



# UNIVERSITÀ DI PAVIA

Anno Accademico 2022/2023

## MODELS OF BIOLOGICAL SYSTEMS

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|---------------------|--|
| Enrollment year     | 2020/2021  |
| Academic year       | 2022/2023  |
| Regulations         | DM270  |
| Academic discipline | ING-INF/06 (ELECTRONIC AND INFORMATION BIOENGINEERING)   |
| Department          | DEPARTMENT OF ELECTRICAL, COMPUTER AND BIOMEDICAL ENGINEERING  |
| Course              | ELECTRONIC AND COMPUTER ENGINEERING  |
| Curriculum          | Informatica  |
| Year of study       | 3°   |
| Period              | 2nd semester (06/03/2023 - 19/06/2023)   |
| ECTS                | 6  |
| Lesson hours        | 80 lesson hours  |
| Language            | Italian  |
| Activity type       | ORAL TEST  |
| Teacher             | MAGNI PAOLO (titolare) - 6 ECTS  |
| Prerequisites       | Elements of dynamic models and statistics  |
| Learning outcomes   | =  |
| Course contents     | <p>Introduction to mathematical modelling</p> <p>Compartment models</p> <p>Elements of Pharmacokinetics</p> <p>Tracer experiments</p> <p>A priori identifiability</p> <p>Parametric estimation</p> |

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|  | <p>Case studies</p> <p>Advanced techniques such as deconvolution, population modeling, optimal design</p> <p>Hands-on</p>  |
| <b>Teaching methods</b>                            | <p>Lectures (hours/year in lecture theatre): 20</p> <p>Practical class (hours/year in lecture theatre): 26</p> <p>Practicals / Workshops (hours/year in lecture theatre): 30</p> |
| <b>Reccomended or required readings</b>            | <p>Slides. The course is in italian</p> <p>E. Carson, C. Cobelli. Modelling methodology for physiology and medicine (2nd edition). Elsevier.</p>                                 |
| <b>Assessment methods</b>                          | <p>Oral examination including hand-on discussion</p>   |
| <b>Further information</b>                         | <p>Oral examination including hand-on discussion</p>   |
| <b>Sustainable development goals - Agenda 2030</b> | <p><a href="#">\$lbl_legenda_sviluppo_sostenibile</a></p>  |