To be adopted:

Proposed Change in B.S. Degree
Mechanical Engineering

Present Course Requirements:

2. Upper Division Requirements: (81 units)
   a) EE 132
   b) ENGR 100, ENGR 115, ENGR 116, ENGR 118
   c) ME 100, ME 103, ME 110, ME 115, ME 120,
      ME 130, ME 170A, ME 170B, ME 175A-ME 175B
   d) STAT 155
   e) Technical electives (16 units); four courses,
      selected from the following list, in consultation
      with an advisor: CHE 130/ENVE 130; CHE 136;
      EE 144; ENVE 138; ME 122, ME 131, ME 133,
      ME 153

Proposed Course Requirements:

2. Upper Division Requirements: (81 units)
   a) EE 132
   b) ENGR 118
   c) ME 100A, ME 100B, ME 103, ME 110, ME 115A,
      ME 115B, ME 116, ME 120,
      ME 130, ME 170A, ME 170B, ME 175A-ME 175B
   d) STAT 40 or STAT 155
   e) Technical electives (16 units); four courses,
      selected from the following list, in consultation
      with an advisor: CHE 136; EE 144; ME 117,
      ME 122, ME 131, ME 133, ME 153

Justification

1. Each of the majors of Chemical Engineering, Environmental Engineering, and Mechanical Engineering has requirements for core courses in thermodynamics, heat transfer, and fluid mechanics. However, the specific needs vary by discipline. As a compromise, when these programs were in their initial stages, such courses were taught collaboratively under the general designations of ENGR 100, ENGR 116, and ENGR 115. This compromise was never entirely satisfactory, and now that the programs have matured, the faculty feels the need to teach these subjects in a manner more appropriate and specific to their disciplines. Thus ME 100A, ME 115A, ME 116 are now to replace ENGR 100, ENGR 115, ENGR 116, respectively, as Mechanical Engineering major requirements. This then also requires the renumbering of the subsequent, more advanced courses in these topics: the previous ME 100 is renumbered as ME 100B, and the previous ME 115 is renumbered as ME 115B.

2. With the two course combination of ME 100A and ME 100B specifically designed to address thermodynamic issues relevant for mechanical engineering, the Chemical/Environmental Engineering course, ChE/EnvE 130, Advanced Engineering Thermodynamics, is redundant and has been removed from the list of technical electives.

3. The Department of Mechanical Engineering has introduced a new course, ME 117 (Combustion and Energy Systems), which is more appropriate for mechanical engineering than the Environmental Engineering course, ENVE 138 (Combustion Engineering), which is currently on the list of technical electives. ME 117 will now replace ENVE 138 on that list.

4. The course STAT 40 covers enough of the material on basic statistical methods to suffice for later courses in the ME major. Allowing students to select either STAT 40 or STAT 155 provides them with more flexibility in their schedules.
Approved by the Mechanical Engineering Faculty on 2/2/01.
Approved by the Executive Committee, College of Engineering on 2/14/01 and again on 3/7/01 after the addition of the STAT 40 option mentioned in #4 above.
Approved by the Committee on Educational Policy on 4/19/01.