BRAGANÇA POLYTECHNIC UNIVERSITY INSTITUTO POLITÉCNICO DE BRAGANÇA

BIP Blended Intensive Programmes
FOR TEACHERS and STAFF

Polytechnic Institute of Bragança (IPB, Portugal)
2025/2026 – 1st semester

Critical thinking in the age of generative artificial intelligence (3 ECTS credits)
Responsible: Cristina Mesquita; **E-mail:** cmmgp@ipb.pt
Location: Bragança Campus
Partners: Bragança Polytechnic University (Portugal), University "Aleksandër Moisiu" Durrës (Albania), Hochschule Bremen (Germany), University Marie & Louis Pasteur (France)
Calendar: Virtual component starting 29/09/2025, ending 10/10/2025. Physical component starting 13/10/2025, ending 17/10/2025.
Contents: 1. Introduction to Critical Thinking and Argumentation Logic. This module introduces the foundations of critical thinking and argumentation logic, emphasizing their relevance in academic and professional settings. Participants explore core concepts such as clarity, accuracy, precision, relevance, depth, breadth, logic, and fairness. Common logical fallacies and cognitive biases are analyzed. Through practical exercises, participants learn to identify fallacies in discourse and to construct well-structured, coherent arguments. 2. Basics of Artificial Intelligence – Concepts and Applications. This module provides an overview of Artificial Intelligence (AI), including its definition and historical development. It introduces key AI paradigms such as symbolic AI, machine learning, and neural networks. Participants examine real-world applications across various fields, including education, healthcare, public administration, and the arts. Demonstrations and hands-on experimentation with tools such as ChatGPT, image generators, others. The module also includes quizzes and case-based discussions to foster critical engagement with AI technologies. 3. Ethical and Social Challenges of AI. The third module focuses on the ethical and social implications of AI. Topics include algorithmic bias, fairness, transparency, and accountability in the design and use of AI systems. Participants explore issues of privacy and surveillance, and the challenges posed by generative AI in relation to authorship, misinformation, and deepfakes. International ethical guidelines and regulatory frameworks are discussed. The module is complemented by case studies, such as predictive policing, automated recruitment processes, and the integration of AI in education.

Job It Up! (3 ECTS credits)
Responsible: Diana Silva; **E-mail:** diana.silva@ipb.pt
Location: Bragança Campus
Partners: Bragança Polytechnic University (Portugal), University "Aleksandër Moisiu" Durrës (Albania)
Calendar: Virtual component starting 27/10/2025, ending 30/01/2026. Physical component starting 26/01/2026, ending 30/01/2026.
Contents: The Employability BIP covers topics such as self-awareness, soft skills development, active job search techniques, CV and motivation letter writing, interview preparation, and networking in an international context.

Knowledge Transfer Academy (3 ECTS credits)
Responsible: Gleidcy Rocha; **E-mail:** gleidcy@ipb.pt
Location: Bragança Campus
Partners: Bragança Polytechnic University (Portugal), Hochschule Bremen (Germany)
Calendar: Virtual component starting 27/10/2025, ending 23/01/2026. Physical component starting 26/01/2026, ending 30/01/2026.
Contents: 1. Fundamentals and Structure of Knowledge Transfer: Introduction to knowledge and technology transfer: key concepts, importance for universities and industries, global challenges and trends; Creative methodologies and collaborative work: creativity tools for technology valorization, co-creation, and project development; Intellectual property (IP) and innovation protection: types of IP (patents, trademarks, copyrights, trade secrets), protection processes, and their relevance to innovation. 2. Strategies for technology valorization and commercialization: Identifying technologies with market potential: evaluation criteria, technology scouting tools, Technology Readiness Level (TRL) analysis; Creating and managing an intellectual property portfolio: organizing and categorizing technological

assets, developing valorization strategies; Open innovation and university-industry collaboration open innovation models, collaboration challenges, success stories.
3. Application and impact of technology transfer: Negotiation and licensing agreements: types of contracts, key clauses, legal and financial aspects; Funding and incentives for technology transfer: public and private funding sources, grant programs, tax incentives; Tech entrepreneurship and academic spin-offs: business models, challenges in launching tech startups, case studies. Future trends and internationalization strategies: emerging technologies, globalization of IP, strategies for international expansion.