

Department of Mechanical and Aerospace Engineering

Faculty RTP Document

*(Approved by Academic Affairs: July 1997)**

INTRODUCTION

This document describes retention, tenure and promotion policies that pertain directly to the Department of Mechanical and Aerospace Engineering. Some issues regarding instruction, scholarly and creative activity and services are unique to these fields. The rapid rate of change in Mechanical and Aerospace Engineering is the principal reason for this difference. Few departments outside the College of Engineering face the same magnitude of technological change. The fact that this department resides in a large comprehensive university also affects the way in which professional responsibilities are defined for faculty in the discipline.

This document will expand the concept of instructional preparation and scholarly activity in a way that recognizes the time and effort involved in learning new methods, equipment, and technology. It recognizes the demands and impact that a large teaching load has on an engineering department. It also describes some specific forms of university and community service that promote the use of Mechanical and Aerospace Engineering across the campus and the community.

In almost all cases the university document is adequate. Hence, this policy statement will not be long. Only sections pertaining to criteria for evaluating the candidates will be expanded. The candidate must refer to the university or college documents whenever this document is silent on a matter.

CRITERIA

Instruction and Instruction-Related Activities

Essential Criteria: In addition to the four essential criteria given in the university document, the Mechanical and Aerospace Engineering Department adds a fifth:

- (5) Ongoing development in newly emerging areas of Mechanical and Aerospace Engineering.

In Mechanical and Aerospace Engineering, all candidates must be prepared to teach the use and applications Mechanical and Aerospace Engineering with modern hardware and/or software systems in a laboratory setting. All candidates should be prepared to create a hands-on learning environment for their students.

Enhancing Criteria: Candidates may enhance their instructional strengths in Mechanical and Aerospace Engineering in many ways. Faculty may develop lecture notes, handouts, slides, user groups, web sites and other aids to teach with the use of hardware and software. They may develop teaching and recitation strategies that aid hands-on learning in a hardware or software laboratory. Faculty may also develop innovative techniques for grading and testing. Integration of new methods and technology into the learning environment must be used to enhance instruction. Offering directed studies relating to new computer-aided instruction also demonstrates enhanced competence in teaching.

Scholarly and Creative Activities

The criteria given here is in addition to the university document. The department encourages traditional forms of scholarly and creative activities such as journal articles, conference presentations, etc. We also recognize that the pressure of learning new technology in the context of a large teaching load requires additions to the list of acceptable activities. Faculty who pursue a traditional path to publication will be recognized and rewarded for their work. In addition, faculty who significantly improve the environment for learning new technology will also be recognized and rewarded. This will occur even if their contribution is published or reviewed in a non-traditional mode. Electronic media is an acceptable form of publication. Peer review may occur before or after publication. The department or candidate may seek external reviewers for creative works that are not refereed. This procedure must be conducted in compliance with the guidelines described in the university document.

Essential Criteria: In addition to the criteria outlined by the university document, candidates in the Mechanical and Aerospace Engineering Department must keep up with all the changes in their field including hardware and/or software. Candidates may demonstrate currency by successfully developing and/or teaching curriculum using current technology. This, may also be demonstrated by writing articles, reviews, manuals, handouts and notes. External peer review is not required for these contributions.

Enhancing Criteria: The following are examples of enhanced scholarly and creative activities that relate to Mechanical and Aerospace Engineering Technology. Peer-reviewed articles, reviews, manuals, handouts and notes, address new developments and enhance scholarly and creative activities. Implementation of new laboratories, hardware or software systems, also count as enhancements. Such contributions may include innovative use of information systems, client-server systems, database designs, programming languages and operating systems, windows, graphical interfaces and visual programming, computer networks, telecommunication systems and object-oriented technologies. Development of curriculum that introduces new hardware or software into the undergraduate or graduate program is considered enhanced scholarly and creative activity.

Service

Candidates in Mechanical and Aerospace Engineering are encouraged to spread the use of Mechanical and Aerospace Engineering throughout the university and community. Therefore, in addition to the standard areas of university and community service, the department recognizes technological assistance given to university and community organization as a unique and important service contribution. Any faculty member who develops software or hardware, directs student interns, gives technical advice or donates expertise to develop technology for university or community organizations has made a service contribution to the affected organization. Sometimes professional consultations may also count as service. However, in these cases the consultation involved must clearly related to the mission of the department.

** Similar RTP documents were approved by Academic Affairs in July of 1997 for both AE and ME Departments before their recent merger to form the new MAE Department.*