



Access to course pages and online material

For more information see the following pages of the Workgroup Financial and Insurance Mathematics:

- Q&A pages of the student advisory
- Teaching pages
- Study program pages

Access to the central course catalogue

In case, Switch to English by clicking on English version on the up right-hand side.

Veranstaltungssuche: → Semester: Summer 2020 | **Deutsche Version**

LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN LSF – LEHRE STUDIUM FORSCHUNG

Aktuell gibt es ein Problem bei Mailweiterleitungen auf Adressen der Anbieter GMX und web.de; von LMU- und LRZ-Adressen weitergeleitete Mails kommen dort oft nur mit deutlicher Verzögerung an. Aus diesem Grund empfehlen wir, derartige Weiterleitungen in Ihrem Benutzerkonto (<https://www.portal.uni-muenchen.de/benutzerkonto>) zu deaktivieren.

You are here: [Home](#)
[Course catalogue](#)
[Lectures cancelled today](#)
[Search for courses](#)
[Search for persons](#)
[Search for rooms](#)
[University structure](#)

Welcome to LSF - the university portal for students, guests, teachers and employees!

💡 Please note that you can use all the functions in the left column (e.g. the course catalogue or the search for courses) without loggin in.

LMU user account
 @campus.lmu.de or @lmu.de
Password

[Forgot your password?](#) [Register for access](#)

HIS: [Imprint and privacy](#) | [Contact](#) | [LMU Home](#) | [LMU Portal](#) | [Sitemap](#)

Course catalogue provides access to all course at the LMU.

Veranstaltungssuche: → acting as: Teacher for [Department Mathematisches Institut](#)

LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN LSF – LEHRE STUDIUM FORSCHUNG

Home | [Logout](#)

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You are here: [Home](#)
[My Lectures](#)
[My Participants](#)
[Change my personal data](#)
[Leistungsverbuchung \(Exchange\)](#)
Course catalogue
[Search for rooms](#)
[Detailed Roomsearch](#)

Hint: you are in Summer 2020 and not in the ter

HIS: [Imprint and privacy](#) | [Contact](#) | [LMU Home](#) | [LMU Portal](#) | [Help](#) | [Sitemap](#)

Searching the course catalogue

Search field: Enter title or part of it here. E.g. "mathematical statistics"...

Veranstaltungssuche:

Semester: Sommer 2020 | Deutsche Version

LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN LSF - LEHRE STUDIUM FORSCHUNG

Home | Logout acting as: Teacher for Department Mathematisches Institut | Dirk Deckert

Aktuell gibt es ein Problem bei Mailweiterleitungen auf Adressen der Anbieter GMX und web.de; von LMU- und LRZ-Adressen weitergeleitete Mails kommen dort oft nur mit deutlicher Verzögerung an. Aus diesem Grund empfehlen wir, derartige Weiterleitungen in Ihrem Benutzerkonto (<https://www.portal.uni-muenchen.de/benutzerkonto>) zu deaktivieren.

You are here: Home > My Lectures > Course catalogue

My Lectures

My Participants

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Leistungsverbuchung (Exchange)

Course catalogue

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<< Hide menu

Hilfe

Hint: you are in Summer 2020 and not in the term which is in planning!

Course catalogue (SoSe 2020) View: [short](#) | [medium](#) | [long](#)

Navigation: [→ show complete tree](#) [Link](#) : expand this branch

Vorlesungsverzeichnis

- VVZ Courses across faculties
- VVZ Faculty of Catholic Theology
- VVZ Faculty of Protestant Theology
- VVZ Faculty of Law
- VVZ Faculty of Business Administration
- VVZ Faculty of Economics
- VVZ Faculty of Medicine
- VVZ Faculty of Veterinary Medicine
- VVZ Faculty of History and the Arts
- VVZ Faculty of Philosophy, Philosophy of Science and Religious Studies
- VVZ Faculty of Psychology and Educational Sciences
- VVZ Faculty of Cultural Sciences
- VVZ Faculty of Languages and Literatures
- VVZ Faculty of Social Sciences
- VVZ Faculty of Mathematics, Computer Science and Statistics
- VVZ Faculty of Physics
- VVZ Faculty of Chemistry and Pharmacy
- VVZ Faculty of Biology
- VVZ Faculty of Geosciences
- VVZ Internationale Angelegenheiten
- VVZ Courses of the Central Administration **INAKTIV**

HIS: Imprint and privacy | Contact | LMU Home | LMU Portal | Help | Sitemap | Print automatische Abmeldung in 19:51 Minuten

The next screen displayed the results:

Veranstaltungssuche:

Semester: Sommer 2020 | Deutsche Version

LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN LSF - LEHRE STUDIUM FORSCHUNG

Home | Logout acting as: Teacher for Department Mathematisches Institut | Dirk Deckert

Aktuell gibt es ein Problem bei Mailweiterleitungen auf Adressen der Anbieter GMX und web.de; von LMU- und LRZ-Adressen weitergeleitete Mails kommen dort oft nur mit deutlicher Verzögerung an. Aus diesem Grund empfehlen wir, derartige Weiterleitungen in Ihrem Benutzerkonto (<https://www.portal.uni-muenchen.de/benutzerkonto>) zu deaktivieren.

You are here: Home > My Lectures > Course catalogue

My Lectures

My Participants

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Leistungsverbuchung (Exchange)

Course catalogue

Search for rooms

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Hilfe

Hint: you are in Summer 2020 and not in the term which is in planning!

Search for Courses

2 hits Title of lecture: mathematical statistics; Semester: SoSe 2020;

Leact.No.	Lecture	Type	Activity
16033	Mathematical Statistics and Applications of Machine Learning - 4.0 SWS - English - Deckert	lecture	
16837	Übungen - Mathematical Statistics and Applications of Machine Learning - 2.0 SWS - English - Deckert	exercise course	

HIS: Imprint and privacy | Contact | LMU Home | LMU Portal | Help | Sitemap 1 Minuten

Select an entry to get to the course page.

LSF course page

Veranstaltungssuche: Semester: Sommer 2020 | Deutsche Version

LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

LSF - LEHRE STUDIUM FORSCHUNG

Home | Logout | acting as: Teacher for Department Mathematisches Institut | Dirk Deckert

Aktuell gibt es ein Problem bei Mailweiterleitungen auf Adressen der Anbieter GMX und web.de; von LMU- und LRZ-Adressen weitergeleitete Mails kommen dort oft nur mit deutlicher Verzögerung an. Aus diesem Grund empfehlen wir, derartige Weiterleitungen in Ihrem Benutzerkonto (<https://www.portal.uni-muenchen.de/benutzerkonto>) zu deaktivieren.

You are here: Home > My Lectures

- My Lectures
- My Participants
- Change my personal data
- Leistungsverbuchung (Exchange)
- Course catalogue
- Search for rooms
- Detailed Roomsearch
- << Hide menu

Hilfe

Hint: you are in Summer 2020 and not in the term which is in planning!

Mathematical Statistics and Applications of Machine Learning - Single View

Functions: [EDIT](#) | [PRINT](#) | [E-Mails senden](#)

Basic Information

Type of Course	lecture	Long text	Mathematical Statistics and Applications of Machine Learning
Number	16033	Frequency	keine Übernahme
Term	SoSe 2020	Weekly hours	4.0
Max. participants		type of lecture	Online-Veranstaltung
Language	English		

Dates/Times/Location Group: [-]

Day	Time	Frequency	Duration	Room	Lecturer	Note	Cancelled on
Mon.	14:00 to 16:00 c.t.	woch	20.04.2020 to 20.07.2020	Theresienstr. 39 - B 121 Geschossplan			[X]
Wed.	14:00 to 16:00 c.t.	woch	22.04.2020 to 22.07.2020	Theresienstr. 39 - B 121 Geschossplan			[X]

Group [-]:

Lecturer

Deckert, Dirk, Dr. [\[P\]](#)

Organisational unit

Department Institute of Mathematics

Contents

Commentary This course will provide an introduction into selected topics on machine learning. We will start from the basics, e.g., perceptrons, adalines, support vector machines, and proceed to multi-layered neural networks and deep learning. The minimum goal is to arrive at an understanding of both the mathematics and the implementation of the now standard "handwritten numbers recognition" problem by means of neural networks. The mathematical discussion will focus on machine learning as an statistical optimization and approximation problem. As regards applications, it is the objective of the tutorials to implement several applications of the discussed algorithms in Python. Depending on interest and time, we may select from more advanced topics such as vector embeddings, convolution and recurrent networks, decision trees, reinforcement learning, ensemble methods, and boosting.

Literature Please find the information under:
<https://uni2work.ifl.lmu.de/course/S20/MIM%28S%29AAML>

Note This course is offered in two versions:
1. *Mathematics and Applications of Machine Learning* (2+2h = 6 ETCS)
2. **[THIS ONE]** *Mathematical Statistics and Application of machine Learning* (4+2h = 9 ETCS)
Both courses share the 2+2 hours of the first. The second course extends the first by another 2h with a deeper dive into statistics. There will be a shorter and longer exam for the 6 and 9 ETCS version, respectively. Only one of the courses is credible.
The total number of participants for both courses is therefore limited to 30.
Please enrol for the course at:
<https://uni2work.ifl.lmu.de/course/S20/MIM%28S%29AAML>
Both course versions share the same course/enrolment page on UNI2WORK.

Prerequisites This course is offered having mainly master students in Mathematics, Financial Mathematics, and TMP with corresponding prior knowledge, in particular, also in Probability Theory in mind.
A basic knowledge in Python or a similar programming language and access to a computer with a Python development environment is required in order to complete the tutorials.

Target group Master students in Mathematics, Financial Mathematics, and TMP

Registration please enrol for the course at:
<https://uni2work.ifl.lmu.de/course/S20/MIM%28S%29AAML>
Both course versions share the same course/enrolment page on UNI2WORK.

Course catalogue
This lecture was found in SoSe 2020 1 times:
Vorlesungsverzeichnis
→ Faculty of Mathematics, Computer Science and Statistics
→ 1. Mathematik
→ Vorlesungen
→ Master Mathematik und Finanz- und Versicherungsmathematik --- 1

HIS:

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automatische Abmeldung in 19:09 Minuten

Beside the general information about the course, its schedule, accreditation, etc. it provides a link to the course page and registration information. On this site you will be able to access the course material. Typically, mathematical lecturers use UNI2WORK or Moodle both described below.

Quick access links for lectures at the Mathematical Department

The screenshot shows the website of the Mathematical Institute at LMU Munich. The page title is "Vorlesungen (Webseiten) — Sommersemester 2020". The main content is a list of lecture topics under the heading "Bachelor Mathematik und Wirtschaftsmathematik". A red oval highlights the section "Master Mathematik und Finanz- und Versicherungsmathematik". A yellow callout box points to this section with the text "Lectures of the MSc programs in Mathematics and Financial Mathematics".

Navigation: Startseite, Studium, Vorlesungen (Webseiten)

Left Sidebar: AKTUELLES, ÜBER UNS, PERSONEN, FORSCHUNG, STUDIUM (Allgem. Informationen, Fachstudium Mathematik, Lehramtsstudium, Vorlesungsverzeichnis, **Vorlesungen (Webseiten)**, Lehrmaterialien, Lehre@math.LMU, Austauschprogramme, Stipendien und Studienfinanzierung), EINRICHTUNGEN

Top Navigation: Google™ benutzerdefinierte Su, www.lmu.de, LMU-Portal, ZUV-Serviceportal, Fakultät 16, Sitemap, Schulportal

Right Sidebar: drucken, BELIEBTE LINKS (Münchener Zentrum für Lehrerbildung, Student und Arbeitsmarkt, Studentenwerk, Mensa, Vorlesungszeiten, Vorlesungsplanung), INFORMATIONEN FÜR (Schüler, Lehrer, Studienanfänger, Studierende, Mitarbeiter, Alumni)

Main Content:

Vorlesungen (Webseiten) — Sommersemester 2020

Bachelor Mathematik und Wirtschaftsmathematik

- Müller: [Topologie und Differentialrechnung mehrerer Variablen](#) LSF
- Rosenschon: [Lineare Algebra II](#) LSF
- Spann: [Programmieren I für Mathematiker](#) LSF
- Leeb: [Funktionentheorie](#) LSF
- Lampart: [Gewöhnliche Differentialgleichungen](#) LSF
- Merkl: [Wahrscheinlichkeitstheorie](#) LSF
- Hamza: [Funktionalanalysis](#) LSF
- Gerkmann: [Geometrie und Topologie von Flächen](#) LSF
- Morel: [Höhere Algebra](#) LSF
- Perkkiö: [Angewandte Finanzmathematik](#) LSF

Master Mathematik und Finanz- und Versicherungsmathematik

- Bley: [Algebraische Zahlentheorie](#) LSF
- Phan: [Mathematische Quantenmechanik II](#) LSF
- Philip: [Numerical Mathematics II](#) LSF
- Fries: [Numerische Methoden der Finanzmathematik](#) LSF
- Jansen, Helling: [Mathematical Statistical Physics](#) LSF
- Meyer-Brandis: [Finanzmathematik III / Fixed Income Markets and Credit Derivatives](#) LSF
- Semenov: [Algebraische Geometrie II](#) LSF
- Stelzig: [Complex Geometry](#) LSF
- Schwichtenberg: [Logik II](#) LSF
- Hainzl: [Selected topics from mathematical Physics](#) LSF
- Gonon: [Finanzmathematik IV / Quantitative Risk Management](#) LSF
- Hensel: [Topologie II](#) LSF
- Sørensen: [Partielle Differentialgleichungen II](#) LSF
- Deckert: [Mathematical Statistics and Applications of Machine Learning](#) LSF
- Deckert: [Mathematics and Applications of Machine Learning](#) LSF
- Kotschick: [Mathematical Gauge Theory II](#) LSF
- Stufler: [Random Trees](#) LSF
- Haution: [Galois cohomology](#) LSF
- Berger: [Konstruktive Mathematik](#) LSF
- Lampart: [Non-relativistic Quantum Field Theory](#) LSF
- Zenk: [Störungstheorie](#) LSF
- Sørensen: [Pseudodifferential operators](#) LSF

Lectures of the MSc programs in Mathematics and Financial Mathematics

Switch to an English version or log in with your campus user account information:

UNI2WORK course page

The screenshot shows the course page interface. At the top, there is a green navigation bar with icons for 'AKTUELL', 'KURSE', and a menu icon. On the right side of this bar, three buttons are circled in red: 'HILFE' (Help), 'SPRACHE' (Language), and 'LOGIN'. Below the navigation bar, the course title 'Mathematic(al) Statistic)s and Applications of Machine Learning' is displayed. The page is divided into two main sections: 'Aktuelles' (News) and 'Beschreibung' (Description). The 'Aktuelles' section contains several updates, including lecture notes, exercise discussions, and solution uploads. The 'Beschreibung' section provides general information about the course, including its two versions and credit requirements.

SoSe 2020 ^ [Kurse](#) > [SoSe 2020](#) > [MI](#) > [M\(S\)AML](#)

Mathematic(al) Statistic)s and Applications of Machine Learning

Aktuelles

* Especially, how are you doing with the Python implementations?
* Further ideas for our interaction, etc.

Participation is not compulsory but encouraged as this provides valuable feedback. The ZOOM link will be shared over the UNI2WORK enrollment email list.

Zuletzt verändert: Mi 06 Mai 2020 14:00

(M) lecture notes 03 online

<https://gitlab.com/dirk-deckert-lmu/maml-ss20/-/blob/master/material/README.md#week-of-may-4-lecture-03>

Zuletzt verändert: Mo 04 Mai 2020 14:00

New exercise discussion Issues

Dear Participants,

Thanks for your first contributions to the discussions! Over 1/6 of us have been using the Issues already. It would be great to have an activity of over 50%. So keep it coming!

To encourage our interaction a bit further I will create an Issue for each exercise when first uploading it and will link it in the exercise/solution tables:

- * [Week 01](#)
- * [Week 02](#)

You are also invited to start the discussion before solutions are posted one week later. If you prefer, work in groups and use the Issues for your communication. If the discussion diverges, create a new issue and link it. To give you time working on the exercises, I will try to only give hints before the solutions are online.

Furthermore, please also provide some constructive negative feedback in the issues, e.g., in Issue #6 [Learning experience with the \(M\) lectures notes 02](#) and #20 [Learning experience with the \(S\) lectures notes 02](#).

Have a nice holiday and long weekend.

Best regards,

Dirk - André Deckert

Zuletzt verändert: Fr 01 Mai 2020 18:15

(S) exercises uploaded

https://gitlab.com/dirk-deckert-lmu/maml-ss20/-/blob/master/material/exs02/SS20_MsAML-XS02_Simple_learning_setting.pdf

Zuletzt verändert: Fr 01 Mai 2020 17:15

(S) exercise 01 solutions uploaded

- https://gitlab.com/dirk-deckert-lmu/maml-ss20/-/blob/master/material/exs01/SS20-MsAML-XS01-5_Lower_bound_by_Bayes_classifier_SOL.pdf
- https://gitlab.com/dirk-deckert-lmu/maml-ss20/-/blob/master/material/exs01/SS20-MsAML-X01-6_Quadratic_risk_decomposition_SOL.pdf

Zuletzt verändert: Mi 29 Apr 2020 23:00

(S) lectures 02 uploaded

https://gitlab.com/dirk-deckert-lmu/maml-ss20/-/blob/master/material/lec02/SS20-MsAML-S02_Error_decomposition.pdf

Zuletzt verändert: Mi 29 Apr 2020 14:44

Beschreibung

General Information

This course is offered in two versions:

1. *Mathematics and Applications of Machine Learning* (2+2h = 6 ETCS)
2. *Mathematical Statistics and Application of machine Learning* (4+2h = 9 ETCS)

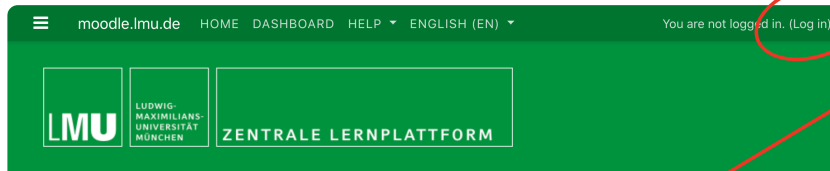
Both courses share the 2+2 hours of the first. The second course extends the first by another 2h with a deeper dive into statistics. There will be a shorter and longer exam for the 6 and 9 ETCS version, respectively. Only one of the courses is credible.

Creditable modules:

- Master Financial and Insurance Mathematics: According to PO 2019, the 6 ETCS Version may be credited as WP12 or WP24, while the 9 ETCS one as WP21 or WP23.
- Master in Mathematics: According to PO 2011, the 6 ETCS Version may be credited as WP42.2, while the 9 ETCS one as WPS.

After being logged in, this page allows to enroll, get news on the course, and browse the course material.

Course pages on Moodle



Log in with your campus credentials as above.

Search for course.

Or browse the departments.

Aktuelle Informationen

- Häufig gestellte Fragen zu Moodle
- Einstieg in Moodle
- Ansprechpartner/innen an den Fakultäten
- **Videos/Aufzeichnungen in Moodle integrieren**
- Online-Dienste für die Digitale Lehre

Search courses Go

Course categories

- ▼ Fakultäten ▼ Collapse all
- ▶ 01 Katholisch-Theologische Fakultät ⁽²⁾
 - ▶ 02 Evangelisch-Theologische Fakultät ⁽³⁾
 - ▶ 03 Juristische Fakultät ⁽⁹⁾
 - ▶ 04 Fakultät für Betriebswirtschaft
 - ▶ 05 Volkswirtschaftliche Fakultät ⁽²⁸⁾
 - ▶ 07 Medizinische Fakultät ⁽²⁾
 - ▶ 08 Tierärztliche Fakultät ⁽¹⁾
 - ▶ 09 Fakultät für Geschichts- und Kunstwissenschaften ⁽¹⁾
 - ▶ 10 Fakultät für Philosophie, Wissenschaftstheorie und Religionswissenschaft
 - ▶ 11 Fakultät für Psychologie und Pädagogik ⁽¹⁾
 - ▶ 12 Fakultät für Kulturwissenschaften
 - ▶ 13 Fakultät für Sprach- und Literaturwissenschaften ⁽²⁾
 - ▶ 15 Sozialwissenschaftliche Fakultät ⁽¹⁾
 - ▶ **16 Fakultät für Mathematik, Informatik und Statistik ⁽¹⁾**
 - ▶ 17 Fakultät für Physik ⁽¹¹⁾
 - ▶ 18 Fakultät für Chemie und Pharmazie ⁽¹⁾
 - ▶ 19 Fakultät für Biologie

Teaching Pages (Workgroup Financial and Insurance Mathematics)

You can access a comprehensive list of all teaching events for each semester, covering both the master's and bachelor's programs, here.

LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN DEPARTMENT OF MATHEMATICS - WORKGROUP FINANCIAL AND INSURANCE MATHEMATICS

Research Teaching News

SKIP TO CONTENT

↓ Teaching Winter Term 2023/24 ↓ Teaching Summer Term 2023

Teaching Winter Term 2023/24

Lectures

- Finanzmathematik II / Stochastic Calculus and Arbitrage Theory in Continuous Time
- Finanzmathematik in diskreter Zeit
- Modellierung und Enterprise Risk Management
- Personenversicherungsmathematik
- Schadenversicherungsmathematik
- Stochastic Processes

Seminars

- Advanced Topics in Mathematical Finance (Forschungsseminar)
- Convex optimization
- Credit risk modelling
- Extremwerttheorie (mit Anwendungen im Bereich der Finanz- und Versicherungsmathematik)
- LMU Christmas Workshop in Stochastics and Finance
- Oberseminar Finanz- und Versicherungsmathematik
- Quantitative Finance Interview Preparation Class
- Versicherungsmathematisches Kolloquium

LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN DEPARTMENT OF MATHEMATICS - WORKGROUP FINANCIAL AND INSURANCE MATHEMATICS

Research Teaching News DE Q ☰

Teaching Summer Term 2023

Lectures

- Angewandte Finanzmathematik
- Finanzmathematik III / Fixed Income Markets and Credit Derivatives
- Finanzmathematik IV / Quantitative Risk Management
- Introduction to Object-Oriented Programming in Java
- Numerical Methods for Financial Mathematics

Seminars

- Ausgewählte Themen der Versicherungsmathematik
- Forschungsseminar Finanzmathematik
- LMU Spring Workshop on Finance, Stochastics, and Statistics
- Oberseminar Finanz- und Versicherungsmathematik
- Pricing and Hedging Techniques in Incomplete Markets: Mean-Variance Hedging and Risk Minimization
- Quantitative Finance Interview Preparation Class
- Versicherungsmathematisches Kolloquium

