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| Title of course | Finance and Economics of Digital Markets |
| Responsible instructor | Prof Diego d'Andria, PhD |
| Learning objectives | <ul style="list-style-type: none"> ▪ Learn about the digital ecosystem and the different types of digital services ▪ Be introduced to the key technologies enabling the digital economy, such as communication protocols, networks and cryptography ▪ Acquire a microeconomic framework to analyse digital services. In particular, learn how to model network effects, zero-marginal-cost goods, privacy preferences, multi-sided markets ▪ Learn how intellectual property is used to protect the revenues generated by digital innovations, and about free and open-source licences ▪ Learn how digital assets are valued and treated under accounting principles ▪ Learn about the economic effects of digital innovation on labour and job markets ▪ Develop a taxonomy of digital business models and learn how to apply it to relevant markets and leading companies ▪ Learn about blockchain technologies and their applications. In particular: cryptocurrencies and non-fungible tokens ▪ Learn about specific aspects of market competition for digital products and services ▪ Learn about financial and tax-related aspects of the digital economy, in particular about new ways to finance investment (e.g. via crowdfunding) and “Web tax” policy proposals from around the world ▪ Learn about price discrimination techniques that are unique to ICT services, like geoblocking and software versioning |
| Course contents | <ol style="list-style-type: none"> 1. Digital services and the digital ecosystem 2. Technologies for the digital economy <ol style="list-style-type: none"> a. Communication and network protocols b. Encryption c. Cloud computing d. Content delivery networks 3. Microeconomic foundations <ol style="list-style-type: none"> a. Consumer utility and digital services b. Network externalities c. Preferences for privacy d. Free access and zero-marginal-cost goods e. Multi-sided markets 4. Accounting and valuation of digital assets 5. Intellectual property rights and digital services <ol style="list-style-type: none"> a. Patents and copyrights for software, data and ICT goods b. Open-source, copyleft and free licences 6. Blockchain technologies <ol style="list-style-type: none"> a. Cryptocurrencies b. Non-Fungible Tokens (NFT) 7. Digital finance: crowdfunding 8. Cost and revenue structure in digital services <ol style="list-style-type: none"> a. On-demand media content streamers b. Massive multiplayer online games c. Social networks d. Marketplaces and Platforms e. Operating systems and hardware developers |

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| | <p>9. Competition in the digital economy</p> <ul style="list-style-type: none"> a. Price differentiation via geoblocking and versioning b. Evolutionary competition and “Digital Darwinism” <p>10. Digital services and the labour market</p> <p>11. The taxation of the digital economy</p> |
| Teaching methods | <ul style="list-style-type: none"> ▪ Lectures ▪ In-class discussion ▪ Case studies ▪ Presentations of assigned papers delivered by the students ▪ Self-study |
| Prerequisites | There are no formal requirements. Previous knowledge of basic microeconomic principles and methods is advised, though it is not strictly needed. |
| Suggested reading | <ul style="list-style-type: none"> ▪ Øverby H., and Audestad J.A. (2018), <i>Digital Economics</i>. ▪ Handouts and further references will be given during the classes. |
| Applicability | <p>This course is in particular applicable to the following Master programmes: International Business and Economics (M.A.; “IBE”), Finance (M.Sc.).</p> <p>This course is also applicable to other business-oriented Master programmes offered by Schmalkalden University of Applied Sciences.</p> |
| Workload | <p>Total workload: 180 hours, of them:</p> <ul style="list-style-type: none"> ▪ Lecture: 45 ▪ Self-study: 135, of them: <ul style="list-style-type: none"> ▪ Course preparation (in particular reading): 45 ▪ Follow-up: 45 ▪ Readings and exam preparation (including mid-term): 45 |
| ECTS credit points and weighting factor | 6 ECTS credit points; weighting factor: 6/120 (IBE) or 6/90 (Finance), respectively |
| Basis of student evaluation | <ul style="list-style-type: none"> ▪ Comprehensive written examination, 90 minutes (70%) ▪ In-class presentation and discussion (30%) |
| Time | First academic year |
| Frequency | Each academic year |
| Duration | One semester |
| Course type | Elective course |
| Remarks | Teaching language is English. |