1. **Course number and name**  
   **Engr464: Mechanical Design**

2. **Credits and contact hours**  
   3 Credits

3. **Instructor’s or course coordinator’s name**  
   Instructor: Prof. Dipendra K. Sinha  
   Course coordinator: Prof. Dipendra K. Sinha

4. **Text book, title, author, and year**  
   Joseph E. Shigley, Charles R. Mischke and Richard G. Budyans

   a. **other supplemental materials**  
      None.

5. **Specific course information**  
   a. **brief description of the content of the course (catalog description)**  
      Application of principles of mechanics, materials science, and stress analysis to design components and machines. Mechanical behavior of materials. Synthesis and analysis of major machine design project

   b. **prerequisites or co-requisites**  
      ENGR 364

   c. **indicate whether a required, elective, or selected elective course in the program**  
      Required for Mechanical Engineering.

6. **Specific goals for the course**  
   a. **specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.**  
      - Students are able to design common mechanical components and systems  
      - Students are able to design and produce a working system

   b. **explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.**  
      Course addresses ABET Student Outcome(s): [a, c, e, d, g]

7. **Brief list of topics to be covered**  
   - Design of screws, fasteners and non-permanent joints  
   - Welding
• Design and/or selection of mechanical components such as springs, gears, rolling contact bearings, flexible mechanical elements, shafts and axles