Msc Course Outline
Bioinformatics (BIO1505/BIO1411)

Tutors (I. Iliopoulos, C. Nikolaou, P. Pavlidis)
November 2017

Total: 21 hours

A. Databases, Sequence and Structure Analysis (9 hours)
Ioannis Iliopoulos, Christoforos Nikolaou

- Databases in Biology. Complex searches in literature databases. Sequence databases and databases of more complex biological data (OMIM, STRING, Uniprot etc) (Iliopoulos) (Tuesday 24/10, 12.00-15.00)
- Pairwise and Multiple alignment. Sequence Searches (BLAST) (Iliopoulos) (Wednesday 25/10, 16.00-19.00)
- Genome Browsers. Retrieval of genomic data and basic data formats. Functional analysis of gene expression data (GO, KEGG etc) (Nikolaou) (Tuesday 31/10, 12.00-15.00)

B. Statistics for the biological sciences and applications (12 hours)
Christoforos Nikolaou, Pavlos Pavlidis

- Introductory Statistics Concepts (Nikolaou) (Wednesday 1/11, 10:00-13:00)
- The R statistical environment. Data types and Functions (Nikolaou) (Thursday 2/11, 13.00-16.00)
- Hands on tutorial on data management and handling in the R environment. Basic statistical applications. (Pavlidis) (Tuesday 7/11, 14.00-17.00)
- R usage in the analysis of biological data. (Pavlidis) (Wednesday 8/11, 9.00-12.00)