The Hebrew University of Jerusalem

Syllabus

CALCULUS FOR LIFE SCIENCE MAJORS B - 71023

Last update 05-09-2021

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Environmental Economics & Management

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: Rehovot

Course/Module Coordinator: Dr. Anna Gourevitch

Coordinator Email: anna.gourevitch@mail.huji.ac.il

Coordinator Office Hours:

Teaching Staff:

Dr. Yaniv Dvir,
Dr. Anna Gourevitch,
Ms. Michal Shafirtidh,
Mr. Zvi Prissman

Course/Module description:
The exponential function, the logarithmic function, the trigonometric functions, their properties, limits, continuity and derivatives. Indefinite integral, definite integral, separable differential equations, simple differential equations of second order.

Course/Module aims:

Learning outcomes - On successful completion of this module, students should be able to:
Calculate limits of exponential ,logarithmic and trigonometric functions, calculate their derivatives and investigate these classes of functions;
calculate integrals using various techniques, find areas using definite integral, solve separable ODE and simple second order ODE.

Attendance requirements(%):
100

Teaching arrangement and method of instruction: Lectures and exercises

Course/Module Content:
1. The exponential function: domain, properties, limits, continuity, derivative.
2. The logarithmic function: domain, properties, limits, continuity, derivative.
3. The trigonometric functions: domain, properties, limits calculation, continuity, derivative. The properties of periodic functions.
4. The indefinite integral.
5. The definite integral, the fundamental theorem of calculus.
6. The separable differential equations and the simple differential equations of second order.

Required Reading:
Textbook 71023

by Guni Orshan

Additional Reading Material:

Course/Module evaluation:
End of year written/oral examination 100 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:
The students must submit at least 75% of the exercises.