האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

*Syllabus*

## *Infinitesimal Calculus for Odyssey program - 80137*

 *Last update 12-11-2018*

<u>*HU Credits:*</u>  *7*

<u>*Responsible Department:*</u> *Mathematics*

<u>*Academic year:*</u> *0*

<u>*Semester:*</u> *1st Semester*

<u>*Teaching Languages:*</u> *Hebrew*

<u>*Campus:*</u> *E. Safra*

<u>*Course/Module Coordinator:*</u> *Dr. Yossi Shamai*

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

<u>*Coordinator Office Hours:*</u>

<u>*Teaching Staff:*</u>
  *Dr. Yossi Shamai*

<u>*Course/Module description:*</u>
  *Infinitesimal Calculus in one variable.*

*Course/Module aims:*
  Introduction to Infinitesimal Calculus of one variable.


*Learning outcomes - On successful completion of this module, students should be able to:*
  On successful completion of this module, students should be able to:
Feel acquainted with the formal-deductive structure, being able to write proofs and solve problems in mathematical analysis.


*Attendance requirements(%):*
  85%


Teaching arrangement and method of instruction: Lecture and exercise.


*Course/Module Content:*
  Real numbers. Sequences of real numbers. Limits and continuity. Derivatives.


*Required Reading:*
  none


 *Additional Reading Material:*
  מיכאל הוכמן עם אחרים, חשבון אינפיניטיסימלי, הוצאת אקדמון.
  דוד מייזלר, חשבון אינפיניטיסימלי, הוצאת אקדמון.
  בן-ציון קון וסמי עפרוני, חדו "א 1, הוצאת בק.
  האוניברסיטה הפתוחה, חשבון אינפיניטסימלי.

R. Courant: Differential and Integral Calculus
E. Landau: Differential and Integral Calculus
M.Rosenlicht: Introduction to analysis
G.H. Hardy: Pure Mathematics
E. Landau: Foundations of Analysis
T.M. Apostol: Mathematical Analysis
M. Spivak: Calculus
W. Rudin: Principles of Mathematical Analysis
V. A. Zorich, Mathematical Analysis


  *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 %*
*Quizzes 10 %*
*Other 0 %*

<u>*Additional information:*</u>