

# Psilocybin Pharmacology, Neuroscience and Clinical Research

**Total Duration:** 4 hours

**Overview:** Upon completion of this module, facilitators will understand the pharmacology, neuroscience, and clinical research related to psilocybin. The module provides a deep dive into psilocybin's effects on the brain and body, equipping students with knowledge to facilitate safe, ethical, and effective psilocybin-assisted therapy. Facilitators will begin by exploring the pharmacodynamics and pharmacokinetics of psilocybin, including its mechanism of action at serotonin receptors, metabolism, and individual variability in response. A thorough examination of potential drug and supplement interactions will enable students to safely manage psilocybin administration alongside other medications clients may be taking.

Diving deeper into neuroscience, facilitators will gain insight into psilocybin's influence on brain connectivity, neuroplasticity, neural oscillations, and changes across neuron systems implicated in sensory, perceptual, and cognitive processes. This understanding of psilocybin's neuronal mechanisms provides a window into subjective psychedelic experiences and lasting therapeutic changes. Shifting to clinical domains, students will survey key areas of research investigating psilocybin as a treatment for conditions like depression, anxiety, PTSD, and addiction. They will recognize studies exploring microdosing, psilocybin combinations with psychotherapy, and comparisons to other psychedelics like LSD and MDMA. This overview contextualizes progress and future directions in harnessing psilocybin for healing. Finally, facilitators will compare predominant models of addiction and recovery, including neurobiological, psychological, social, and cultural frameworks. This integrative perspective provides context for emerging research on psilocybin-assisted therapy for substance use disorders.

## Topics:

1. Pharmacodynamics and pharmacokinetics of psilocybin  
**OAR:** 333-333-3060(4)(a)  
**Duration:** 45 minutes
2. Drug and supplement interaction  
**OAR:** 333-333-3060(4)(b)  
**Duration:** 45 minutes
3. The metabolism of psilocybin and psilocybin products including concentration of psilocybin and psilocin in available psilocybin products

**OAR:** 333-333-3060(4)(c)

**Duration:** 30 minutes

4. Primary effects and mechanisms of action of psilocybin on the brain, including connectivity in the brain and activation of serotonin receptors

**OAR:** 333-333-3060(4)(d)

**Duration:** 30 minutes

5. Key areas of psilocybin research

**OAR:** 333-333-3060(4)(e)

**Duration:** 15 minutes

6. Models of substance use, addiction, and recovery

**OAR:** 333-333-3060(4)(f)

**Duration:** 15 minutes