051:158 BIOMECHANICS OF ORTHOPAEDIC IMPLANTS

The focus of this course is to familiarize the student with the mechanical considerations underlying the broad range of implants currently used in the practice of orthopaedic surgery. Particular emphasis will be placed upon understanding the biomechanical factors involved in device design. Analytical techniques used to characterize the mechanical performance of these implants will be studied in detail. Unsolved problem areas of current research and development activity will be outlined. At the end of most class periods, the student will be assigned a short exercise to reinforce his/her understanding of the lecture material. A term project will provide an opportunity for independent in-depth study of a topic of individual interest. Several lectures by staff orthopaedic surgeons will convey pragmatic clinical views of the merits and limitations of current devices. At the conclusion of the course, the student should be familiar with the major classes of orthopaedic devices, with the biomechanical considerations that underlie their design and use, and with contemporary areas of biomechanics activity in orthopaedic implant development.