

Empowering International Business for Ethics and Sustainability (6 ECTS credits)
Responsible: Natacha Silva; Luísa Lopes; Artur Gonçalves; E-mail: natachasilva@ipb.pt
Location: Bragança and Mirandela Campuses
Partners: Bragança Polytechnic University (Portugal), Silesian University in Opava (Czechia)
Calendar: Virtual component starting 05/02/2026, ending 12/03/2026. Physical component starting 23/03/2026 ending 27/03/2026
Level and field of studies: Bachelor and Master students from Management, International Business, Marketing, Circular Economy and Environmental Management.
Contents: This program is designed to provide students with a comprehensive understanding of ethical and sustainable business practices in an international context. It integrates both virtual and in-person learning experiences, allowing participants to engage with diverse perspectives and practical applications of sustainability and ethics in global business. Throughout the course, students will explore key topics such as Business Ethics, Corporate Social Responsibility (CSR), Circular Economy, and the integration of Sustainable Development Goals (SDGs) in business strategies. Additionally, presentation skills, multicultural teamwork dynamics and tools for online and remote collaborative work will be explored. By the end of this course, students will be able to: <ul style="list-style-type: none"> - Demonstrate a comprehensive understanding of ethical challenges in international business. - Analyse and apply circular economy principles and sustainability strategies based on the Sustainable Development Goals (SDGs). - Develop teamwork and leadership skills in an interdisciplinary and multicultural environment. - Enhance presentation and communication skills through interactive and collaborative learning experiences. - Work effectively in international teams to solve real-world business challenges. - Critically evaluate case studies and propose innovative solutions for ethical and sustainable business practices.

Internet of Things (6 ECTS credits)
Responsible: Luis Piardi; Paulo Leitão. E-mail: piardi@ipb.pt ; pleitao@ipb.pt
Location: Bragança
Partners: Bragança Polytechnic University (Portugal), University of Jaen (Spain), Technische Hochschule Mittelhessen (Germany), University of Zielona Gora (Poland)
Calendar: Virtual component starting 09/04/2026, ending 28/05/2026. Physical component starting 15/06/2026 ending 19/06/2026
Level and field of studies: Bachelor and Master students from Electrical Engineering, Computer Engineering, Telecommunications Engineering, and related areas.
Contents: This program is designed to provide students with a comprehensive understanding of digitalization and disruptive technologies based on Internet of Things (IoT). It integrates both virtual and in-person learning experiences, allowing participants to engage with diverse perspectives and practical applications in Internet of Things. Throughout the course, students will explore key topics such as Introduction to IoT, Devices and Protocols, LoRaWAN and Cloud platform, Artificial Intelligence (AI) for Signal Processing in IoT Data Analysis. Additionally, presentation skills, multicultural teamwork dynamics and tools for online and remote collaborative work will be explored. <p>By the end of this course, students will be able to:</p> <ul style="list-style-type: none"> - Demonstrate a comprehensive understanding of Internet of Things domain, with applications, protocols, and techniques and hands-on to the complete scope of an IoT solution. - Deploy and integrate key software tools (Node-RED, InfluxDB, Grafana) using containerization technology (Docker). - Construct data pipelines to collect, store, and visualize IoT data on cloud and local platforms. - Apply basic AI for processing and analyzing IoT data signals. - Develop teamwork and leadership skills in an interdisciplinary and multicultural environment. - Enhance presentation and communication skills through interactive and collaborative learning experiences. - Work effectively in international teams to solve real-world technological applications. - Critically evaluate case studies and propose innovative solutions for real-world problems based on IoT solutions.

Emotional Education (6 ECTS credits)
Responsible: Maria Augusta Romão da Veiga Branco; Bárbara Barroso; Paula Monte; E-mail: aubra@ipb.pt
Location: Bragança Campus
Partners: Bragança Polytechnic University (Portugal), Institut Regional de Formation Sanitaire et Sociale Limousin - Croix-Rouge Française (France), Wroclaw Medical University (Poland), Silesian University in Opava (Czech Republic), Universidad de Almería (Spain), Universidad La Laguna (Spain).
Calendar: Virtual component starting 09/03/2026, ending 19/05/2026. Physical component starting 11/05/2026, ending 15/05/2026.
Level and field of studies: Bachelor and Master and PhD students in any area: Emotional Education is training that cuts across all scientific areas. The selection of students considers preferably: Human Resources working in Health Therapies, Educational Sciences, Health Sciences, Social Sciences, Political Sciences or International Studies, Economics and Management, Engineering, IT, Mathematics, Astronomy, Marketing, Arts and Design, Digital Game Design, Public Management and Administration, Information and Communication Technology, Journalism and Communication, Marketing, Multimedia, Legal Services, Tourism.
Contents: Emotional Intelligence (IE), Emotional Competence (EC), Emotional Education (EE): Concepts and neuro-differentiation. Functional and metabolic concepts from the perspective of Neuroscience: 1. Emotion 1.1. neuro-differentiation about neurochemical differences, survival purposes, direction and potential energy and grammars on the face and body expressions. 1.2. - Functions and Effects of Cognitive and Behavioral Processes. 2. Emotion and Feeling: neuro-differentiation. 3. The Microbiota-Gut-Brain Axis; Gut feelings: associations of emotions and emotion regulation with the gut microbiome. EE for EC - Health Promotion/ EC Dimensions. Management of emotional states of the body vs Emotional Regulation. Be emotionally competent as Educator, Manager, Entrepreneur. EE Laboratories I, II: Immersive Emotion Management Strategies: Emotional management through body expression: dance/music therapy, sociocultural guided physical activity and interaction in art reflection. Virtual Lab: Immersive experiences in virtual reality under technical and scientific guidance.

Integrated Multimedia Project: Local Markets (6 ECTS credits)
Responsible: Ana Lúcia Pinto; Carlos Costa; E-mail: analucia.pinto@ipb.pt carlos.costa@ipb.pt
Location: Mirandela Campus
Partners: Bragança Polytechnic University (Portugal); University of La Laguna (Spain); Silesian University in Opava (Czechia); Universitatea Ștefan cel Mare Suceava (Romania), Universitatea Politehnica Timișoara (Romania); University of Silesia (Krzysztof Kieślowski Film School) Poland;
Calendar: Virtual component starting 23/02/2026, ending 24/04/2026. Physical component starting 27/04/2026 ending 01/05/2026
Level and field of studies: Arts and humanities Bachelor and master students
Contents: This BIP project operates within a co-creation framework, aiming to promote a profound understanding of the social and cultural geographies of communities by exploring their origins and engaging with specific contexts and identities. It adopts a holistic perspective on developing creative projects, animation, design, photography, cinema, drawing, architecture, digital media, and music. These initiatives are intricately connected to local markets and their cultural genesis, ensuring their relevance and authenticity. The work emphasizes active involvement in real-world research, focusing on cultural and ethnographic values. By mastering systemic methodologies within social contexts, the project seeks to explore the sensitive identity of markets and local communities across Europe. This approach connects historical roots to contemporary realities and future possibilities while strongly focusing on the present. Markets, historically the heart and soul of cities, act as generational hubs, preserving human identity and specificities. As places of social development, they serve to revitalize traditions and languages, reinforcing memory and identity in alignment with the principles of the European Project.

Materials Science and Engineering (6 ECTS credits)
Responsible: João Rocha; E-mail: jrocha@ipb.pt
Location: Bragança Campus
Partners: Bragança Polytechnic University (Portugal); Cracow University of Technology (Poland); Vilniaus Kolegija/Higher Education Institution (Lithuania); University West (Sweden)
Calendar: Virtual component starting 06/04/2026, ending 25/05/2026. Physical component starting 01/06/2026 ending 05/06/2026
Level and field of studies: Bachelor and Master students in Engineering and related areas
Contents: 1- Introduction to materials science and engineering. 2-. Crystal structure and crystal geometry; 3- Mechanical properties of metallic materials; 4- Electrical properties, optical properties and superconducting materials; 5- Metals and Metal Alloys; 6- Polymeric materials; 7- Magnetic materials; 8- Ceramic materials and composite materials; 9- Economic, social and environmental considerations in materials engineering

Building Information Modelling (BIM) (3 ECTS credits)
Responsible: António Jorge Ferreira Vaz; E-mail: jfv@ipb.pt
Location: Bragança
Partners: Bragança Polytechnic University (Portugal), Hochschule Bremen City University of Applied Sciences (Germany), Cracow University of Technology (Poland)
Calendar: Virtual component starting 25/03/2026, ending 13/05/2026. Physical component starting 08/06/2026 ending 12/06/2026
Level and field of studies: Bachelor and Master students in Architecture and Civil Engineering
Contents: Introduction to Information Modeling in Construction – BIM; ISO 19650 Standard; Federation of models; Data export using IFC; BIM purposes; BIM information management using Common Data Environment (CDE).

Cybersecurity (6 ECTS credits)
Responsible: Tiago Pedrosa; E-mail: riftman@ipb.pt
Location: Bragança
Partners: Bragança Polytechnic University (Portugal), Universidad de León (Spain), Bremen University of Applied Sciences (Germany)
Calendar: Virtual component starting 07/04/2026, ending 05/06/2026. Physical component starting 08/06/2026 ending 12/06/2026
Level and field of studies: Bachelor and Master students in Computer Science
Contents: Fundamentals of system and network security. Concepts of cryptography. Vulnerabilities and attacks. Industrial Cybersecurity. Mechanisms for control, containment, detection and prevention. Systems and networks hardening. Security audit and penetration testing.