Master of Science (MSc)

Information Systems

WU
WIRTSCHAFTS
UNIVERSITÄT
WIEN VIENNA
UNIVERSITY OF
ECONOMICS
AND BUSINESS

"Knowledge that does not steadily increase decreases, a proverb goes. There is no better way to describe the term 'knowledge society'. This is why, IBM invests heavily in research and development. Knowledge is also essential for Austria as a business location, which means that we urgentlyneed an education center. To me, WU Vienna University of Economics and Business is one of the key players in this context, and we have maintained a spirit of partnership for a long time, to our mutual benefit."

TATJANA OPPITZ, CEO IBM AUSTRIA

Welcome to WU

DEAR PROSPECTIVE STUDENTS,

The Master Program in Information Systems provides students with IT-related knowledge and skills with a particular emphasis on management and research topics. Five different WU Departments cooperate in this transdisciplinary program, supporting its leading position with their highly qualified researchers and lecturers. The curriculum allows students to individualize their studies, and encourages them to reflect on what they have learned in a holistic context. Working independently and accepting responsibility for their work are additional important skills learned.

A wide selection of electives gives students the opportunity to acquire a well-rounded education in the field of information technologies. Specialization options early in the program give students sufficient time to acquire profound specialist knowledge.

A well-balanced mix of theory and practice and the inclusion of state-of-the-art research findings give graduates the tools they need to question standard practices and develop innovative solutions.

The Master in Information Systems was designed together with a board of leading Austrian stakeholders from industry and government to meet today's challenges and to provide a solid basis for tomorrow's demands.

Gustaf Neumann
Program Director Information Systems

MSc Information Systems

AT A GLANCE	
Duration	4 semesters, full-time degree program
Credits	120 ECTS credits (incl. 30 ECTS credits for the master thesis)
Language of instruction	English
Degree awarded to graduates	Master of Science (WU)
Start	Every winter semester
Capacity	Up to 60 students per academic year
Application	Rolling admission for the academic year starts September 1st.
Contact	master-is@wu.ac.at

Contents and Structure

The curriculum ensures that students acquire a well-balanced mix of theoretical and practical knowledge. It consists of twelve compulsory core courses (the common body of knowledge) and various elective blocks, including three IT specializations and several competence areas.

The program follows the European "Design Science" approach: using Information Systems technology to actively improve the way companies conduct their business. Students learn to use modern information technologies to shape business processes according to IT's potential and to optimize business information systems to meet business demands. Graduates have learned to develop operational structures and business processes, as well as the necessary technological systems.

After graduation, students are qualified for a wide spectrum of careers. Some of our graduates choose to become analysts and managers in IT departments of large companies, others excel as specialists in IT firms (hardware, software, services), some focus on business consulting or decide to found their own start-up companies.

FIRST YEAR

The first year provides the basic knowledge mandatory for all students. It covers IT/business alignment aspects as well as Information Systems management and Information Systems development aspects. The courses are divided into three building blocks:

Information Systems and Organizations
› Enterprise Information Systems, Interorganizational Information Systems, Management Support Systems
› Business Process Management, IT-Driven Innovation Management, Business Process Languages, Process Mining, Reference Models
› Data Mining and Decision Support Systems, Clustering, Classifications, Machine Learning, Pattern Recognition, Social Network Analysis

Management and Information Systems
› Innovation Management and Strategies, IT Business Models, IT Business Plans, IT Business Cases, Due Diligence, Entrepreneurship
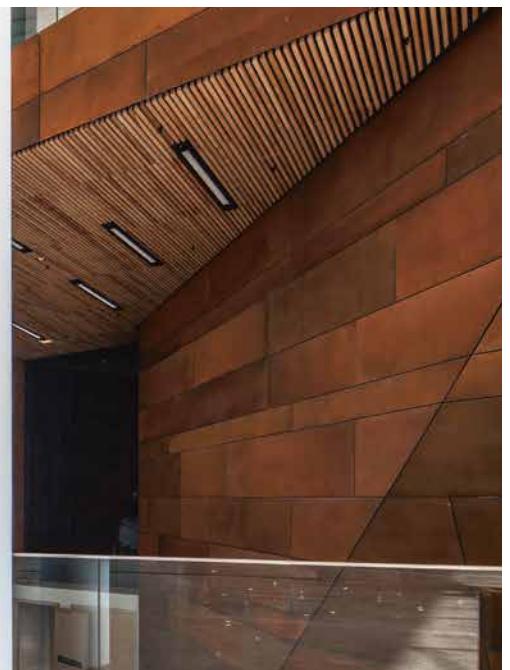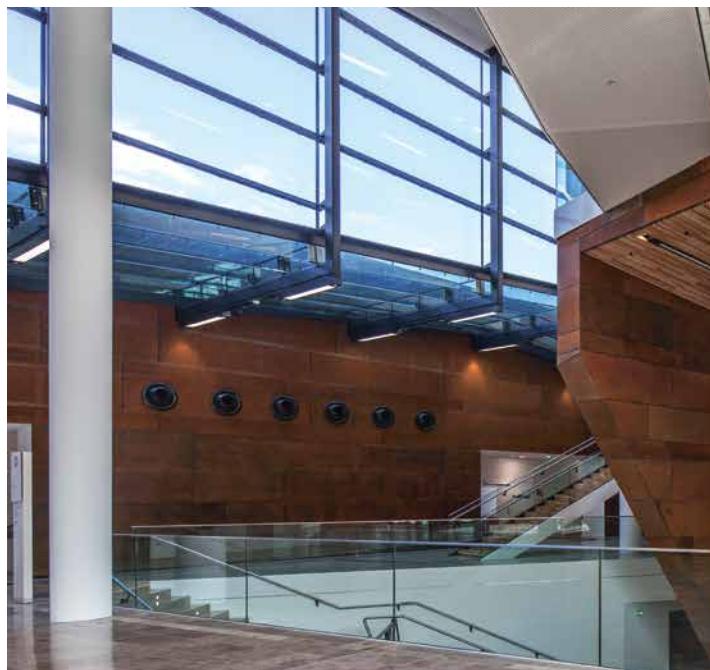
› IT Governance and Controlling, IT Evaluation and Investments, IT Project Management, IT Performance Management, IT Support Frameworks
› IT Strategy, IT/Business Alignment, IT Sourcing Strategies, IT Product Lifecycle, IS Portfolio Management, IT Change Management
› Legal Aspects of Information & Communication Technology, Intellectual Property Rights, eContracting, eSignatures, Software Law

Information Systems Development
› Database Systems, Enterprise Data Models, Transaction Management, Data Warehouses, Data Quality Management
› Distributed Systems, Distributed Services, Service Architectures, Cloud Computing, Event-Driven Architectures, Enterprise Service Bus, Peer-to-Peer-Computing, Remoting Patterns, Graph Structures
› Information Systems Development, Agile Software Development, Requirements Engineering, Modeldriven Software Development, Meta-Modeling, Software Architectures, Flexibility Management, Domain-Specific Languages, Software Quality Management
› User-Centered Information Systems Design, Cooperative/Participatory Design, Cognitive System Engineering, Usability and User Experience Testing
› Theory of Computation, Automata and Language Theory, Finite State Machines, Grammars, Complexity Theory, Undecidability

SECOND YEAR
Building on this foundation, the second year of study offers a selection of IT specializations. Each student chooses one IT specialization and either a second IT specialization or two of the competence areas.

Currently, specializations are offered in:
› Information Systems Engineering
› Information Systems Processes
› Information Systems Service Management

Competence areas:
› Business Analytics
› ICT Law
› Information Systems Management and Accountability
› Spatial Business Intelligence
› Sustainable Information Systems

For details about the program structure, please visit our website:
wu.at/infsys

PROGRAM STRUCTURE*			120 ECTS
Information Systems and Organizations	**Information Systems and Management**	**Information Systems and Development**	
› Business Information Systems › Business Process Management › Data Mining and Decision Support Systems	› Innovation Management › Introduction to IT Law › IT Governance and Controlling › IT Strategy	› Database Systems › Distributed Systems › Information Systems Development › Theory of Computation › User-Centered Information Systems Design, Strategy and Technology	
14 ECTS	16 ECTS	20 ECTS	50 ECTS

Choice of Electives (Two IT Specializations or one IT Specialization and two Competence Areas)		
IT Specializations	**Competence Areas**	
› Information Systems Engineering › Information Systems Processes › Information Systems Service Management	› Business Analytics › ICT Law › Information Systems Management and Accountability › Spatial Business Intelligence › Sustainable Information Systems	
20 ECTS each	10 ECTS each	40 ECTS
Master's Thesis		30 ECTS

* For details see: **wu.at/infsys**

Qualification Profile and Career Prospects

Economic cooperation and globalization are progressing at a rapid pace. Information systems make world-wide business transactions possible. Therefore, the combination of business knowledge with information technology skills is a particularly promising professional field for the future.

Graduates of WU's Information Systems MSc program have acquired skills ranging from software development, for example modeling software systems, to implementing new technologies in a business context and analyzing the effects of systems on individual organizations and/or their environments.

Possible professional applications include but are not limited to
› Information Systems Development: Designing, developing and launching business application systems, e.g. based on internet technologies.
› Research: Theoretical and applied research on new forms of designing and using information technologies.
› Business consulting: User support in product planning, implementation and product use, as well as planning and holding training sessions.
› Marketing: Marketing innovative hardware and software products.

Graduates have learned how to find creative solutions for the design and continuous development of business information systems, to implement new business ideas and improvements, and to react to changing market conditions.

"WU's Information Systems program unifies a management-oriented approach with expert-level methodology. A broad common body of knowledge provides largely timeless fundamentals that provide the connection to current research. This is a master program I can recommend unconditionally."

Josef Matulka, COO, Capgemini Austria
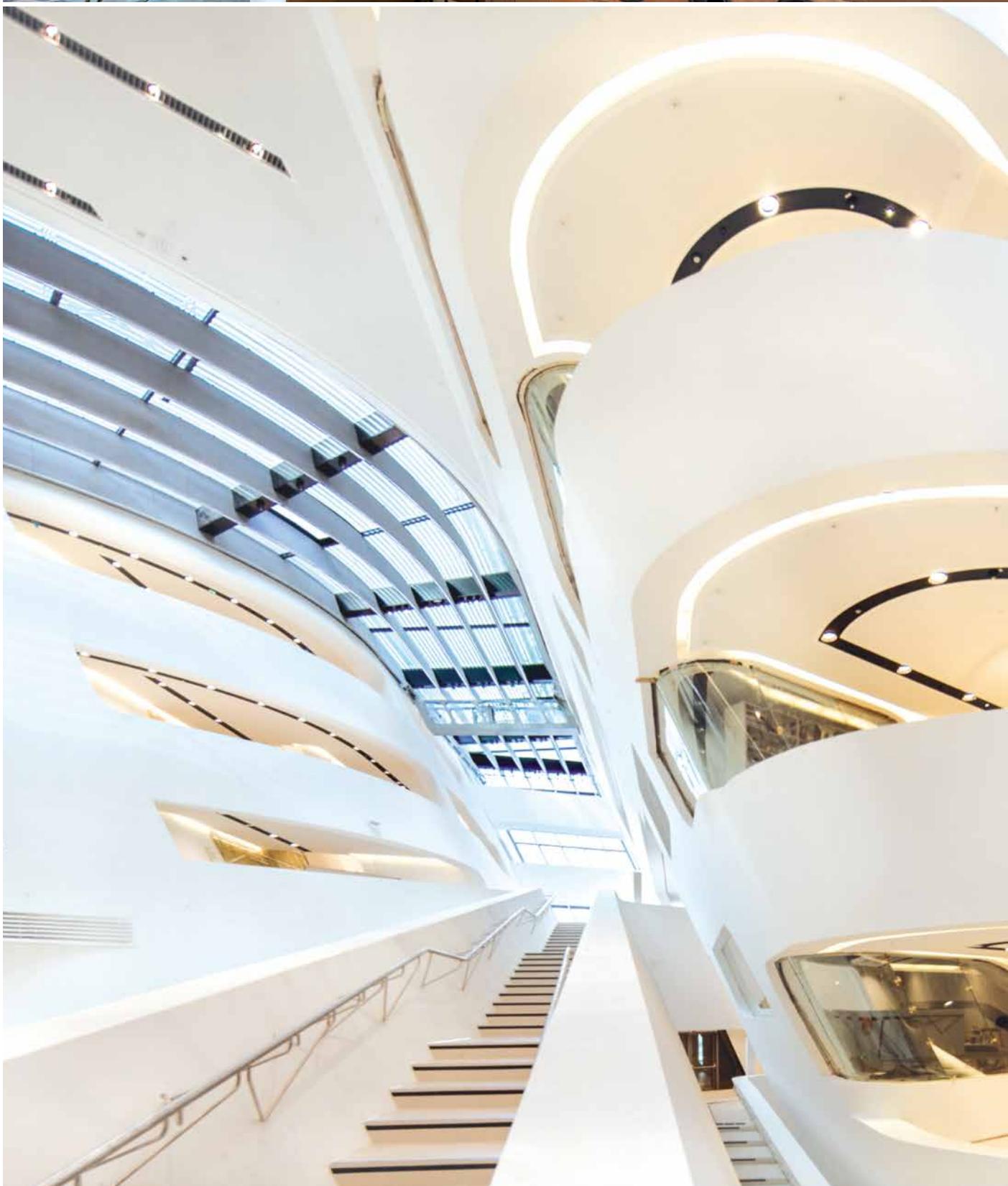
Admissions Criteria

To be admitted to the program, applicants must undergo a comprehensive selection process to keep quality standards high. We are looking for ambitious Austrian and international students with outstanding qualifications and excellent social skills.

The following requirements apply to the Master in Information Systems:

ONLINE APPLICATION
The first step in the admission process is the online application. Candidates need to fulfill the following requirements:
› A relevant bachelor degree or other equivalent degree program (worth at least 180 ECTS credits) which fulfills at least one of the following requirements:
  › Examinations in information systems and/or computer science worth a minimum of 60 ECTS credits
  › Examinations in mathematics and/or statistics worth a minimum of 60 ECTS credits
  › Examinations in business administration and/or economics worth a minimum of 60 ECTS credits as well as information systems and/or computer science worth a minimum of 28 ECTS credits
› One of the following: a valid GMAT or two letters of recommendation (academic references)

› Proof of English proficiency (one of the following):
  › A document confirming that English is the applicant's first language
  › Documentation from an institute of higher education confirming the completion of a bachelor's program or a master's program of at least two years in duration in English
  › One of the following valid certificates: TOEFL 100, IELTS 7.0, TOEIC 800, CAE (Certificate of Advanced English), CPE (Certificate of Proficiency in English), BEC Higher (Business English Certificate Higher), UNIcert III
  › A certificate from a university confirming the applicant has achieved level C1 according to the Common European Framework of Reference for Languages

For further information on the application requirements and admission process in general, please visit the program's website at **wu.at/infsys**

Program Faculty

Five different WU departments cooperate in this trans-disciplinary program, contributing to its leading position with their highly qualified researchers, lecturers, and guest professors.

FACULTY

DEPARTMENT OF INFORMATION SYSTEMS AND OPERATIONS
Edward Bernroider, Department Head, Deputy Head of the Institute for Information Management and Control
Roman Brandtweiner, Head of the Institute for Information Management and Control
Rony G. Flatscher, Deputy Head of the Institute for Management Information Systems
Gerald Reiner, Head of the Institute for Production Management
Jan Mendling, Deputy Program Director, Deputy Department Head, Institute for Information Business
Andreas Mild, Institute for Production Management
Johann Mitlöhner, Institute for Information Business
Gustaf Neumann, Program Director, Head of the Institute for Information Systems and New Media
Axel Polleres, Head of the Institute for Information Business
Alexander Prosser, Institute for Production Management
Stefan Sobernig, Institute for Information Systems and New Media
Sarah Spiekermann-Hoff, Head of the Institute for Management Information Systems
Mark Strembeck, Deputy Program Director, Deputy Head of the Institute for Information Systems and New Media
Alfred Taudes, Head of the Institute for Production Management

DEPARTMENT OF BUSINESS, EMPLOYMENT AND SOCIAL SECURITY LAW
Clemens Appl, Information Technology and Intellectual Property Law Group
Martin Winner, Head of the Information Technology and Intellectual Property Law Group

DEPARTMENT OF SOCIOECONOMICS
Jürgen Essletzbichler, Head of the Institute for Economic Geography and GIScience
Petra Staufer-Steinnocher, Deputy Head of the Institute for Economic Geography and GIScience

DEPARTMENT OF FINANCE, ACCOUNTING AND STATISTICS
Sylvia Frühwirth-Schnatter, Head of the Institute for Statistics and Mathematics
Kurt Hornik, Deputy Head of the Institute for Statistics and Mathematics
Josef Leydold, Institute for Statistics and Mathematics

DEPARTMENT OF STRATEGY AND INNOVATION
Nikolaus Franke, Head of the Institute for Entrepreneurship and Innovation

PROGRAM MANAGEMENT
Rebecca Runge, Program Coordinator

Application and Admission to WU

Selection procedures apply for all English-taught MSc programs. WU employs a rolling admissions policy with three priority deadlines.

APPLICATION

To keep quality standards high, all of WU's English-taught MSc programs have a limited number of places available and a comprehensive selection process is in place. The first step is an online application. WU's rolling admissions policy allows students to apply from the beginning of September until spring and gives students the opportunity to apply early and secure a place in the WU program of their choice. The three priority deadlines are October 8th, January 8th, and March 8th (March is not applicable for International Management/CEMS). The specific selection process varies by program.

PROFICIENCY IN ENGLISH

Applicants must provide proof that they have a sufficient command of the English language, e.g. TOEFL 100, IELTS 7.0, CAE Certificate in Advanced English, English as a first language, or a full English-taught bachelor's program (at least 3 years) or master's program (at least 2 years).

ADMISSIONS

Successful applicants who have received an admission offer must enroll in person at WU's Admissions Office.

> Detailed information on the admission requirements and the application procedures for the English-taught master's programs is available online: **wu.at/application-guide**

ACADEMIC CALENDAR

At WU, the academic year is divided into two semesters. The winter semester starts in October and ends in February. It is followed by the summer semester, which runs until the end of June. Summer break is in July, August, and September. All English-taught master's programs start in the winter semester.

> Detailed information on enrollment deadlines and WU's academic calendar can be found on the WU website at
> **wu.at/academic-calendar**

TUITION FEES

No tuition fees apply for EU, EEA, and Swiss citizens during the standard duration of their program (plus two extra semesters). All those exceeding the standard duration, however, are required to pay a tuition fee of approximately €360 per semester. Non-EU students are required to pay €727. Under certain circumstances, the same regulations that apply to EU, EEA, and Swiss citizens may apply to other students as well.

> To find out more, please see
> **wu.at/fees**

SCHOLARSHIPS

WU offers two financial aid programs that provide need-based and merit-based scholarship grants.

> For further information, please contact WU's Study Regulations Office:
> **wu.at/study-service**

> For other scholarship options, visit the Austrian Database for Scholarships and Research Grants (OeAD) at:
> **grants.at/en**

ORGANIZING YOUR STUDIES AT WU

› **Getting started**
  WU offers comprehensive information for international students on its website.

› **Housing**
  International students coming to Vienna can choose from various housing options.

› **Online services**
  A wide selection of online services is available to students on WU's website **wu.ac.at** and WU's learning and information portal **LEARN**.

› **The Austrian Students' Union at WU**
  The Austrian Students' Union (ÖH) represents the interests of all WU students and offers them a wide spectrum of services.

› **Student jobs at WU**
  WU students have many opportunities to actively participate in student and campus life. They may, for instance, choose to become course tutors, join one of our academic units as student staff members, or get involved with the Students' Union.

› **Centrally located**
  WU is easily accessible by public transportation, and only a few minutes away from the city center.

WU Key Data

2018/19	
Students	
Total students (2018/19 winter semester)	22,016 (48% women)
International students (2018/19 winter semester)	6,023 (49% women)
Incoming exchange students	~1,000 per year
Outgoing exchange students	~1,000 per year
Faculty and Staff[1]	
Total faculty[2]	497 (50% women)
Administrative staff	513 (85% women)
Total	1,147 (64% women)
Campus Resources	
Premises Campus WU	100,000 m²
Premises Library	
Total floor space	7,200 m²
Volumes	~658,400
International	
Partner universities	~240
Courses in English	~450/Semester

Graduate-Programs

German-taught master's programs
› Business Education
› Business Law (LL.M.)
› Export and Internationalization Management
› Finance and Accounting
› Management
› Socioeconomics
› Taxation and Accounting

German-taught doctoral/PhD programs
› Doctoral Program in Business Law (Dr. iur.)
› Doctoral Program in Social and Economic Sciences[3]
› PhD in Economic and Social Sciences[3]

English-taught master's programs
› Economics
› Information Systems
› International Management/CEMS
› Marketing
› Quantitative Finance
› Socio-Ecological Economics and Policy
› Strategy, Innovation, and Management Control
› Supply Chain Management

English-taught doctoral/PhD programs
› PhD in International Business Taxation
› PhD in Finance

[1] full-time equivalents in 2018
[2] not including personnel funded by third parties
[3] English track available

English-Taught Master's Programs

Duration: 4 semesters; full-time programs;
120 ECTS credits; degree awarded: MSc (WU)

PROGRAM DETAILS

Economics
› Focus on analyzing economic policy and business problems with state-of-the-art theories and methods
› Applied Track and Science Track
› 11 areas of specialization, many attractive international partner programs.

Information Systems
› Focus on IT-related knowledge with a particular emphasis on management and research topics
› Students acquire skills ranging from system analysis to system implementation
› Based on state-of-the-art research

International Management/CEMS
› Joint program: MSc (WU) and CEMS MIM degrees
› Focus on international strategy and cross-cultural management
› Internship abroad, business project, and exchange semester

Marketing
› Focus on customer-oriented management concepts, marketing research, and decision tools
› Qualifications for marketing specialist/executive positions, academic careers & advanced management consulting with a wide choice of marketing electives
› Double degree with University Bocconi (5 slots)

Quantitative Finance
› Focus on building strong quantitative skills coupled with a solid knowledge base of the underlying theory of finance
› Students can choose between an Industry Track or a Science Track
› Strong networks and links to the finance industry

Socio-Ecological Economics and Policy
› Focus on socioeconomic analysis of sustainability issues
› Students choose two of four concentration areas in the fields of Environment, Population, Multi-Level Policy, and Social Policy

Strategy, Innovation, and Management Control
› Optional double degree in cooperation with selected partner schools
› Focus on all major aspects of organizational leadership, as well as corporate development and strategic management
› Case studies, business projects, and exchange semester

Supply Chain Management
› Focus on design and analysis of supply chains for focal companies
› Management and coordination of global supply chains
› Learn to measure, evaluate, and control the quality of supply chain processes
› Discussions of recent issues in SCM with industry experts

For further details see:
wu.at/master-en

WU International

WU is a truly international university. It has recognized the necessity of thinking beyond Austria's borders early on. The international outlook of WU's teaching and research activities is a number one priority.

CONFIRMED QUALITY

Becoming one of the world's top business and economics universities has always been a high priority at WU. With its prestigious international accreditations, WU has achieved this goal. Fewer than 1% of universities worldwide can claim triple accreditation by EQUIS, AACSB, and AMBA, the three most well-respected accreditation agencies. WU is one of only six universities in the German-speaking world to belong to this exclusive group of schools.

WU is also a member of respected associations like CEMS (Global Alliance in Management Education), an alliance of 32 top business schools and more than 70 of the world's leading multinational companies (**cems.org**), and PIM (Partnership in International Management), a network of 65 highly renowned business schools and universities around the globe (**pimnetwork.org**).

RANKINGS

International ratings like the Financial Times Ranking have repeatedly positioned WU and its programs among the top universities in its field, and document WU's continuous progress each year (**rankings.ft.com**).

STUDY AROUND THE GLOBE

WU has successfully integrated many international aspects in its research and teaching over the past few years. WU maintains a strong international network with around 240 partner universities all over the world, 130 of them offering exchange places for master students. Today WU is involved in numerous externally funded international research projects and has increased the number of its faculty members with international backgrounds, especially over the last few years.

INTERNATIONAL STUDENTS

As a result of these efforts, WU has a high percentage of international students: Today, more than one out of every four WU students comes from outside of Austria (not including exchange students). More than 110 nations are represented in WU's student population, with the majority of international students coming from countries in Europe. Together with around 1,000 exchange students, they contribute to the international and diverse atmosphere at WU.

Living in Vienna

Vienna is consistently ranked the city with the world's highest quality of living according to Mercer's Quality of Living Ranking.

HOUSING

WU has no on-campus dormitories or housing services. Still, international students can choose from various housing options:
› **Student dormitories:**
  WU cooperates with the OeAD Housing Office to guarantee a limited number of places in student dormitories (**housing.oead.at/en**). Other providers include: **stuwo.at**, **wihast.at**, **akademikerhilfe.at**, **milestone.net**, **linked-living.com**
› **Private accommodation:**
  WU recommends **housinganywhere.com**, a peer-to-peer platform for finding private student apartments.

WORKING IN VIENNA

WU's ZBP Career Center is the first place to go for any questions regarding working in Austria (**zbp.at**).
› Job openings for students, graduates and young professionals
› Approx. 3,000 job vacancies per year
› Approx. 1,800 CV checks, coachings and career advice

Please note that good German language skills are often required for jobs or internship positions in Vienna, both at local and international companies.

LIVING COSTS
Life in Vienna is quite affordable, especially for a capital city

Housing
approx. €400–600 per month

Health insurance
approx. €60 per month

Essentials (food, personal expenses)
approx. €300 per month

Public transportation
approx. €150 per semester

Books
approx. €75–150 per semester

Communications
approx. €15–30 per month

Entertainment
approx. €50–150 per month

University of the Future

Internationalism, innovation, diversity – Campus WU is the concrete realization of WU's vision for a modern university. The fundamental principles of the architecture reflect the values and ideas we cherish at WU.

In October 2013, WU relocated to an impressive new campus in Vienna's 2nd district. As a public institution, WU is aware of its responsibility, and built its campus in an economical, ecological, and socially sustainable manner. We have not only constructed new buildings, but in the process we have also given concrete realization to our ideas of what the university of the future should look like. The campus is more than just a place for academic research and teaching and learning practical skills; it is also designed to create a new space for social, cultural, and political life.

The imposing Library & Learning Center (LC), designed by the Iraqi-British architect Zaha Hadid, is a testament to the central importance of research and teaching at WU. The Library & Learning Center is surrounded by six building complexes, including the Teaching Center, which houses most of WU's auditoriums. The Teaching Center is intended mainly for bachelor's degree students, while the master's degree programs are taught primarily in the individual department buildings. The Executive Academy building is the home of continuing education and lifelong learning programs. In this way, the various buildings and their functions reflect the three tiers of teaching and learning represented by the Bologna Process.

WU's department-based organizational structure was also a contributing factor. In its former location, various academic units were scattered across the district. Now they have been brought together in five department buildings, making life much easier for both students and faculty.

The campus infrastructure features auditoriums with state-of-the-art teaching equipment, including digital whiteboards. There are 3,000 student workplaces, located not only in areas intended for individual study, but also in project rooms that can be booked by teaching staff and
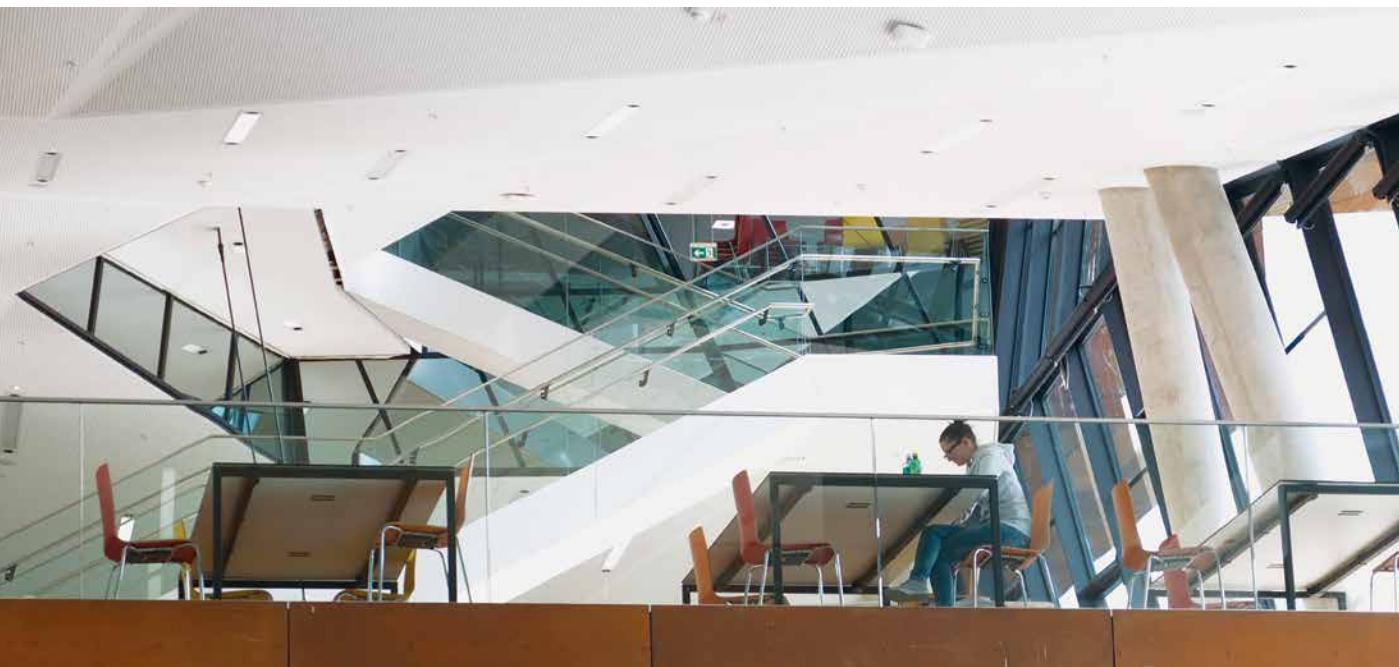
students alike. They cater to different needs by providing quiet spots for focused academic work as well as opportunities for work on group projects in communication-friendly study areas.

The campus provides an environment for WU students and staff that encourages productive work and communication. Not only the buildings themselves, but also the surrounding grounds offer plenty of opportunities for communication and meeting people. 55,000 m² of Campus WU's total surface area of 90,000 m² is open, publicly accessible space. Fences or barriers would contradict our vision of an open campus.

Visitors and area residents are more than welcome on Campus WU. The campus offers not only food for thought, but also restaurants, cafés, and shops, all in a stimulating architectural environment.

The campus is not only architecturally outstanding, the entire complex was also designed in accordance with "green building" principles. Much of the required energy is obtained using geothermal energy from groundwater, and "green IT" systems capture the heat from server facilities and recycle it back into the buildings' energy supply.

Another key feature of Campus WU is barrier-free accessibility. All auditoriums are specially equipped for people with disabilities, all areas are designed to be wheelchair accessible, and the campus also features a tactile guidance system for the visually impaired.

We have not only made sure to comply with all relevant legal guidelines, but we have also drawn on experience gained from best practice examples. WU aims to play a pioneering role – in all respects.
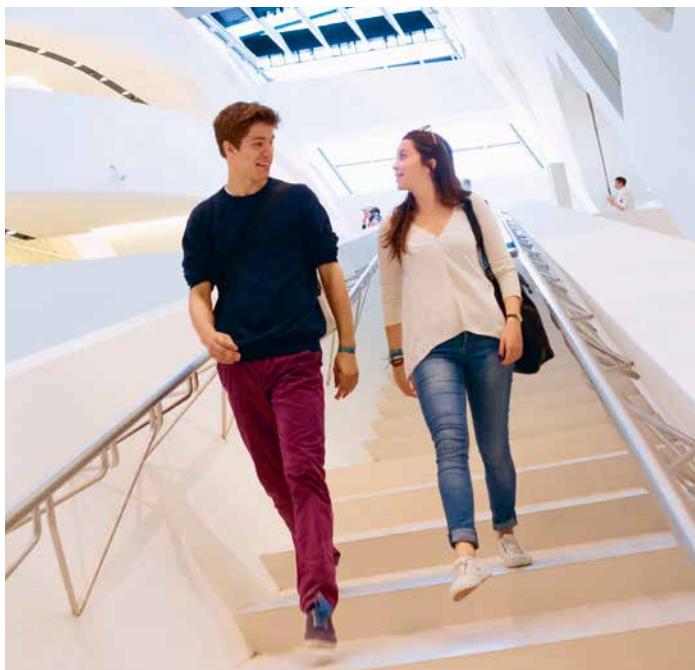
Information and contact

To find out more about the Master's Program in Information Systems please visit
wu.at/infsys

For further questions please contact:
Rebecca Runge (Program Coordinator)
master-is@wu.ac.at

Academic Director of the Master's Program in Information Systems
Gustaf Neumann