**wsbim2122**

*2024*

# Omics data analysis

| 3.00 credits | 30.0 h + 10.0 h | Q1 |
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| Teacher(s) | Gatto Laurent ; |
| Language : | English |
| Place of the course | Bruxelles Woluwe |
| Learning outcomes | |
| Evaluation methods | The students will be evaluated based on the presentations and reports they will prepare during the year and a final oral exam. |
| Teaching methods | The course will be composed of practical sessions, during which the students will analyse omics data using R, RStudio, Bioconductor packages and command line tools. Students will also present their results as individual and/or group reports. Course attendance to all sessions (volume 1 and 2) is mandatory. |
| Content | This bioinformatics and high throughput biology data analysis course will teach how to analyse contemporary omics data using open source tools such as R/Bioconductor packages. At the end of the course, students will be in a position to analyse omics experiments, including raw data processing, quantitative data transformation and normalisation, and the statistical analysis and interpretation thereof. This omics data analysis course will focus on the following themes: - Raw data processing, including high throughput sequencing and mass spectrometry data. - Omics data quality control. - Quantitative data transformation and normalisation. - Statistical data analysis. - Omics data annotation. - Omics data and project management and reproducible research. |
| Inline resources | The course material is available online: https://uclouvain-cbio.github.io/WSBIM2122/ |
| Faculty or entity in charge | SBIM |

| Programmes containing this learning unit (UE) | | | | |
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| Program title | Acronym | Credits | Prerequisite | Learning outcomes |
| Master [120] in Biomedicine | SBIM2M | 3 | | 🔍 |
| Master [120] in Statistics: Biostatistics | BSTA2M | 3 | | 🔍 |
| Master [120] in Chemistry and Bioindustries | BIRC2M | 3 | | 🔍 |
| Master [120] in Computer Science and Engineering | INFO2M | 3 | | 🔍 |
| Master [120] in Computer Science | SINF2M | 3 | | 🔍 |