



# Izmir Institute of Technology

## MBG 426 – Computational Biology

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| <b>Instructor</b>   | Jens Allmer<br>E-Mail: <a href="mailto:bioinformatics@allmer.de">bioinformatics@allmer.de</a><br>Web: <a href="http://mbg426.allmer.de">http://mbg426.allmer.de</a>   |  |
| <b>Text Books</b>   | Lecture notes published weekly (online on course's web page).<br>Required to be studied before class.   |  |
| <b>Description</b>  | While MBG305 covered a number of algorithms which are available online, the focus of MBG426 is to use algorithms that are not available online or to use features that are not made available online. Some algorithms will be briefly reviewed but much of the course is for productivity. Essential computer skills will be taught alongside with advanced computer skills such as database design and XML/HTML literacy. Computational pipelines will be covered and set-up during the course. Algorithms will be covered on a more general level enabling algorithmic thinking and new problem solving strategies. |  |
| <b>Outline</b>      | 12.02   | Software, Installable, Environment   |
|                     | 19.02   | Input/ Output, Formats   |
|                     | 26.02   | Command line tools: Blast, Fasta, ...  |
|                     | 05.03   | Pipelines: Putting it all together   |
|                     | 12.03   | Online Tools: Data acquisition Formats   |
|                     | 19.03   | Online Data Acquisition Automation   |
|                     | 26.03   | Midterm  |
|                     | 02.04   | Databases: Access, MySQL   |
|                     | 09.04   | Database Design Filing Data  |
|                     | 16.04   | Annotation Tools   |
|                     | 23.04   | Bayram   |
|                     | 30.04   | Data Validation Statistics   |
|                     | 07.05   | Statistics Continued   |
|                     | 14.05   | Student Presentations  |
| <b>GRADING</b>      | Homework  | 20   |
|                     | Project (inc. Presentation)   | 30   |
|                     | Midterm   | 25   |
|                     | Final   | 25   |
|                     | Attendance  | Is required by YÖK and will be enforced. Your grade will not be influenced by attendance other than that you may fail due to low attendance (<70%) |
| <b>Office Hours</b> | Tuesdays  | 14:00 – 16:00<br>Room: 230   |