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| Course Name | Human Body Dynamics |
| Instructor Name | Gentiane VENTURE |
| Course Structure | Lecture and Exercise and Experiments |
| Course Credits | 3 |
| Course Overview | Learn how the human body moves |
| Course Key Words | Biomechanics, dynamics, musculo-skeletal system |
| Academic Goal | Understand the basic principle that allow the human body to move |
| Course Schedule | Human body dynamics introduction and history  Human body dynamics useful math  Dynamics equations  Musculoskeletal modelling  Gait modeling  Gait measurement (practical experiments)  Gait control  Optimal control  Inverse optimal control  Machine learning for human motion analysis |
| Textbooks, References,  and Supplementary Materials | Provided when needed |
| Grading Philosophy  (Percentage / Criteria / Methodology) | homework/project/test/proactive participation during classes (not attendance!!!) |