

Content

| Course Code | Course Name | Semester | Theory | Practice | Lab | Credit | ECTS |
|-------------|-----------------------------------|----------|--------|----------|-----|--------|------|
| EC 563 | Blockchain and Virtual Currencies | 1 | 3 | 0 | 0 | 3 | 6 |

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| Prerequisites | |
| Admission Requirements | |

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| Language of Instruction | Turkish |
| Course Type | Elective |
| Course Level | Masters Degree |
| Objective | This course introduces students to blockchain and virtual currency technologies. Students will explore the fundamental principles, mechanisms of operation, and potential applications of these technologies. |
| Content | <p>Course Content</p> <ul style="list-style-type: none">• How does Bitcoin work?• What makes it different?• How secure are Bitcoins?• How anonymous are Bitcoin users?• What applications can we build using Bitcoin as a platform?• Can cryptocurrencies be regulated?• If we designed a new cryptocurrency today, what would we change? |
| References | <ul style="list-style-type: none">• https://bitcoinbook.cs.princeton.edu• Supplementary materials provided during the course |

Theory Topics

| Week | Weekly Contents |
|------|----------------------------------|
| 1 | Introduction to cryptocurrencies |
| 2 | Decentralization |
| 3 | Mechanism of bitcoin |
| 4 | Storage and usage |
| 5 | Mining |
| 6 | Anonymity |
| 7 | Alternative mining puzzles |
| 8 | MT exam |
| 9 | Altcoins as Platforms |
| 10 | Altcoins |
| 11 | The future of bitcoin |
| 12 | DAOs |
| 13 | History of digital currencies |
| 14 | Applications |