should assist educators, students and their parents, leaders in postsecondary education, practicing engineers, and policy makers to prepare future engineers more effectively.

This paper presents preliminary findings from the study. More specifically, descriptions of teaching and learning attitudes and practices present in current undergraduate engineering

education in the United States, especially with regard to supporting the development of professional engineering practitioners are developed. These descriptions are from the perspectives of faculty, students, and engineering practitioners, three of the key stakeholders in engineering education.