

PANACEA Syllabus

Introduction

This syllabus is the roadmap for the course on placebo and nocebo phenomena. It outlines what students can expect and is designed to support academic instructors in delivering a structured and evidence-based course. The learning objectives of the course are divided over three main learning domains—Knowledge, Attitude and Skills, reflecting theoretical understanding, practical competencies and applying the knowledge and beliefs, thoughts, and feelings about placebo and nocebo phenomena.

The first eight modules provide the theoretical backbone of the course. These are accessible via the PANACEA educational webapp and cover key topics such as the historical development of placebo/nocebo concepts, underlying mechanisms, influencing factors, clinical applications, and ethical considerations.

The Skills and Attitude sections are designed to foster critical competencies in healthcare provider-patient communication, relationship, and professional reflection in clinical practice. These components are aligned with the PANACEA clinical recommendations on placebo and nocebo effects and are intended to be addressed through group-based activities and discussions. All supporting documents are available on the webapp (<https://eduonplacebo.unibo.it/>).

The web-based application incorporates comprehensive assessment mechanisms across all eight theoretical modules, employing a dual-format evaluation framework.

The assessment protocol encompasses formative evaluation through continuous testing instruments that present multiple-choice questions accompanied by immediate diagnostic feedback and detailed explanatory content to facilitate knowledge acquisition.

Additionally, summative assessment components provide comprehensive evaluation scores reflecting students' mastery of modular learning objectives.

These assessment instruments are designed to promote autonomous learning through self-evaluation practices and iterative knowledge reinforcement. Nevertheless, faculty implementing this curricular framework are strongly encouraged to adapt evaluation methodologies in accordance with their specific pedagogical objectives and institutional academic requirements.

TOPICS	LEARNING OBJECTIVES
Knowledge	After completing this course, participants will be able to:
1. Concepts and History	1.1. Describe the concepts of placebo and nocebo phenomena
	1.2. Understand the importance of placebo and nocebo phenomena from a historical perspective
2. Placebo/nocebo mechanisms	2.1. Explain how expectations relate to placebo/nocebo effects
	2.2. Explain how learning shapes placebo/nocebo effects
	2.3. Explain how emotions influence placebo and nocebo effects
	2.4. Describe the basic physiological processes associated with placebo/nocebo effects
3. Assessing placebo/nocebo effects and responses	3.1. Describe whether an observed health change in symptoms is a placebo/nocebo effect or placebo/nocebo response
	3.2. Describe how to assess the magnitude of observed placebo/nocebo <i>effect</i> or placebo/nocebo <i>response</i>
4. Placebo and nocebo in clinical trials and clinical practice	4.1. Describe how placebo is applied in clinical trials
	4.2. Describe the problems posed by nocebo effects in clinical trials

	4.3. Describe how placebo can be applied in clinical practice
5. Factors that influence placebo phenomena	5.1. Describe which factors (individual, psychological and contextual) have been shown to influence placebo phenomena and how
6. Factors that influence nocebo phenomena	6.1. Describe which factors (individual, psychological and contextual) have been shown to influence nocebo phenomena and how
7. Ethics and critical evaluation	7.1. Appraise the conditions needed for placebo interventions to be carried out ethically in clinical trials
	7.2. Appraise the conditions needed for placebo interventions to be carried out ethically in clinical practice
	7.3. Critically evaluate the use/efficacy of placebo interventions
8. Open-label placebo	8.1. Describe what open-label placebo is
	8.2. Evaluate the efficacy/feasibility of OLP across conditions
	8.3. Describe the mechanisms and factors that influence OLP
Skills	
9. Doctor-patient relationship	9.1. Establish a trusting and empathetic relationship with a patient both verbally and non-verbally

10. Communication skills	10.1. Ask about, listen to, and paraphrase a patient's perspective on the treatment
	10.2. Explain to a patient how placebo and nocebo work, what effects it can produce and their advantages/disadvantages
	10.3. Explain to a patient the risks and benefits of the treatment in a way that triggers placebo effects
	10.4. Explain to a patient the risks and side effects of a treatment in a way that minimizes nocebo effects
	10.5. Collaboratively engage with patients to assess their willingness and preferences for initiating an open label placebo treatment, when no alternatives are possible
Attitude	
11. Health view	11.1. Evaluate the importance of interactions between psychological, biological and social processes in health and the health care setting
12. Self-reflection	12.1 Reflect critically on one's own understanding of placebo/nocebo phenomena, psychosocial factors, and behavior in the clinic
	12.2. Reflect critically on one's own communication and relationship with patients/clients



	12.3. Reflect critically on one's expectations about patients, treatments, and diseases
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