Degree Program documentation for the master’s course „Finance and Information Management (FIM)“

School of Management
Technical University Munich
General:

- Department: School of Management of Technical University of Munich
- Program name: Finance and Information Management (FIM)
- Degree: Master of Science (M.Sc.)
- Standard Duration of Studies (Credits): 4 semesters (120 ECTS)
- Form of study: full-time, attendance program
- Admission: Aptitude test
- Beginning: Winter semester (WiSe) 2021/2022
- Language: English
- Main location: Munich
- Person responsible for the program: Prof. Dr. Benjamin Loos
- Contact person for further questions: Prof. Dr. Benjamin Loos

Version/ Status as of: 24.03.2021
# Table of Content

1. **Objectives of the study program** ................................................................. 4  
   1.1 Purpose of the study program .................................................................... 4  
   1.2 Strategic importance of the program .......................................................... 4  

2. **Qualification profile** .................................................................................. 7  

3. **Target group** ............................................................................................ 9  
   3.1 Target group ............................................................................................... 9  
   3.2 Prior knowledge of applicants .................................................................... 9  
   3.3 Target figures ............................................................................................. 9  

4. **Demand analysis** ...................................................................................... 10  

5. **Competitive analysis** ............................................................................... 11  
   5.1 External competitive analysis .................................................................... 11  
   5.2 Internal competitive analysis ..................................................................... 12  

6. **Structure of the degree** ........................................................................... 13  

7. **Organizational affiliation and responsibilities** ....................................... 16  
   7.1 Organizational affiliation .......................................................................... 16  
   7.2 Responsibilities ......................................................................................... 16  

8. **Developments in the course** .................................................................... 17
1 Objectives of the study program

1.1 Purpose of the study program

The digital transformation is leading in the financial sector to the emergence of new business models that are fundamentally changing the financial sector. Triggered by increased competitive pressure of financial service providers, the growing willingness of the population to take advantage of digital offers in this area and the increasing use of new technologies and methods such as blockchain and machine learning, digitized and automated financial services become more important. In this context, customer expectations also rise. While customers are increasingly willing to make decisions such as investment decisions with the help of digital and automated systems, they expect in return solutions that are precisely tailored to their personal needs.

Skilful data management, as well as filtering out of relevant information from existing data and the application of suitable models and methods for decision-making prove to be the core aspect of the organization of digital business models. The design of this change is of central importance for established financial service providers (banks, insurance companies, fund companies), but also for start-ups (so-called fintech companies). Corresponding developments can also be observed in large companies that are penetrating the areas of financial services as part of their product portfolio (e.g. in the areas of payment transactions or the granting of consumer loans). As a consequence of these changes in the financial sector, such as the less regulated lending by new market participants, new and sometimes unknown risks arise, which make it necessary to further develop risk management.

On digital platforms (often in tablet or smartphone apps), established financial service providers, but also aspiring fintech companies, offer automated and data-based services, such as investment advice (robo-advisers), quantitative fund strategies and lending and payment processing options. Robo-advisers, for example, use quantitative methods to determine an individual risk attitude based on data entered by customers. An optimal investment strategy is then determined on basis of the risk settings and corresponding financial market data. In the event of changes in the financial market environment, this can be adjusted dynamically. In contrast to traditional financial services, digital business models from strategy development over data analysis to software implementation are often processed in small teams and require fast and agile processes and thus extensive knowledge in all of the areas mentioned.

The aim of the master’s degree in Finance and Information Management (FIM) is to prepare graduates for future challenges in the field of finance. Graduates are able to design new business models in this area.

1.2 Strategic importance of the program

The master’s degree in Finance and Information Management (FIM) is located at the TUM School of Management both organisational and professional. By focusing on the topics of digital finance, financial management, information technology and financial mathematics in combination with entrepreneurial thinking and acting, this course is profile-building and complements the portfolio at the TUM School of Management about a new component.

In its mission statement, the Technical University of Munich has committed itself to offer its students excellent, practice-oriented training at the highest level. The aim is to create excellence, an
entrepreneurial mindset and integrity and adapt them to the students' way of thinking and acting. The study course fits seamlessly into this concept.

The TUM School of Management offers a comprehensive program portfolio with its bachelor's, master's and further education courses, which takes into account the implementation of the idea of lifelong learning and the mandate of the Bavarian Higher Education Act to offer courses and further education. In accordance with the strategic orientation of the faculty, all programs include international management training at the interface between economics and engineering, natural and / or life sciences with a strong entrepreneurial component. The design of digital business models is one of the great social and entrepreneurial challenges that the faculty aims to address in research and teaching. In the area of financial services, the change to digital business models is taking place at a particularly rapid pace. With the introduction of the Masters in Finance and Information Management (FIM), this is also implemented in training.

The content of the programs vary depending on the different admission requirements and the individual prior training of the applicants. The programs at the TUM School of Management can be divided into three categories:

(1) Interdisciplinary management programs with a focus on engineering, natural and life sciences: These include the Bachelor's degree in Management and Technology, the Master's degree in Management and Technology, the Master's degree in Consumer Science (MCS) and the Master's degree in Finance and Information Management (FIM).

(2) Programs that provide basic management training for students with a technical or scientific first degree: The Master's degree in Management falls into this category.

(3) Programs in the field of executive education: The area of Continuing Education and Lifelong Learning is structured analogously to this strategy. In the part-time Executive MBA programs for people with professional experience and leadership responsibility, participants are developed into effective and responsible managers by broadening their knowledge, expanding their skills and developing their personality. The Master in Management & Innovation and other planned continuing education programs expand the portfolio of the programs to include the target group of young professionals with initial work experience and (yet) no management experience. The certificate programs are subject-specific programs for the further development of both professionals and managers. They are offered on a part-time basis and are set up specifically for each company in the Customized Programs area.

Against this background, the course portfolio of the TUM School of Management is as shown in figure 1.
Figure 1: Study programs offered by the TUM School of Management: Bachelor’s program (dark blue), master’s programs (grey), master’s program with work experience (light blue), paid master’s programs with work experience (green)
2 Qualification profile

The master’s course serves to deepen and to specialize in the field of finance and information management. The qualification profile of the graduates is characterized by the learning outcomes listed below. Thanks to the skills they have acquired, the graduates are qualified for a doctorate, entry into practice or the establishment of a start-up. The graduates design efficient and sustainable finance, investment and risk management processes and, due to the automation, develop more and more into a strategic partner in financial matters. In financial service companies, they transform existing business models and develop new ones. The graduates will be able to recognize relationships and problems of financial management against the background of the potentials. They design possibilities of developments in the field of information technology and the importance of information as a production factor in the financial services sector, to present them independently, to analyze them and to solve them with scientific methods. Graduates will be able to develop the necessary systems, which are used, for example, in the data-based, automated capital investment, to communicate with the departments involved during implementation and to mediate between them. The graduates have a comprehensive and interdisciplinary knowledge of financial issues in connection with data, its processing, analysis and preparation with the help of information systems and mastery by means of empirical-analytical scientific method. In addition, the course focuses on the parallel teaching of personality-enhancing key qualifications and a connection between practice and science.

Knowledge and understanding

The graduates have knowledge in the areas of finance, financial mathematics and information management. They will understand how common financial market instruments such as stocks, bonds and derivatives (options, futures contracts, credit derivatives and structured financial products) work and will know mathematical models for the valuation and risk analysis of these instruments. As part of an integrated risk and return management system, the graduates understand quantitative methods of value-based corporate management. In addition to methods for identifying and measuring risks, it also includes value-based performance measures and procedures for allocating risk capital. The graduates are familiar with common methods from statistics and data analysis, as well as important tax and regulatory aspects. They have the necessary theoretical and practical knowledge about methods and systems for the entrepreneurial handling of the resource of information in the context of digital business models. In addition, they know methods and procedures for the implementation of product ideas in the context of established companies or the start-up of a company specializing in this idea.

Application and generation of knowledge

The graduates can derive questions for new problems of the design of digital business models. The new problems can be triggered by developments in the financial sector, such as the emergence of new financial market products, a changing financial market environment or a new competitive situation. However, they can also be caused by changed customer behaviour, in particular by increased acceptance of digitized financial services and improved access options to
the associated systems (e.g. through mobile access options on smartphones). In the context of corporate financing or the development of investment strategies, research questions arise such as how new financial instruments can be used to solve problems or how changing risks should be taken into account when making decisions. In addition, the increased availability of new technologies or data can drive new research questions. In the context of finance and information management, questions arise such as how processes can be designed with the optimal use of information as a resource for financial decisions, or how new technologies can be used to solve complex financial problems.

For the derived research questions, the graduates can develop methods to solve and implement them with the help of common software. For these developments, they can select and apply the appropriate methods from mathematics, statistics and data analysis. They can critically evaluate the developed methods and compare them with already known methods, especially with regard to the risks of using the models. The graduates can explain and critically interpret the research results obtained with the newly developed methods.

Furthermore, the graduates can use the knowledge derived from the research questions to set up business models in an existing company or in a start-up.

**Communication and cooperation**

Graduates are able to assume managerial tasks in interdisciplinary teams. They can communicate with representatives of various departments who are involved in processes in the context of finance and information management (e.g. finance and IT departments) in the respective technical language and mediate between the various departments.

**Scientific self-conception / professionalism**

Graduates can base their professional activities on the skills they have acquired. They can responsibly assess the extent of risk which can be taken and the extent of risk which needs to be hedged. Graduates recognize the effects of financial decisions on the various parties involved in the company and in society. They have a high level of self-reflection skills.
3 Target group

3.1 Target group

The core target group of the Masters in Finance and Information Management (FIM) includes Bachelor’s graduates from Germany and abroad with a very good Bachelor's degree in economics (especially with financial knowledge), industrial engineering, business informatics, (applied) computer science, (finance - and business) mathematics and comparable subjects. In addition to in-depth knowledge from their main study subject, they should have basic knowledge in at least one other specialization through minor subjects, internships or non-university engagement (e.g. basic knowledge in the IT area for economists, internships in finance or economics as a minor for mathematicians). During the interview rounds, the qualifications are checked for specific candidates in the form of a technical discussion.

In addition to professional qualifications, prospective students are also expected to have a suitable personality profile, which is characterized in particular by the ability to reflect, the intention to develop further and the willingness to take on (management) responsibility. As part of the selection process, the candidates must, among other things, prove themselves in a group discussion in which non-technical topics are discussed and the interaction in the group, teamwork and organizational skills are analysed.

3.2 Prior knowledge of applicants

An aptitude test ensures that outstanding, highly motivated Bachelor graduates from one of the courses in economics (particularly those with financial knowledge), industrial engineering, business informatics, (applied) computer science, (finance and economic) mathematics and comparable subjects are attracted to the course. The fields of finance, mathematics and information management are particularly important for the master’s degree. The prospective students should have the greatest possible coverage in these subject areas at the level of a bachelor’s degree. Examples of relevant financial knowledge are fundamentals of investment calculation, fundamental knowledge of financial instruments such as stocks, bonds and their valuation methods. In the field of mathematics, this includes knowledge of (linear) optimization methods, probability theory and statistics, initial programming in the field of information management, as well as knowledge of basic algorithms (e.g. sorting algorithms). At the beginning of the master’s program there is the possibility to catch up on missing knowledge in these areas, so that a complete coverage of the three areas is not necessary in advance. The course is held in English, so very good knowledge of English is a prerequisite for a successful application.

3.3 Target figures

Since an aptitude test is carried out in the Master’s degree in Finance and Information Management (FIM) in order to find suitable applicants for the interdisciplinary degree program, an exact target number cannot be given. However, the course is basically designed for an annual beginner cohort of around 30 enrolled students.
4 Demand analysis

In the area of digital finance, the ability to work in an interdisciplinary manner represents a major competitive advantage. Companies are particularly interested in graduates with interdisciplinary skills.

Overall, there is a need for graduates with the qualification profile described in the previous chapter, which cannot be covered by the number of graduates by far. The high demand for graduates of the Master’s degree in Finance and Information Management is due to the changes in the business models in the field of financial services as a result of digitization, as described in the “Course objectives” chapter, but also due to the degree’s profile, which is unique in Germany. Thanks to the special skills of the graduates and the practical relevance, the course can meet the need for graduates with the competencies described in the “Course objectives” chapter.

Positions for which graduates with this specific requirement profile are required can be found in established companies in the financial industry, but also in company start-ups, especially in the so-called FinTech sector. The following describes the areas with high need for graduates in the field of finance and information management.

Increasing digitalization means that all larger banks are faced with the challenge of offering digitized services in order to adapt to changing customer requirements and to withstand the high competitive pressure. Therefore, these banks have a need for graduates with this specific requirement profile. Within these banks there is a need for several positions, most of which are located in the head offices. This includes areas in which corresponding services are developed, as well as related areas, such as risk management, trading in securities, as well as the IT divisions. There is a corresponding need for graduates in insurance companies and capital investment companies in similar positions.

Digitization means that start-ups (so-called FinTech and InsurTech companies) are increasingly able to compete with established companies in these areas. Therefore, there is also a need here for appropriately trained graduates.

Specialized software is often required to provide digitized financial services. There is therefore a corresponding need for graduates in the software industry in the area of conceptual design and development of this software.

There is also a need for consulting firms that specialize in advising in these areas.

Due to the qualification profile of the graduates, there are also other areas in which graduates of the previous course in Finance and Information Management are active that are not directly related to the course objectives. Management consultancies make up the largest part here. The ability of the graduates to incorporate with issues from different areas independently is very much appreciated by management consultancies, including management and strategy consultancies.

In summary, the strategic orientation of the Technical University of Munich towards an international environment in the field of master’s courses and the high demand for TUM graduates with an interdisciplinary profile from companies confirm the attractiveness of the planned course.
5 Competitive analysis

5.1 External competitive analysis

The overall concept and objectives of this master’s course have not yet been offered at any other university in Germany. The closest to the Finance and Information Management (FIM) course are finance courses with the option to specialize in information management and information management courses with specialization in the area of finance. For reasons of comparability, only courses at universities with a Master of Science degree are considered in this analysis. In many financial management courses there is no link to information management. The Goethe University in Frankfurt am Main offered the opportunity to take information management as an explicit specialization with the Master of Science degree in Business Administration. There was the opportunity to deepen the knowledge in the area of finance and information management. In the 2014/2015 winter semester, however, this course was re-launched as the Master of Science course in business administration. The specialization in finance and information management has not existed since then. The areas of finance and information management have existed as separate main focuses, with students being able to choose up to two focal points. A specialization in two areas of specialization cannot, however, be equated with linking the two areas (as in the Finance and Information Management (FIM) course). In addition, unlike the Finance and Information Management (FIM) course, the target group of the Master of Science in Business Administration at Goethe University only includes students with a bachelor's degree in economics. The Finance and Information Management (FIM) course also stands out due to the content in the area of financial mathematics. Apart from the above-mentioned course at the Goethe University in Frankfurt am Main, no other financial studies course is known in Germany in which the areas of finance and information management can be combined or even linked as focal points. On the other hand, no information management course could be found in which the areas of finance and information management are linked in a similar way to the course of finance and information management. In some cases, information management courses include in-depth modules from the field of economics. In most cases, however, these are comparatively general economics specialization modules. Only the University of Koblenz-Landau offers a specialization in finance and economics in its information management course with a specialization in economics. The Hector School of Engineering & Management also offers a paid course in Financial Engineering. In addition to the five modules in the field of engineering, a generalist management perspective is conveyed through the topics of marketing, project management and human resources. The focus on financial management makes the master's program in Finance and Information Management standing out in terms of content. In addition, the Financial Engineering course is aimed at a professional target group and is designed in such a way that a master's degree is possible in combination with a job. In all of these courses, however, there is typically a more isolated consideration of specialization modules, often e.g. in the areas of economics, business informatics and computer science. The opportunity to acquire the particularly research-oriented qualification profile through the optional additional modules as part of the master’s degree is unique in Germany in the Finance and Information Management (FIM) degree program.
5.2 Internal competitive analysis

The other faculties of the Technical University of Munich do not offer a degree program comparable to the Master’s degree in Finance and Information Management (FIM). In terms of content, economics is the mainstay of the master’s course. It provides the theoretical and methodological foundation for the topic of financial management. In addition to financial management, information technology, computer science and mathematics also play a decisive role. This is particularly evident in the four main areas of Quantitative Finance, Financial Management, Business and Information Systems Engineering and Sustainability and Technology. Thus, the course has an interdisciplinary character, conveying knowledge about financial topics in connection with data, their processing, analysis and preparation with the help of information systems and knowledge of empirical-analytical working methods. Thus, the Master’s degree in Finance and Information Management (FIM) offers a complementary offer to the other degree programs in the Faculties of Mathematics, Computer Science and Economics. Due to its interdisciplinary nature, the FIM stands out significantly from the courses of the aforementioned faculties. In contrast to the Master in Management & Technology course at the TUM School of Management, the FIM focuses on the disciplines of financial and information management more specifically and does not teach general business basics. Compared to the Mathematical Finance and Actuarial Science master's program at the Faculty of Mathematics, the focus at FIM goes beyond financial mathematics by combining the previously described areas of business administration, information technology and mathematics as well as empirical-analytical working methods. The business informatics master's program at the Faculty of Computer Science also deals with topics such as information management and business analytics, but focuses only on operational management and does not address the topics of financial management and financial mathematics. Because of its interdisciplinary character, the FIM is a unique course at the Technical University of Munich.
6 Structure of the degree

The course was designed to offer students the opportunity to acquire competencies that are important for designing business models in the field of digital finance. The standard period of study for the master’s course is 4 semesters. During the course, students earn 120 CP, which is divided into the following blocks: core area (60 CP), elective area (30 CP) and master's thesis (30 CP). If voluntary additional modules are completed, this results in a fourth phase, which extends over the entire course of the study. The chronological sequence can be seen in figure 3.

As described in chapter 1.1, business models in digital finance are often designed in small teams. It is therefore important that the graduates have a broad range of skills. These competencies are acquired in the core area. After completing this section, the students can design the aspects that are generally similar in most digital business models. A focus in a certain area of the digital business models takes place in the modules in the elective area.

Core area

In the first two semesters, the focus is on acquiring skills in the core area of the subject. Since the target group of the degree program includes graduates from bachelor’s degree programs in computer science, mathematics or economics, a compulsory module "Basics of FIM" is offered, with which the students in the fields of finance, mathematics and information management acquire the level of competence required for the further course of studies. In particular, this module serves to enable students to improve competencies in areas that were not adequately covered in the bachelor's degree. The core area contains the general subject “Entrepreneurship” as a further compulsory module. In this module, students learn the basics of entrepreneurial activity. They understand the concepts of corporate decision-making and can evaluate the consequences for the company, the economy and society.

In the other modules of the first semester, the students acquire skills in the subject areas

• Fundamentals of finance and strategic financial management,
• Potential and design options through digitization,
• Mathematical, stochastic and econometric knowledge for modelling financial problems,

• Understanding of the mutual economic dependencies between the financial markets and the behaviour of market players as well as the importance of digitization in this area.

The students can choose 8 out of 13 modules. The limited choice ensures that students have broad-based expertise and are familiar with the different ways of thinking. The modules are coordinated with one another and not only competencies in the respective areas are imparted. Rather, the learning outcome also covers the linking of the areas. After completing financial modules, the students understand how financial instruments work and how they can be used in digital business models. The students understand the mathematical models for determining prices for these instruments after completing the financial mathematics modules. In the financial mathematics modules, the students also learn how to implement mathematical evaluation methods for automated use in digitized business models and how to handle the data required for these evaluation methods. The implementation of the modules in block courses offered exclusively for the degree program facilitates learning in the different subject areas. In information management modules, students learn how to design information systems that form the technological platform in digital business models and represent the interface to customers.

Elective area

Building on the modules of the core area, students can deepen their knowledge in the 3rd semester according to their individual interests.

The students have to take elective modules amounting worth 30 CP. There are four specializations to choose from:

- Quantitative finance,
- Financial management,
- Business & Information Systems Engineering,
- Sustainability and Technology.

In the area of quantitative finance, students get to know financial mathematical and statistical methods for evaluating modern financial products and for measuring and controlling financial risks. In addition, they learn to implement these mathematical methods using software. These models and the algorithms based on them form the basis for the digitization and automation of financial services. The financial interrelationships of products and markets in the area of digital finance are the subject of the specialization in Financial Management. In the area of Business & Information Systems Engineering, students acquire skills to design the information systems and digital platforms required for digital business models. More technical aspects of financial services, in particular with a focus on financial technological developments with a relevance to sustainability, are the subject of the Sustainability and Technology division. They are important, for example, for products such as investment strategies that take ethical, social and environmental criteria into account, but also for trading of emissions certificates on energy exchanges. By combining modules in Financial Management and Sustainability and Technology, students can also assess the effects of the latest financial technologies as well as their own impact on society and the environment.

School of Management
24.03.2021
As already described for the core area, new business models in the area of finance and information management are typically developed in small teams, so that the students are appropriately broadly trained. This broad education enables the graduates to communicate with representatives of related departments in the respective technical language. Therefore, from three of these four possible specializations, 6 CP each have to be acquired. The remaining modules can be freely chosen in order to offer the students the opportunity to prepare more specifically for a possible later role within the team. Through group works, especially in seminars, as well as through discussions, the students acquire the necessary teamwork skills for later work. In particular, the targeted small number of students promotes the opportunity for discussion in many modules.

In this study semester there is in principle the possibility of a stay abroad due to the large number of options. This ensures that the students, in accordance with their interests, acquire competencies in a considerable depth in a sub-area, but at the same time have the expansion of competencies necessary for a corresponding later activity. This option is further enhanced by the fact that many of the modules offered can be incorporated into several areas of specialization. An exemplary course of study with the elective "Quantitative Finance" is shown in figure 3.

**Table 1: Exemplary study plan of the elective area "Quantitative Finance"**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Module</th>
<th>Credit Points</th>
<th>Number of Exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Basics of FIM (Required)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Entrepreneurship (Required)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Discrete Time Finance (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Advanced Corporate Finance (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>International Accounting (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>Digital Energy Management (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Continuous Time Finance (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Venture Capital (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Value Based Management (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Behavioral Finance (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>3.</td>
<td>Financial Econometrics (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Fixed Income Markets (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Asset Management (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Investment Strategies (Elective)</td>
<td>6 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Trading Seminar (Elective)</td>
<td>3 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Written exam</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Cases in Finance (Elective)</td>
<td>3 CP</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Research paper</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>4.</td>
<td>Master’s Thesis</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

Legend: light gray = Core Area, dark gray = Elective Area, blue = Final thesis

**Figure 3:** Exemplary study plan of the elective area "Quantitative Finance"

**Master Thesis**

The master thesis is written in the 4th semester. A topic can be selected here according to the individual objectives and inclinations. In particular, there is also the option of combining the preparation of the thesis with a stay abroad.
7  Organizational affiliation and responsibilities

7.1 Organizational affiliation

The Master’s degree in Finance and Information Management (FIM) is offered by the TUM School of Management in cooperation with the University of Bayreuth. Organizationally, the course is assigned to the TUM School of Management. The courses are taught on the Munich campus only.

7.2 Responsibilities

The dean of studies, the academic program director, the master’s examination board and the selection committee of the TUM School of Management are responsible for the master’s degree in Finance and Information Management (FIM).

Program responsibility and coordination are incumbent on the Dean of Studies of the TUM School of Management and the Academic Program Director (APD) responsible for the program. Professors who are members of the TUM School of Management are appointed as Academic Program Directors. The clarification of legal examination matters as well as the recognition of examination achievements is carried out by the master’s examination committee of the TUM School of Management. The aptitude committee is responsible for the proper implementation of the aptitude test.

Central administrative tasks are performed by the administration of the TUM School of Management, in particular the departments Admissions and Program Coordination, Student Affairs and International Programs, Quality Management and Marketing in coordination with the Dean of Studies, the Academic Program Director and the responsible committees and commissions. The tasks are distributed as shown in table 1 below.

Information about the course is published on the TUM School of Management website (link here).
<table>
<thead>
<tr>
<th>Admissions &amp; Program Coordination</th>
<th>Undergraduate and Postgraduate Education</th>
<th>Quality Management</th>
<th>Marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Student selection (organisation of application and assessment procedures)</td>
<td>• Program management (incl. information events)</td>
<td>• Quality management (incl. evaluation of teaching and learning)</td>
<td>• Websites</td>
</tr>
<tr>
<td>• Course planning (incl. creation of course schedules)</td>
<td>• Student counseling (incl. orientation and mentoring)</td>
<td></td>
<td>• Degree program flyer</td>
</tr>
<tr>
<td>• Coordination of imports and exports in teaching</td>
<td>• Study abroad (incl. coordination / assigning study places abroad)</td>
<td></td>
<td>• Promotion of the study program to potential applicants</td>
</tr>
<tr>
<td>• Examination planning</td>
<td>• Grade management (incl. transcripts, final thesis, graduation documents, certificates and rankings)</td>
<td></td>
<td>• Social media activities</td>
</tr>
<tr>
<td>• Adjusting and updating TUMonline (grades, lectures etc.)</td>
<td>• TUMonline input (incl. grade record and validation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Organization Examination</td>
<td>• Organization Examination</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Allocation of tasks to the TUM School of Management departments

8 Developments in the course

The teaching of the Finance and Information Management (FIM) (M.Sc.) course will start in the winter semester 2021/22.