INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
भारतीय प्रौद्योगिकी संस्थान तिरुपति
Yerpedu-Venkatagiri Road, Yerpedu Post, Tirupati District, Andhra Pradesh - 517 619

1.	Title of the course	Generative Software Engineering
2.	Course number	CS541L
3.	Structure of credits (L-T-P-C)	3-0-0-3
4.	New course/modification to	New
5.	To be offered by	Computer Science and Engineering
6.	Prerequisite	CoT
7.	**Course Objective(s):** To explore and apply fundamental concepts and techniques towards automatic generation of software systems and tools.	
8.	**Course Content:** Current state of software engineering research and practice, Software comprehension: congruence of natural language and source code representations, Automation and generation: requirements mining, pattern and anti-pattern detection, code generation, user interface generation, refactoring, software bots, software maintenance and evolution, Human aspects of software engineering, Green and sustainable software engineering, Tools and environments.	
9.	**Textbook(s):** 1. Sadowski C and Zimmermann T, Rethinking Productivity in Software Engineering, Apress (2019).	
10.	**Reference(s):** 1. Winters T, Manshreck T, Wright H, Software Engineering at Google: Lessons Learned from Programming Over Time, O'Reilly (2020). 2. Farley D, Modern Software Engineering: Doing What Works to Build Better Software Faster, Addison-Wesley Professional (2021).	