

FINANCE MATHEMATICS

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| 1 | Course Title: | FINANCE MATHEMATICS | |
| 2 | Course Code: | ISL2203 | |
| 3 | Type of Course: | Optional | |
| 4 | Level of Course: | First Cycle | |
| 5 | Year of Study: | 2 | |
| 6 | Semester: | 3 | |
| 7 | ECTS Credits Allocated: | 5.00 | |
| 8 | Theoretical (hour/week): | 3.00 | |
| 9 | Practice (hour/week): | 0.00 | |
| 10 | Laboratory (hour/week): | 0 | |
| 11 | Prerequisites: | None | |
| 12 | Language: | Turkish | |
| 13 | Mode of Delivery: | Face to face | |
| 14 | Course Coordinator: | Prof. Dr. Ümit Gücenme Gençoğlu | |
| 15 | Course Lecturers: | Doç. Dr. Değer ALPER | |
| 16 | Contact information of the Course Coordinator: | lale@uludag.edu.tr | |
| 17 | Website: | | |
| 18 | Objective of the Course: | To give the mathematical knowledge related to infrastructure in creating an effective financial policy in the enterprises and obtaining appropriate investment and financing decisions. | |
| 19 | Contribution of the Course to Professional Development: | | |
| 20 | Learning Outcomes: | | |
| | | 1 | To be able to make the cost calculations of borrowing transactions effectively. |
| | | 2 | Understand the alternative ways of payment and their costs related to the lending and borrowing transactions in the enterprises. |
| | | 3 | Understand the types of stocks and bonds and the valuation methods and to be able to use them in investment decisions. |
| | | 4 | To be able to determine the value of investments during the issue of fixed asset investment decisions and choose from the alternatives. |
| | | 5 | To be able to make mathematical analysis related to personal financial decision making. |
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| 21 | Course Content: | | |
| | | Course Content: | |
| Week | Theoretical | Practice | |
| 1 | Time Value of Money, Definition and Types of Interest | | |

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| 2 | Simple Interest: Internal and External Interest | |
| 3 | Simple Discount: Internal and External Discount Calculation and Equivalent Bonds | |
| 4 | Compound Interest: Nominal and Effective Interest Rates | |
| 5 | Compound Discount: Discount Calculation and Equivalent Bonds | |
| 6 | Practice Related to Money and Capital Markets Instruments: -Treasury Bill -Commercial Paper -Repo Valuation | |
| 7 | Payments (Annuity) and Types of Payments: Equally Consistent, Changing Consistent and Deferred Payments | |
| 8 | Case Study | |
| 9 | Payments (Annuity) and Types of Payments: Expedite, Constinuous, Constinuous and Deferred, Constinuous and Expedite Payments. | |
| 10 | Debt Payments | |
| 11 | Debt Payments | |
| 12 | Bond Valuation | |
| 13 | Stock Valuation | |

| Activites | | Number | Duration (hour) | Total Work Load (hour) |
|--|--------|--------|-----------------|------------------------|
| Theoretical Materials: | 2 | 14 | 3.00 | 42.00 |
| Practicals/Labs | | 0 | 0.00 | 0.00 |
| Self study and preperation | | 14 | 4.00 | 56.00 |
| Homeworks | | 0 | 0.00 | 0.00 |
| TERM LEARNING ACTIVITIES | NUMBER | WEIGHT | | |
| Projects | 0 | 0.00 | 0.00 | 0.00 |
| Field Studies | | 0 | 0.00 | 0.00 |
| Midterm exams | 0 | 1 | 26.00 | 26.00 |
| Quiz | | 0 | 0.00 | 0.00 |
| Others | | 0 | 0.00 | 0.00 |
| Final Exams | 1 | 1 | 26.00 | 26.00 |
| Final Exam | | 1 | 60.00 | 60.00 |
| Total Work Load | | | | 176.00 |
| Total work load/ 30 hr | | | | 5.00 |
| Contribution of Term (Year) Learning Activities to ECTS Credit of the Course | | 40.00 | | 5.00 |
| Contribution of Final Exam to Success Grade | | 60.00 | | |
| Total | | 100.00 | | |
| Measurement and Evaluation Techniques Used in the Course | | | | |

24 ECTS / WORK LOAD TABLE

| 25 | CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS | | | | | | | | | | | | | | | |
|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| | PQ1 | PQ2 | PQ3 | PQ4 | PQ5 | PQ6 | PQ7 | PQ8 | PQ9 | PQ10 | PQ11 | PQ12 | PQ13 | PQ14 | PQ15 | PQ16 |
| ÖK1 | 0 | 0 | 3 | 3 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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| ÖK2 | 0 | 3 | 3 | 3 | 0 | 0 | 4 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK3 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK4 | 0 | 0 | 3 | 3 | 0 | 4 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LO: Learning Objectives PQ: Program Qualifications | | | | | | | | | | | | | | | | |
| Contribution Level: | 1 very low | | | 2 low | | | 3 Medium | | | 4 High | | | 5 Very High | | | |