

Creative and Scientific Thinking

Prepared by Prof. Shereen Taie

CRE252

Information Technology Department

Orientation



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01

Course Outcome



- **Students gain a comprehensive skill set that seamlessly blends creative and scientific thinking.**
- **Preparing them for dynamic problem-solving in various professional contexts.**

02

Course Syllabus

1. Introduction to Creative and Scientific Thinking.
 - **Overview** of creativity and scientific reasoning.
 - **Historical perspectives** on the integration of creativity and science.
 - **Importance** of interdisciplinary thinking.
2. Foundations of Creative Thinking.
 - Creativity **models and theories**.
 - **Techniques** for idea generation and divergent thinking.
 - Creative problem-solving **frameworks**.
3. Fundamentals of Scientific Thinking
 - Scientific method and **empirical reasoning**.
 - **Critical thinking skills** in scientific inquiry.
 - Logic and rational **decision-making**.

02

Course Syllabus (Cont.)

4. Bridging Creativity and Science

- **Understanding the intersection** of creative and scientific processes.
- **Case studies** showcasing successful integration.
- **Group discussions** on potential synergies.

5. Application in Real-World Contexts

- **Practical applications in various fields** (e.g., technology, arts, healthcare).
- **Guest speakers** from interdisciplinary backgrounds.
- **Analysis of innovative projects** blending creativity and science.

03

Textbooks:

- "Creativity: Flow and the Psychology of Discovery and Invention“, by Mihaly Csikszentmihalyi.
- "The Demon-Haunted World: Science as a Candle in the Dark“, by Carl Sagan.

Thank You