

Studying Financial and Actuarial Mathematics at Vienna University of Technology

Workshop Actuarial Education
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Bachelor and Master in Actuarial Mathematics

Two degrees offered since October 1, 2002.

Bachelor: 3 years, WS 05/06: 70 students (46m/24f)

Curriculum:

- Linear algebra, calculus, 27h
- Probability theory, statistics, 18h
- Actuarial mathematics, 22h
- Law, accounting, business operations, 12h
- Computer science, 9h
- Seminar with thesis, 3h
- Practical project with thesis, 10h

Master in Actuarial Mathematics

Duration: 2 years, WS 05/06: 19 students (8m/11f)

Curriculum:

- Advanced calculus, differential equations, 13h
- Advanced actuarial mathematics, 20h
- Individually selected courses (probability theory, statistics, financial mathematics, operations research, econometrics, logic, computer science, law), 12h + 5h
- Master thesis

Also available: **Technical Mathematics** with specialization in financial and actuarial mathematics. Officially 49 (26m/23f) students. We expect additional 90–100 students out of 579 without an official decision so far.

Future Education in Mathematics at TU Vienna

Bachelor programs

- Mathematics in natural science
- Mathematics in computer science
- Statistics and mathematics in economics
- Financial and actuarial mathematics

Master programs

- Mathematics in natural science
- Mathematics in computer science
- Mathematics in economics
- Financial and actuarial mathematics
- Statistics

Bachelor in Financial and Actuarial Mathematics

Planned curriculum

- Linear algebra I, II (13h)
- Calculus I, II, III (19h)
- Differential equations (4.5h)
- Measure and probability theory, statistics (17.5h)
- Numerics, computer science (13h)
- Actuarial mathematics
 - Life insurance mathematics (5h)
 - Life and health insurance mathematics (5h)
 - Non-life insurance mathematics (5h)

Bachelor in Financial and Actuarial Math. (cont.)

- Financial mathematics
 - Financial mathematics I: discrete models (4h)
 - Quantitative methods in risk management (3h)
- Law, accounting, business operations
 - Insurance business management (2h)
 - Accounting for banking and insurance (2h)
 - Contract law for insurance (2h)
 - Insurance supervision law (2h)
 - Financial markets and financial intermediation (2h)
- Free courses (18 ECTS)
- Seminar with written documentation (2h/3 ECTS)
- Practical project with thesis (4h/12 ECTS)

Master in Financial and Actuarial Mathematics

Planned curriculum

- Private economic law (2h)
- Functional analysis I (5h)
- Financial and actuarial mathematics
 - Stochastic analysis for FAM (3h)
 - Financial mathematics II: time-continuous models (6h)
 - Risk und ruin theory (6h)
 - Advanced life insurance mathematics (4h)
 - Stochastic control theory in FAM (3h)
 - Selected courses in FAM (33 ECTS, about 22h)
- Free courses (9 ECTS)
- Master thesis (30 ECTS)

Continuing Education in Actuarial Mathematics

- Austrian Workshop on Credit Risk Management
(at TU & Univ. Vienna, Jan. 31 – Feb. 2, 2001)
Program: <http://www.fam.tuwien.ac.at/crm/>
- Austrian Workshop on Asset Liability Management
in Insurance (at TU Vienna, Sept. 23–25, 2004)
Program: <http://alm.fam.tuwien.ac.at/>
- Foundations of Modern Financial Mathematics
Speakers: Prof. Schmock & Prof. Teichmann,
both FAM, TU Vienna (July 8–9, 2004)
- One-Day Workshop on Portfolio Risk Management
(PRisMa 2005), TU Vienna, Sept. 26, 2005
<http://www.fam.tuwien.ac.at/prisma2005/>

Continuing Education in Actuarial Math. (cont.)

- Station for the “Long Night of Research”
Von A wie Aktie bis S wie Sterbewahrscheinlichkeit
October 1, 2005, TU Vienna
Posters, various Java applets, online at
<http://www.fam.tuwien.ac.at/public/>
- Half-Day Workshop on Credit Risk and Risk Transfer,
TU Vienna (Jan. 25, 2006)
<http://www.fam.tuwien.ac.at/wwtf2006/>
- Quarterly lecture series on financial and actuarial
mathematics (jointly with AVÖ and VVÖ),
List of talks: <http://www.fam.tuwien.ac.at/vr/>