Guía docente INGLÉS:
POLYMERIC BIOMATERIALS (Biomateriales Poliméricos)
DESCRIPCION Y CONTEXTUALIZACION DE LA ASIGNATURA
This course studies the design, manufacture and application of the natural and synthetic polymeric materials, called biomaterials, for applications in a wide variety of implants, devices or equipments that have contact with biological systems.

COMPETENCIAS/ RESULTADOS DE APRENDIZAJE DE LA ASIGNATURA

As a result of the course, the student has to be able to choose specific techniques or instruments to address a problem of biomaterial behaviour in a specific physiological environment and to acquire a basic knowledge that provides a basis for the research and development of new polymeric biomaterials

CONTENIDOS TEÓRICO-PRÁCTICOS
1:-Introduction and historic development
2.-Polymeric systems
3.-Biocompatibility
4.-Polymers for ophtalmology
5.-Drug controlled release systems. Nanosystems
6.-Sutures and surgical adhesives
7.-Biodegradable polymers for tissue regeneration. Principles of tissue engineering
8.-Aplications in dermatology
9.-Plastic and reconstructive surgery
10.-Haemocompatible polymers
11.-Implants for muskuloskeletal system
12.-Polymers for odontology

HERRAMIENTAS Y PORCENTAJES DE CALIFICACIÓN

Others: Throughout the course, the students will pass a continuous evaluation which includes active participation in class, interest shown by the subject and own and originals contributions to the class.

MATERIALES DE USO OBLIGATORIO

Not required

BIBLIOGRAPHY

BASIC BIBLIOGRAPHY
-BIOMATERIALES, Roberto Sastre, Salvador de Aza y Julio San Román, editores CYTED, Faenza (Italia) 2004. ISBN: 84-87683-26-6
-POLYMERIC BIOMATERIALS, Severian Dumitriu editor Marcel Dekker, Inc.New York(USA) 2002. ISBN: 0-8247-0569-6

-BIOMATERIALS SCIENCE. AN INTRODUCTION TO MATERIALS IN MEDICINE, Buddy D. Ratner, Allan S. Hoffman, Frederick J. Schoen, Jack E. Lemons, editors Elsevier, Oxford (UK) 2013

ADVANCED BIBLIOGRAPHY
The student will be provided with recent articles about various aspects of each topic.

JOURNALS
Biomaterials
Journal of Biomedical Materials Research. Part A
Journal of Biomedical Materials Research Part B
Journal of Materials Science. Materials in Medecine

WEBSITES
The student will be provided with different website addresses along the course.