



## Syllabus

### *Preparatory math for Odyssey program part 2 - 80305*

*Last update 12-11-2018*

*HU Credits:* 0

*Responsible Department:* Mathematics

*Academic year:* 0

*Semester:* 2nd Semester

*Teaching Languages:* Hebrew

*Campus:* E. Safra

*Course/Module Coordinator:* Dr. Yossi Shamai

*Coordinator Email:* [Yossi.Shamai@mail.huji.ac.il](mailto:Yossi.Shamai@mail.huji.ac.il)

*Coordinator Office Hours:*

*Teaching Staff:*

*Dr. Yossi Shamai*

*Course/Module description:*

*This is a preparatory course for academic studies in Odyssey program, in which a*

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variety of mathematical ideas are introduced. This course is a direct continuation of the course "Preparatory math for Odyssey program part 1".

Course/Module aims:

To familiarise with basic mathematical concepts and ideas.

Learning outcomes - On successful completion of this module, students should be able to:

- \* Prove that every order field is infinite.
- \* Prove that the set of prime numbers is infinite
- \* Prove a variety of combinatoric identities
- \* Prove that  $Z_n$  is a field if and only if  $n$  is prime
- \* Solve complex equations

Attendance requirements(%):

85%

Teaching arrangement and method of instruction:

Course/Module Content:

The binomial coefficient, Newton's binomial formula, inclusion-exclusion formula, rational and irrational numbers, fields, ordered fields, complete ordered field, complex numbers.

Required Reading:

none.

Additional Reading Material:

Course/Module evaluation:

End of year written/oral examination 80 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 0 %

Assignments 10 %

Reports 0 %

Research project 0 %

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Quizzes 10 %  
Other 0 %

Additional information: