

Module Handbook (<https://modhb.uni-kl.de/>)

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Module MAT-00-41-M-1

Mathematics/Biostatistics (M, 8.0 LP)

Module Identification

Module Number	Module Name	CP (Effort)
MAT-00-41-M-1	<i>Mathematics/Biostatistics</i>	8.0 CP (240 h)
BIO-GM3-M-1	<i>Grundmodul 3: Mathematik/Biostatistik</i>	8.0 CP (240 h)

Basedata

CP, Effort	8.0 CP = 240 h
Position of the semester	2 Sem. from WiSe
Level	[1] Bachelor (General)
Language	[DE] German
Module Manager	Stockis, Jean-Pierre, Dr. (WMA DEPT: MAT) (/staff/36/)
Lecturers	Stockis, Jean-Pierre, Dr. (WMA DEPT: MAT) (/staff/36/) + further Lecturers of the department Mathematics (/staff/dept/MAT/)
Area of study	[MAT-Service] Mathematics for other Departments
Reference course of study	[BIO-82.26-SG] B.Sc. Biology (/mhb/FB-BIO/cos-504/)
Lifecycle-State	[NORM] Active

Courses

Type/SWS	Course Number	Choice in Module-Part	SL	PL	CP	Sem.
1V+3U	MAT-00-41A-K-1 (/mhb/courses/MAT-00-41A-K-1/)	P	-	PL1	4.0	WiSe
1V+3U	MAT-00-41B-K-1 (/mhb/courses/MAT-00-41B-K-1/)	P	-	PL1	4.0	SuSe

- About [MAT-00-41A-K-1] (/mhb/courses/MAT-00-41A-K-1/): Title: "Mathematics/Biostatistics 1"; Presence-Time: 56 h; Self-

Study: 64 h

- About [MAT-00-41B-K-1] (/mhb/courses/MAT-00-41B-K-1/): Title: "Mathematics/Biostatistics 2"; Presence-Time: 56 h; Self-Study: 64 h

Examination achievement PL1

- Form of examination: **written exam (Klausur) (90-120 Min.)**

Evaluation of grades

The grade of the module examination is also the module grade.

Contents

- differential and integral calculus in one variable,
- fundamentals of probability theory,
- statistics: point estimators, confidence intervals, statistical tests, linear models.

Competencies / intended learning achievements

The following competencies are to be promoted:

- Professional competence: confident and independent handling of the terms and statements from the lecture
- Methodological competence: confident and independent handling of the methods from the lecture
- Personal competence: independent and critical learning and thinking
- Social competence: ability to work in a team

Learning outcomes: Upon successful completion of the module, the students will be able

- to name and reproduce basic mathematical and statistical methods in biology
- to solve biological questions with the help of the familiar basic concepts of differential and integral calculus, probability theory and statistics.

Literature

H. Vogt: Grundkurs Mathematik für Biologen, Teubner

Requirements for attendance of the module (informal)

None

Requirements for attendance of the module (formal)

None

References to Module / Module Number [BIO-GM3-M-1]

Course of Study	Section	Choice/Obligation
[BIO-82.-? -SG] B.Sc. B.Sc. Molecular Biology (/mhb/FB-BIO/cos-697/)	[Fundamentals] Grundlagen der Mathematik	[P] Compulsory
[BIO-82.26-SG] B.Sc. Biology (/mhb/FB-BIO/cos-504/)	[Fundamentals] Grundlagen der Mathematik	[P] Compulsory

References to Module / Module Number [MAT-00-41-M-1]