Sustainable Engineering

SWAYAM Prabha Course Code – G7

PROFESSOR'S NAME	Prof. Yogendra Shastri
DEPARTMENT	Chemical Engineering
INSTITUTE	Indian Institute of Technology, Bombay
COURSE OUTLINE	Achieving sustainable development by balancing the long-term economic, environmental and societal objectives is one of the most complex scientific problems of our times. Engineering designs need to increasingly incorporate these aspects in decision making. However, translating the concepts of sustainability into decision making is not trivial. This topic goes beyond the traditional areas of process development, process design, and industrial ecology, and encompasses multi-scale phenomena and complex interactions of multiple disciplines. It becomes essential to take a holistic view and develop systems based solutions. It is also important to expose students to the various methods and tools that can be used for designing sustainable systems. These methods and tools are based on fundamental concepts in engineering such as mass and energy balance, thermodynamics, and probability and statistics. This course will aim to achieve this objective. The course is intended to teach students the fundamentals of sustainability as well as quantitative methods and tools that can be used for decision making (design) for sustainability.

COURSE DETAILS

S. No	Module ID/ Lecture ID	Lecture Title/Topic

1	L1	Introduction to Sustainable Engineering Principles
2	L2	Interpretation of Growth
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References if Any: