

| OIPEC COILabs Curriculum | | | |
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| Module | Sub module | Learning Outcome | ECTS |
| Module A | Tools for idea development and prototyping | | |
| Additive Manufacturing | A1 Basic principles of additive manufacturing technologies (AMT) | A1.1 Definition and history of AMT | 0.5 |
| | | A1.2 Analysis of the product drawing (detail), the possibility of achieving the quality requirements of parts, assessment of subsequent machining. | 0.5 |
| | | A1.3 Introduction to 3D scanning | 1 |
| | A2 Developing the control setup additive manufacturing | A2.1. The programming modes, the trajectory of motion, the linkage of trajectories of coordinate system CNC setup additive manufacturing | 0.5 |
| | | A2.2. The split three-dimensional geometric model of the digital parts section | 0.5 |
| | | A2.3. Conducting a virtual simulation of product manufacturing | 1 |
| | A3 Development of individual technological processes and new business opportunities of AMT | A3.1 Designing a single technological process of manufacturing test equipment (experimental batch) according to standard | 2 |
| | | A3.2 Development of I modes of technological operations of manufacture of the product and design documentation | 2 |
| | | A3.3 Business model for AMT | 2 |
| | | | Total ECTS |
| Module B | Inventive Design and Design Creativity | | |
| Technology Forecasting | B1 Basic principles of Technology Forecasting (TF) | B1.1 Introduction to Forecasting methods and Technology Forecasting | 0.5 |
| | | B1.2 Contemporary Methods of technology forecasting | 0.5 |
| | | B1.3 Forecasting – its Application, advantages and limitations, case studies | 1 |
| | B2 Practice on techniques for support Technology Forecasting process | B2.1 The use of forecasting methods in practice and B2.1 B2.1 FORMAT methodology (Managerial part and research part). | 3 |
| | | B2.2 Researching Future methodology | 1 |
| | | Total ECTS | 6 |

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| Innovative Design Methods | B3 Design creativity and innovation | B3.1 Introduction to design creativity and innovation | 0.5 |
| | | B3.2 Design Models | 0.5 |
| | B4 Design methods and techniques | B4.1 Introduction to design thinking. | 0.5 |
| | | B4.2 Exemplary design methods and tools | 2 |
| | B5 TRIZ based ideation and problem solving | B5.1 Introduction to the basic concepts of TRIZ | 0.5 |
| | | B5.2 TRIZ Methods for problem analysis | 1 |
| | | B5.3 Resources and analytical methods | 0.5 |
| | | B5.4 Conflict resolution theory | 0.5 |
| | | B5.5 Substance-field analysis | 0.5 |
| | | B5.6 ARIZ algorithm | 0.5 |
| | B6 Patent Analysis | B6.1 Patent around technology separate | 2 |
| | | Total ECTS | 9 |
| Module C | Open Innovation and U-E collaboration | | |
| Innovation and entrepreneurship | C1 Basic knowledge of applied innovation | C1.1 Introduction of opportunity identification and creation | 1 |
| | | C1.2 Approaches and models of innovation opportunities identification | 1.5 |
| | | C1.3 Product service system design | 1.5 |
| | C2 Entrepreneurship management | C2.1 Business modelling | 3 |
| | Total ECTS | 7 | |
| Innovation engineering | C3 Basic contents of innovation process | C3.1 Technology innovation process and application | 1 |
| | C4 Innovation Management | C4.1 User experience integration for OI and sociological approach for UX | 1.5 |
| | Total ECTS | 2.5 | |
| Open Innovation management | C5 Crowdsourcing for OI management | C5.1 General overview of crowdsourcing. | 1.5 |
| | | C5.2 Derived values and contributions from the crowd. | 1 |
| | | C5.3 Managing the crowds - cost/revenue structures, coefficients | 0.5 |
| | | C5.4 Practical teaching on implementing crowd-based business models based on case studies | 0.5 |

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| | C6 Management of customer co-creation: tools and methods | C6.1 Basic definitions of collaborative design, participatory design and co-creation with customers and clients. | 0.5 |
| | | C6.2 Setting up the collaboration | 0.5 |
| | C7 Management of collaborative innovation development with external partners: | C7.1 Knowing the external stakeholders | 0.5 |
| | | C7.2 Understanding the motivation of the external partners | 0.5 |
| | | Total ECTS | 5.5 |
| Total ETCS | | | 40 |