



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Modeling and Simulation

2021-4-H4102D024-H4102D088M

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#### Aims

To provide the concepts necessary for understanding cardiovascular fluid mechanics

#### Contents

The lessons will cover the most important aspects related to cardiovascular fluid mechanics. Students will acquire the basic knowledge regarding blood flow in arteries, cardiac function and the role of physical parameters in cardiovascular function.

#### Detailed program

- 1) Basic concepts of blood flow in arteries.
- 2) Basic concepts of cardiac function
- 3) Properties of blood and vessels.
- 4) Laws of conservation of mass, momentum and energy balance

#### Prerequisites

Basic knowledge of fundamentals of biology, morphology and physiology of the cardiovascular system.

## **Teaching form**

Teaching of basic concepts of cardiovascular fluid mechanics, application of fluid mechanics theory to the cardiovascular field.

## **Textbook and teaching resource**

To be defined

## **Semester**

First Semester

## **Assessment method**

Evaluation by written test of the acquisition of basic concepts of fluid mechanics applied to the cardiovascular field.

## **Office hours**

Contact by e-mail

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