December 19, 2000

Letter in Support of the Proposal for a Graduate Program in Mechanical Engineering

I am happy to endorse the proposal for a graduate program in Mechanical Engineering in the Bourns College of Engineering. Mechanical Engineering is the newest department in the college and its undergraduate enrollment is one of the fastest growing. The enrollment has grown from 1 student in 1994 to 136 students in 2000. The program has also been accredited by ABET after its first year of eligibility in 1999. The faculty has grown to 8 members within a short span of three years – 5 Full Professors and 3 Assistant Professors. A significant incentive to our recent hires was the expectation, based on the College’s recent history, that Mechanical Engineering will have a graduate program in place effective Fall 2001. A total of thirteen graduate students supervised by four members of our faculty are currently enrolled at other universities when they could be enrolled here at UCR if we had a graduate program in Mechanical Engineering.

A total of 7 faculty members from the rest of the college and the campus are affiliated with the department (cooperating faculty) and have agreed to supervise graduate students. In our Five-Year Plan we have projected that the Department of Mechanical Engineering will grow to 14 faculty members. We have planned for providing adequate office space for faculty. In addition, roughly 400 square feet of laboratory space is earmarked for each new faculty conducting experimental research. The enrollment projections for the Department’s graduate program seem quite reasonable. During this period, we have plans in place to provide roughly 50 square feet of office space to house 20 graduate students who will be working as TA’s or RA’s. In addition, roughly 400 square feet of space is earmarked for a graduate instructional computer laboratory. The associated cost for computers, network infrastructure, software, laboratory equipment, and maintenance will be provided by the College.

The following is a summary of the commitments I am making to the Mechanical Engineering program in terms of resources.

- **FACULTY:** The Mechanical Engineering Department at the University of California, Riverside, has eight full-time faculty members, and expects to have a strength of nine before the 2001-2002 academic year. Expansion will continue as the graduate program grows to reach 14 FTE’s in 2005-2006, consistent with our plans for the College of Engineering.
- **TA-SHIPS, FELLOWSHIPS:** The projected TA need for Mechanical Engineering in Year 1 is 3.25 FTE’s (130 hours per week). ME’s proposal estimates roughly $182,000 for fellowship needs in Year 1. Both these estimates are reasonable. The College of
Engineering is expected to receive TA funds to support approximately 21.7 FTE’s for Year 1. In addition, approximately $1.1M will be available for competitive fellowships for students in the College. I will provide the Department of Mechanical Engineering with the TA funds and fellowships commensurate with a new graduate program.

- SPACE: In Bourns Hall, the Mechanical Engineering Department occupies 1,800 square feet of teaching lab space, 8,000 square feet of research lab space, and 600 square feet of computing lab space. I have already committed to this space. In addition, office space will be provided for roughly 10 students during Year 1. As the number of faculty and the number of course offerings with laboratories increase, there will be a need for additional space, which I will allocate in proportion to ME’s share within the College.

- GRADUATE LABORATORIES AND SUPPORT FACILITIES: The department is building several laboratories using faculty start-up and extramural funds for research. These are: 1) A computational fluid dynamics laboratory, 2) A Computational Mechanics and Materials Laboratory is running, 3) A Human-Machine Systems Research Laboratory is currently being developed, 4) a Machine Shop is available. Additional funds for instructional purposes will be made available, consistent with program growth.

The department has already established very strong research groups in Environmental Fluid Mechanics, Combustion, Heat Transfer, Design, and Micro Electronic Mechanical Systems (MEMS). I expect the department to also fully participate in the new initiative in Nanotechnology/Material Science at UCR.

The Mechanical Engineering Department has a core faculty to start a first-rate MS/Ph.D. program and I fully support it.

Sincerely,

Satish K. Tripathi  
Dean  
William R. Johnson, Jr. Family Professor of Engineering