MIT Academy of Engineering (An Autonomous Institute Affiliated to SPPU)	COURSE SYLLABI (2018 – 2022)	
SCHOOL OF COMPUTER ENGINEERING AND TECHNOLOGY	**W.E.F**	**AY:** 2019 - 2020
FINAL YEAR BACHELOR OF TECHNOLOGY INFORMATION TECHNOLOGY	**COURSE NAME**	Adv. Skill Development Lab
	COURSE CODE	CS402
	COURSE CREDITS	2
RELEASED DATE : 01/12/2018	**REVISION NO**	0.0

TEACHING SCHEME (HOURS/WEEK)		EXAMINATION SCHEME AND MARKS					
		THEORY			TUTORIAL/	PRESENTATION/	TOTAL
LECTURE	PRACTICAL	MSE	ESE	IA	PRACTICAL	DEMONSTRATION	
-	4	-	-	-		75	75

AIM: : To provide technical skills, for sharpening the students to enable them to meet the techno-socio-economic challenges.

COURSE OBJECTIVES :

CS402.CEO.1: To recognize the importance of and possess the skills necessary for life-long learning

CS402.CEO.2: To enhance the capacity to express programming concepts and choose among alternative ways to express things.

CS402.CEO.3: To improve the background for choosing appropriate programming languages for certain classes of programming problems.

CS402.CEO.4: To construct software solutions by evaluating alternate architectural patterns.

CS402.CEO.5: To apply integrated tool and techniques for building enterprise applications.

CS402.CEO.6: To implement application using IDLE tools.

COURSE OUTCOMES :

The students after completion of the course will be able to,

CS402.CO.1: practical knowledge within the chosen area of technology for project development.

CS402.CO.2: Identify, analyze, formulate and handle programming projects with a comprehensive and systematic approach.

CS402.CO.3: Contribute as an individual or in a team in development of technical projects.

CS402.CO.4: Incorporate best practices for building applications.

CS402.CO.5: Test and validate developed prototype against the original requirements of the problem.

CS402.CO.6: Express technical ideas, strategies and methodologies in written form.

UNIT 2 Guidelines for Laboratory Conduction	6 HOURS

The assignments to be framed by understanding the prerequisites, technological aspects, utility and recent trends related to the topic. All problem statements or the assignments are based on real world problems/applications. In addition to these, instructor can assign one real life application in the form of a mini project based on the concepts learned. Instructor may also set one assignment or mini-project that is suitable to respective branch beyond the scope of syllabus. Team of 3 to 4 students may work on mini-project. During the assessment, the expert evaluator should give the maximum weightage to the satisfactory implementation and software engineering approach followed .The supplementary and relevant questions may be asked at the time of evaluation to test the student's for advanced learning, understanding, effective and efficient implementation and demonstration skills.

UNIT 3	Python with Kali Linux	7 HOURS

Prerequisite: Python Programming Course Content Kali linux, Installation, python programming, socket concept, variables, list, dictionaries, packet sniffer, IP spoofing, passive and active attacks, network attacks Benefits: 1. Mini Project implementation 2. Placement Opportunities

Practical List		
Practical NO.01		**4 HOURS**
Write a socket program to scan host vulnerabilities.		
Practical NO.02		**4 HOURS**
Write a program to scan network for host active status.		
Practical NO.03		**4 HOURS**
Creating a UNIX Password Cracker with Python.		
Practical NO.04		**4 HOURS**
Writing a Zip File Password Cracker with Python.		
Practical NO.05		**4 HOURS**
Writing a Packet Sniffer for monitoring network traffic..		
Practical NO.06		**4 HOURS**
Writing a Python code for full host TCP Port Scanner.		
Practical NO.07		**4 HOURS**
Writing a Python code for Jamming a Wireless Network.		
Practical NO.08		**2 HOURS**
Writing a Python program for sending packets with unknown Source IP (IP Spoofing).		
Practical NO.09		**2 HOURS**
Writing a Python program for performing Man-in-the-Middle attack on Network for credential Harvesting.		

REFERENCE BOOK

1. TJ O'Connor," Violent Python: A Cookbook for Hackers, Forensic Analysts, Penetration Testers and Security Engineers", Syngress, 2012, ISBN 978-15974995761
2. Himanshu Sharma," Kali Linux - An Ethical Hacker's Cookbook", Packt Publishing Limited, 2017, ISBN 978- 1787121829
3. Raphael Hertzog, Mati Aharoni," Kali Linux Revealed: Mastering the Penetration Testing Distribution", Offsec Press, 2017, ISBN 978-0997615609