[MMA100] FLUID MECHANICS AND HEAT TRANSFER

GENERAL INFORMATION

Studies	MASTER'S DEGREE IN BIOMEDICAL TECHNOLOGIES			**Subject**	?
Semester	1	**Course**	1	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2023	**Modality**	Face-to-face	**Language**	ENGLISH
Credits	4,5	**Hours/week**	4.03	**Total hours**	72.6 class hours + 39.9 non-class hours = **112.5 total hours**

PROFESSORS

MARTIN MAYOR, ALAIN
LAPEIRA AZCUE, ESTELA

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	*(No previous knowledge required)*

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
MMRA01 - To apply knowledge of fluid mechanics, as well as transfer mechanisms			*x*	3,16
MMRA26 - To apply the knowledge acquired and your problem-solving skills in new, little-known or changing environments within broader (or multidisciplinary) contexts related to your area of study		*x*		1,08
MMRA28 - To communicate your conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way		*x*		0,26
			Total:	**4,5**

KC: Knowledge or Content / SK: Skills / AB: Abilities

CONTENTS

1.-FLUID MECHANICS 1.1.- Introduction to fluid mechanics 1.2- Thermophysical properties 1.3 - Hydrostatic 1.4 - Hydrodynamic analysis 1.5 - Hemodynamics 1.6 - Viscous flows 1.7.- Biomedical applications2.- HEAT TRANSFER 2.1.- Basic concepts of thermodynamics 2.2 - Heat transfer mechanisms 2.3 - Heat transfer in biological systems 2.4.- Biomedical applications4.-CFD-CHT (Computational fluid dynamic - Computational Heat Transfer)4.1.-. Basic concepts4.2.- Biomedical applications4.3.- Practical case

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Subject notes
Class presentations
Moodle Platform
Specific Master Software

Bibliography

Incropera Fundamentals Heat Mass Transfer 7th, Frank P Incropera. David P. Dewitt, 2011

2500 Solved Problems in Fluid Mechanics and Hydraulics, J. B. Evett, Cheng Liu., Mc Graw- Hill.

Heat Transfer a Practical Approach 2nd edition, Yunus A. Cengel, 2002