MIT Academy of Engineering (An autonomous Institute Affiliated to SPPU)	COURSE SYLLABI (2016 – 2020)	
SCHOOL OF COMPUTER ENGINEERING AND TECHNOLOGY	**W.E.F**	**AY:** 2018-19
FINAL YEAR BACHELOR OF TECHNOLOGY COMPUTER ENGINEERING	**COURSE NAME**	Advanced Software Skill Development Lab
	COURSE CODE	CS404
	COURSE CREDITS	2
RELEASED DATE : 01/06/2018	**REVISION NO**	1.0

TEACHING SCHEME		**EVALUATION SCHEME :**					
		THEORY				PRESENTATION/	TOTAL
LECTURE	PRACTICAL	ICE	ECE	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 :

CS404.CEO.1: To play role of Web developer.
CS404.CEO.2: To acquire the skills of Advanced Java.
CS404.CEO.3: To implement application using IDLE tools.

COURSE OUTCOMES :

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

CS404.CO1: Identify advance concepts of java programming Servlet and JSP.
CS404.CO2: Design and develop platform independent applications using a variety of component based frameworks
CS404.CO3: Able to implement the concepts of Hibernate EJB for building enterprise applications.

Guidelines for Laboratory Conduction

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.

Module	**Advanced JAVA**	**36 HOURS**

Prerequisite: CPP

Industry Expert: Mr. TusharKute

Course Instructor: Mr. TusharKute

Course Content

Basics of Servlets: ServletRequest, Servlet Collaboration, ServletConfig, ServletContext, Attribute, Session Tracking, Event and Listener, Filter, ServletInputStream and ServletOutputStream, Annotation Servlet

Basics of JSP: Scripting elements, Implicit Objects, Directive Elements, Exception Handling, Action Elements, Expression Language, MVC in JSP, JSTL, Custom tags, JavaMail API,

Java Server Faces2.0 Introduction to JSF, JSF request processing Life cycle, JSF Expression Language, JSF Standard Component, JSF Facelets Tag, JSF Convertor Tag, JSF Validation Tag, JSF Event Handling and Database Access, JSF Libraries: PrimeFaces

Basics of Struts2: Core Components, Struts 2 Architecture, Struts2 Action, Struts2 Configuration, Interceptors, Struts 2 Validation, Hibernate with Struts2, Spring with Struts2

Introduction to JavaEE : Introduction to EJB3, Developing Session Beans, Using Dependency Injection, JMS, Message Driven Beans, Persistence Introduction to JPA

Benefits:

1. Placement Opportunities.
2. Project

PRACTICAL List		
Practical No.01		**4 HOURS**
Write a program using Servlet to display Visitor Count.		
Practical No.02		**4 HOURS**
Write a program for authentication, which validate the login-id and password by the servlet code.		
Practical No.03		**4 HOURS**
Write a program to read data send by the client (HTML page) using servlet.		
Practical No.04		**4 HOURS**
Write a program to read data send by a client (HTML page) using JSP		
Practical No.05		**4 HOURS**
Create an Enterprise application using Session Bean (Stateless) which convert the amount from Dollar to Rupees.		
Practical No.06		**4 HOURS**
Write a Entity bean to find a student record in student data base using primary key property.		
Practical No.07		**4 HOURS**
Write program to demonstrate Java Server Faces		
Practical No.08		**4 HOURS**
Write program to demonstrate Java Server Faces – event handling		
Practical No.09		**4 HOURS**
Write program to demonstrate EJB2		
Practical No.10		**4 HOURS**
Write program to demonstrate Struts2 and Spring		
Practical No.11		**4 HOURS**
Write a program to query record based on primary key using Hibernate.		
Practical No.12		**4 HOURS**
Write a program using Hibernate to develop classes and Hibernate configuration to persist an EventManager application. The classes in EventManager are		
Mini Project :		**8 HOURS**
Note: Mini Project Group of 2-3 students		

REFERENCES

1. Kogent Learning Solutions,"JAVA Server Programming JAVA EE7",DreamTech paperback edition 2014, ISBN: 978-1-118-16430-3.
2. Hans Bergsten, "Java Server Pages", Oreilly, 2012, ISBN: 978-1565927469.
3. Kahy Sierra, Bert Bates, "Head First EJB", Oreilly, Paperback 2017, ISBN : 978-8173665264