	Implementation schedule	Title of the lecture	Participation	Partner University	Lecturer	Learning outcomes
DAY 1	**12/01/2026** **10.00-13.00** **CET**	Introduction to Pharmaceutical industry, nature inspired pharma industry	Online	SETU	Mike Kinsella	✓ Learn about the pharmaceutical and biotechnology industry ✓ Become familiar with the terms and concepts of API, excipients, primary and secondary processing ✓ Learn about specific case studies of drugs isolated from nature, eg Taxol, Reserpine, aspirin, morphine and other drug discovery – dyes, penicillin, viagra
Description	*This online session introduces students to the pharmaceutical and biotechnology industry, highlighting how medicines are discovered, developed and manufactured. Participants will learn key terminology and concepts, including active pharmaceutical ingredients (APIs), excipients, and the roles of primary and secondary processing in drug production. The session also explores real-world case studies of drugs originally isolated from nature—such as Taxol, reserpine, aspirin and morphine—illustrating how natural products have shaped modern therapeutics. Additional examples, including dyes, penicillin and viagra, demonstrate the diverse pathways of drug discovery and innovation, giving students a broad understanding of how scientific ideas translate into successful medicines*					
DAY 2	**13/01/2026** **10.00-13.00** **CET**	Modern drug discovery, chirality and clinical trials	Online	SETU	Mike Kinsella	✓ Explore modern methods for new drug discovery ✓ Assess the potential impact chirality may have on drug performance ✓ Identify the main phases of clinical trials prior to new pharmaceuticals entering the market

Description	*This three-hour online session provides an engaging introduction to how modern pharmaceuticals are discovered and developed. Students will explore contemporary drug-discovery methods, including rational design, high-throughput screening and computational approaches used to identify promising therapeutic candidates. The session also examines the importance of chirality in drug action, demonstrating how different enantiomers can influence potency, safety and overall clinical performance. Finally, participants will learn to identify and describe the main phases of clinical trials, from early safety testing to large-scale efficacy studies, gaining a clear understanding of the regulatory pathway required before new medicines can reach the market*					
DAY 3	**14/01/2026** **12.00-15.00** **CET**	Antimicrobial activity of plant extracts	Online	FredU	Despina Charalambous	The students will: ✓ learn the basic principles of antimicrobial activity ✓ learn the methods of antimicrobial activity ✓ learn to analyze and interpretate experimental data
Description	*The antimicrobial activity in plant extracts will be assessed with several methods that can provide insights into their efficacy and potential applications in medicine. Appropriate methods such as Disc-diffusion assay, Minimum inhibitory and bactericidal concentration and time-kill assay will be described and utilized. Result data analysis will be performed for better understanding of the techniques.*					
DAY 4	**15/01/2026** **10.00-13.00** **CET**	Plant extracts as potential therapeutic agents. Antioxidant activity of natural products from medicinal plants.	Online	AUA	Eleni Kakouri	✓ Learn about the different families of secondary metabolites and their contribution to the discovery of new drugs ✓ Understand why it is important to estimate antioxidant activity as it can lead to the development of more effective treatments for diseases where oxidative stress is a factor. ✓ Interpret results by using popular antioxidant assays (DPPH, ABTS)

Description	*This online session introduces how plant-derived products—such as plant extracts, essential oils, and isolated natural compounds—contribute to the discovery and design of new therapeutic agents. Students will explore how scientists utilize the secondary metabolites produced by medicinal and aromatic plants as lead molecules in drug development.* *The session also examines the antioxidant activities of these secondary metabolites and explains their role in disease prevention. By neutralizing harmful free radicals, antioxidants help reduce oxidative stress, a key factor in cellular damage and the development of many chronic diseases. Through this session, students will gain a deeper understanding of the biological significance of natural products and their potential in modern medicine.*					
DAY 5	**16/01/2026** **10.00-13.00** **CET**	Case study of Curcumin, - extraction of curcumin from turmeric Extraction methods, purification methods, analysis methods	Online	SETU	Mike Kinsella	✓ Learn about different extraction methods available to extract curcumin from turmeric ✓ Discuss and explore literature examples of different extraction technologies applied to Curcumin ✓ Review data to show how a previously conducted lab experiment on the extraction of curcumin from turmeric worked ✓ Review different purification methods suited for this extraction
Description	*This online session will discuss a specific case study which focuses on an experiment we conducted in the laboratory in SETU focused on the extraction of curcumin from turmeric. We tried a number of different extraction methods and solvents. We will also look to the various methods which could be used for extraction, discuss the concept of synthesis of a drug compared to extraction and also will look at variety of extraction and purification methods which are available in the laboratory and will investigate how they work using online videos and resources to help.*					