| AREAS | TITLE OF MODULE/LECTURE | HOURS |
|---|---|---|
| **Vision** | What is a smart community? | 4 |
| **Vision** | The governance dimension in smart solutions | 4 |
| **Vision** | Socio-economic trends and the EU large programs | 8 |
| **Vision** | Socio-economic trends and the South American context | 8 |
| **Vision** | Regional Systems of Innovation | 8 |
| **Vision** | Foundations and Frontiers of BioRobotics | 4 |
| **Vision** | Foundations and Frontiers of Neuro-robotics | 4 |
| **Vision** | Mechatronics | 4 |
| **Vision** | Biomechatronics | 4 |
| **Vision** | Micro-robotics | 4 |
| **Vision** | Neuro-developmental Bioengineering | 4 |
| **Vision** | Rehabilitation Robotics I | 4 |
| **Vision** | Rehabilitation Robotics II | 4 |
| **Vision** | Creative Engineering Design | 4 |
| **Vision** | Strategic planning and Governance of Research Policies | 4 |
| **Vision** | Communication networks, systems and technologies | 10 |
| **Vision** | Real-time systems | 10 |
| **Vision** | Trends in Perceptual robotics | 10 |

| AREAS | TITLE OF MODULE/LECTURE | HOURS |
|---|---|---|
| **Context** | The specificities of the Health Care sector: actors, market dynamics, regulatory issues, the economics, socio-economic trends | 16 |
| **Context** | The specificities of the Energy sector: actors, market dynamics, regulatory issues, the economics, socio-economic trends | 16 |
| **Context** | RoboLaw and RoboEthics | 4 |
| **Context** | Digital divide: market vs regulations | 4 |

| AREAS | TITLE OF MODULE/LECTURE | HOURS |
|---|---|---|
| **Technology (Networks)** | Networks for telecom and industrial applications | 8 |
| **Technology (Networks)** | Real-time networks | 4 |
| **Technology (Networks)** | Smart grid and sustainable mobility | 4 |
| **Technology (Networks)** | Resource virtualization for Data Center and Cloud Computing | 4 |
| **Technology (Networks)** | Energy efficiency in networks | 8 |
| **Technology (Networks)** | Interconnection networks | 4 |
| **Technology (Networks)** | Connected Car e Internet of Things | 4 |
| **Technology (Networks)** | Big Data | 4 |
| **Technology (Software devices)** | Real-time systems for medical applications | 4 |
| **Technology (Tools & Simulation)** | 3D Printing | 4 |
| **Technology (Tools & Simulation)** | Introduction to programming | 12 |
| **Technology (Tools & Simulation)** | Software Defined Networks | 4 |
| **Technology (Tools & Simulation)** | Wireless sensor networks | 8 |
| **Technology (Systems)** | Digital/Microwave Photonics | 4 |
| **Technology (Hardware devices)** | Integrated Photonics | 4 |
| **Technology (System)** | Robotics for rehabiliatation | 4 |
| **Technology (Software devices)** | Networked Virtual environments | 4 |
| **Technology (Hardware devices)** | Optical fiber sensors | 4 |
| **Technology (Hardware devices)** | Energy and environment Security | 8 |
| **Technology (Networks)** | Mobile Networking and Terminals | 8 |

| AREAS | TITLE OF MODULE/LECTURE | HOURS |
|---|---|---|
| **Technology (Systems)** | **Optical access networks** | **4** |
| **Technology (Methods)** | **Digital Identity** | **2** |
| **Technology (Methods)** | **Trust** | **2** |
| **Technology (Methods)** | Energy Issues in Biorobotics and Relevant Examples | 4 |
| **Technology (Methods)** | Sustainability in Product Engineering | 4 |
| **Technology (Methods)** | Selected topics of signal processing | 8 |
| **Technology (Methods)** | Introduzione a Smart Home | 4 |
| **Technology (Methods)** | Artificial Vision | 4 |
| **Technology (Methods)** | Mechanism design | 4 |
| **Technology (Tools and Solutions)** | Human-Machine Interfaces I | 4 |
| **Technology (Tools and Solutions)** | Human-Machine Interfaces II | 4 |
| **Technology (Tools and Solutions)** | Human-Machine Interfaces III | 4 |
| **Technology (Tools and Solutions)** | Fundamentals of Sensors and Actuators | 8 |
| **Technology (Tools and Solutions)** | Innovative actuators | 8 |
| **Technology (Tools and Solutions)** | Vision Systems for Biomedical Applications | 4 |
| **Technology (Tools and Solutions)** | Electrical Control Systems for Biomedical Robots | 8 |
| **Technology (Tools and Solutions)** | Rapid Prototyping of Measurement, Control and Automation Systems I | 4 |
| **Technology (Tools and Solutions)** | Rapid Prototyping of Measurement, Control and Automation Systems II | 4 |
| **Technology (Tools and Solutions)** | Ambient Assisted Living Technologies | 4 |

| AREAS | TITLE OF MODULE/LECTURE | HOURS |
|---|---|---|
| **Management (methods, tools, skills)** | Open Innovation and Technology Management | 16 |
| **Management (methods, tools, skills)** | Investment Strategies (Selection among different projects; Bibliometric and patent analyses for the prediction of technological trajectories; Beyond the financial assessment: the multi-criteria evalutation; etc.) | 16 |
| **Management (methods, tools, skills)** | Demand/Market Analysis (how to structure a demand/market analysis; Segmentation techniques; evaluation of segment potential; public and private sources of information; etc.) | 16 |
| **Management (methods, tools, skills)** | Consumer Behaviour (Determinants of the consumer behaviour and their evolution overtime; old and new values; the myth of the rationality of the consumer; the growing attention to sustainable production and consumption; differences among age classes; the influence of the media; etc.) | 16 |
| **Management (methods, tools, skills)** | Project Management | 16 |
| **Management (methods, tools, skills)** | Non conventional marketing (new languages; new media; new communication strategies; opportunities and threats; the integration with "conventional marketing"; etc.) | 24 |
| **Management (methods, tools, skills)** | Finance and Control | 24 |
| **Management (methods, tools, skills)** | Business Model Innovation in services (how to put everything together with a business game) | 16 |
| **Management (methods, tools, skills)** | Business model canvas di Ostervalder | 4 |
| **Management (EU funding of Research and Technological Development)** | 25-y experiences of collaborative RTD EU Projects | 4 |
| **Management (EU funding of Research and Technological Development)** | Budgeting of RTD EU Projects | 4 |
| **Management (EU funding of Research and Technological Development)** | Management of RTD EU Projects | 4 |

| AREAS | TITLE OF MODULE/LECTURE | HOURS |
|---|---|---|
| **Case-studies** | MEMS: how to turn out an idea into a high-yield business | *TBD* |
| **Case-studies** | ST microelectronics experiences in Automation and Robotics | *TBD* |
| **Case-studies** | ST microelectronics experiences in Energy Harvesting | *TBD* |
| **Case-studies** | Steering BioTech investments | *TBD* |
| **Case-studies** | NeuroTech startup experiences | *TBD* |
| **Case-studies** | Field sales engineering experiences | *TBD* |
| **Case-studies** | Cloud Robotics | *TBD* |
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**Case studies managed by the three Institutes and by TELECOM (below just some preliminary examples)**