

Course offer for incoming Erasmus students

Bachelor of Sciences at Hasselt University (2nd semester, academic year 2022-23)

| Component \ Discipline | | BIOLOGY | | CHEMISTRY | | COMPUTER SCIENCE | | MATHEMATICS | | PHYSICS | |
|--|----------------------|--|---|---|---|---|---|---|--|---|---|
| | | Contact : prof. dr. Ann Cuypers | | Contact : prof. dr. Dirk Vanderzande | | Contact : prof. dr. Fabian Di Fiore | | Contact : prof. dr. Roel Braekers | | Contact : prof. dr. Bart Cleuren | |
| | | Course name | ECTS | Course name | ECTS | Course name | ECTS | Course name | ECTS | Course name | ECTS |
| Compulsory course for all students | | International Interdisciplinary Project (Ba) | 3 | International Interdisciplinary Project (Ba) | 3 | International Interdisciplinary Project (Ba) | 3 | International Interdisciplinary Project (Ba) | 3 | International Interdisciplinary Project (Ba) | 3 |
| Discipline-related courses and projects <i>(volume: minimal 10 ECTS SP)</i> | Courses | Biodiversity Exploration (Ba BIO) | 5 | Colloid Chemistry (Ba CHEM) | 3 | Information Visualisation (Ma CS) | 6 | Discrete and Continuous Dynamical Systems (Ba MATH) | 5 | Soft Condensed Matter (Ba PHYS) | 3 |
| | | Molecular Developmental Biology (Ba BIO) | 5 | Polymeric Materials (Ba CHEM) | 3 | Technologies and Tools for Interactive Systems Development (Ma CS, taught in Dutch, English course materials) | 6 | Functional & Fourier Analysis (Ba MATH) | 5 | Nuclei and particles (Ba PHYS) | 6 |
| | | Bio-indicators (1Ma BMS-EHS) | 3 | Functional Polymers for Advanced Applications (1Ma BMS-EHS) | 3 | Advanced Database Technology (Ma CS) | 6 | Numerical Methods 3 (Ba MATH) | 5 | Photonics and Quantum Technology (Ba PHYS) | 5 |
| | | Environmental Ethics (1Ma BMS-EHS) | 3 | Nanomedicine (1Ma BMS-EHS) | 4 | Designing Interactive Systems (Ba CS, taught in Dutch, English course materials) | 5 | Partial Differential Equations (Ba MATH) | 5 | Quantum Physics in Biology (Ba PHYS) | 5 |
| | | Environmental Chemistry (1 Ma BMS-EHS) | 3 | Environmental Chemistry (1 Ma BMS-EHS) | 3 | | | Concepts of Bioinformatics (1 Ma STATS) | 4 | Discrete and Continuous Dynamical Systems (Ba PHYS) | 5 |
| | | | | | | | | Introduction to Bayesian Inference (1 Ma STAT & DS) | 4 | Functional & Fourier Analysis (Ba MATH) | 5 |
| | Projects | Research Project (Ba BIO) | 10 | Research Project Material Chemistry (Ba CHEM) | 15 | Research Project (BA CS) | 10 | Research Project (Ba MATH) | 10 | Research Project (Ba PHYS) | 9 |
| | | | | Research Project Biochemistry (Ba CHEM) | 10 | | | | | | |
| | Broadening courses * | | Introduction to Bayesian Inference (1 Ma STAT & DS) | 4 | Introduction to Bayesian Inference (1 Ma STAT & DS) | 4 | Introduction to Bayesian Inference (1 Ma STAT & DS) | 4 | Visualisation in Data Science (1 Ma STAT&DS) | 4 | Introduction to Bayesian Inference (1 Ma STAT & DS) |
| Visualisation in Data Science (1 Ma STAT&DS) | | | 4 | Visualisation in Data Science (1 Ma STAT&DS) | 4 | | | | | Visualisation in Data Science (1 Ma STAT&DS) | 4 |

* The broadening courses require some foreknowledge or skill in the area of the course:

- Introduction to Bayesian Inference : the student should at least be familiar with concepts of distributions, conditional probability distributions, likelihood and summary statistics (moments) of probability distributions
- Visualisation in Data Science: the student needs to have acquired some computer programming experience through an initial programming course at the home university, preferably in Python. Knowledge of JavaScript is considered beneficial.

NOTES :

- All courses in this overview will be taught in English, unless explicitly mentioned otherwise. Most course names hyperlinked to the [study guide of Hasselt University](#), where more information on the course can be found. **Carefully check whether you meet the course foreknowledge requirements, described in the study guide, before selecting a course in your exchange study programme.** All programs are conditional to changes. For more information: do contact the departmental coordinator (see above) or [Peter Vandoren](#).
- The 2nd semester of the academic year 2022-23 starts on Monday February 13 2023 and ends on July 5 2023 (including exam period).