

FACULTY OF ENGINEERING
Scheme of Instructions
For
Four Year Degree Programme of Bachelor of Engineering (B.E)
in
Computer Science and Engineering
Artificial Intelligence and Machine Learning

(With effect from the academic year 2023-24)
(Approved by College Academic Council on -- -- ----)

Empower Women – Impact the World



Stanley College of Engineering and Technology for Women (Autonomous)
(Affiliated to Osmania University)
(Accredited by NAAC with “A” Grade)
Abids, Hyderabad – 500 001, Telangana.

**B. E . 4 Year (8 semesters) Regular Programme in
Artificial Intelligence and Machine Learning
Course Structure
(Applicable for the Batch admitted from the Academic Year 2023-24)**

Semester I										
S. NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SBS101MT	Mathematics-I	4			4	40	60	3	4
2	SES103EE	Foundation of Electrical Electronics Engineering	4			4	40	60	3	4
3	SBS902PH	Applied Physics	4			4	40	60	3	4
4	SES101AI	Programming for Problem Solving	3			3	40	60	3	3
Practical/Laboratory Courses										
5	SHS911EG	English Lab			2	2	40	60	3	1
6	SES113EE	Foundation of Electrical Electronics Engineering Lab			2	2	40	60	3	1
7	SBS912PH	Applied Physics Lab			2	2	40	60	3	1
8	SES111AI	Programming for Problem Solving Lab			4	4	40	60	3	2
9	SES914ME	Engineering Workshop			4	4	40	60	3	2
10	SHS916AI	Design Thinking			2	2	40	60	3	1
			15		16	31	400	600	30	23

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Semester II

S. NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SBS202 MT	Mathematics-II	4			4	40	60	3	4
2	SES201AI	Data Structure	4			4	40	60	3	4
3	SBS904CH	Applied chemistry	4			4	40	60	3	4
4	SHS901EG	English	2	-		2	40	60	3	2
5	SHS902EG	Universal Human Values	2			2	40	60	3	2
Practical/Laboratory Courses										
6	SES211AI	Data Structures Lab			2	2	40	60	3	1
7	SBS914CH	Chemistry Lab			2	2	40	60	3	1
8	SES915ME	Engineering Graphics			4	4	40	60	3	2
9	SPW211AI	IDEA Lab			2	2	40	60	3	1
			16		10	26	360	540	27	21

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Semester III

S. NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SPC301AI	Discrete Mathematics & Graph Theory	3			3	40	60	3	3
2	SPC302AI	OOPS using Java	3			3	40	60	3	3
3	SPC303AI	Database Management Systems	3			3	40	60	3	3
4	ES301EC	Digital Electronics	3	-		3	40	60	3	3
5	SBS301MT	Mathematics-III	3	1		4	40	60	3	4
6	SAU903CH	Environmental Science	2			2	50		2	0
Practical/Laboratory Courses										
7	SPC311AI	OOPS using Java Lab			2	2	40	60	3	1
8	SPC312AI	Database Management Systems Lab			2	2	40	60	3	1
9	SHS912EG	Advanced Communication Skills lab			2	2	40	60	2	1
10	SPC313AI	IT Work Shop			2	2	40	60	3	1
			17	1	8	26	410	540	28	20

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Semester IV

S. NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SPC401AI	Computer Organization	3			3	40	60	3	3
2	SHS901BM	Managerial Economics and Financial Accounting	4			4	40	60	3	4
3	SPC402AI	Operating Systems	3			3	40	60	3	3
4	SPC403AI	Data and Visual analytics	3	-		3	40	60	3	3
5	SPC404AI	Automata Theory and Compiler Design	3	1		4	40	60	3	4
6	SMC901HS	Indian Constitution	2			2	40	60	2	0
Practical/Laboratory Courses										
7	SPC411AI	OS Lab			2	2	40	60	3	1
8	SES412 AI	AT & CD Lab			2	2	40	60	3	1
9	SPC413AI	Data and Visual analytics using Python		1	2	2	40	60	3	2
10		Internship-1	(to be evaluated in 5 th semester. To be carried out in summer after 4 th semester))							
			18	1	6	25	360	540	26	21

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Semester V

S.NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SPC501IAI	Artificial Intelligence	3			3	40	60	3	3
2	SPC502IT	Design and Analysis of Algorithms	3			3	40	60	3	3
3	SPC503IT	Computer Networks	3			3	40	60	3	3
4	SPC504IT	Software Engineering	3	-		3	40	60	3	3
5	PE-1	Professional Elective -1	3			3	40	60	3	3
Practical/Laboratory Courses										
6	SPC511IT	AI Lab			2	2	40	60	3	1
7	SPC 512IT	CN & Software Engineering Lab			2	2	40	60	3	1
8	SPC513IT	Web and Internet Technologies Lab		2	2	4	40	60	3	3
9	SPW501IT	Internship -1 (to be evaluated in 5 th semester. To be carried out in summer after 4 th semester))					50	-	3	1
			15	2	6	23	370	480	27	21

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Semester VI

S. NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits	
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits	
Theory Courses											
1	SPC601AI	Machine Learning	3			3	40	60	3	3	
2	SPC602AI	Cloud Computing	3			3	40	60	3	3	
3	SPC603AI	Natural Language Processing	3			3	40	60	3	3	
4	SPC604AI	Image & Video Processing	3	-		3	40	60	3	3	
5	PE-2	Professional Elective – 2	3			3	40	60	3	3	
Practical/Laboratory Courses											
6	SPC611AI	Machine Learning Lab			2	2	40	60	3	1	
7	SPC612AI	Data Processing Lab			4	4	40	60	3	2	
8	SPC613AI	Cloud computing Lab			2	2	40	60	3	1	
9	SPW611AI	Mini Project			4	4	40	60	3	2	
10		Internship-2	The students have to undergo a Internship-2 of 6 week duration after VI-Semester SEE								
			15		12	27	360	540	27	21	

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Semester VII

S.NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits	
			L	T	D/ P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits	
Theory Courses											
1	SPC701AI	Deep Learning	3	1		4	40	60	3	4	
2	SPC702AI	Optimization Techniques	3			3	40	60	3	3	
3	PE-3	Professional Elective – 3	3			3	40	60	3	3	
4	PE-4	Professional Elective – 4	3	-		3	40	60	3	3	
5	OE-2	Open Elective-1	3			3	40	60	3	3	
Practical/Laboratory Courses											
6	SPC711AI	Deep Learning Lab			2	2	40	60	3	1	
7	SPC712 AI	PE-3 Lab			2	2	40	60	3	1	
8	SPW711AI	Project work -1			6	6	50		3	3	
9	SPW712AI	Internship -2 (to be evaluated in 7th semester. To be carried out in summer after 6th semester))						50		3	1
			15	1	10	26	380	420	27	22	

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Semester VIII										
S.N O	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/ P	CON TAC T HOU RS	CI E	SEE	DURATI ON IN HOURS	Credits
Theory Courses										
1	OE-3	Open Elective-2	3			3	40	60	3	3
Practical/Laboratory Courses										
8	SPW81 1IT	Project work -2			16	16	40	120	3	8
			3		16	19	80	180	6	11

PC: Professional Course **PE:** Professional Elective **MC:** Mandatory Course

PW: Project Work **L:** Lecture **T:** Tutorial **P:** Practical **D:** Drawing

AU: Audit Course **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Examination

Note:

1. Each contact hour is a Clock Hour
2. The duration of the practical class is two clock hours, however it can be extended wherever necessary, to enable the student to complete the experiment.

Micro/Minor Specialization

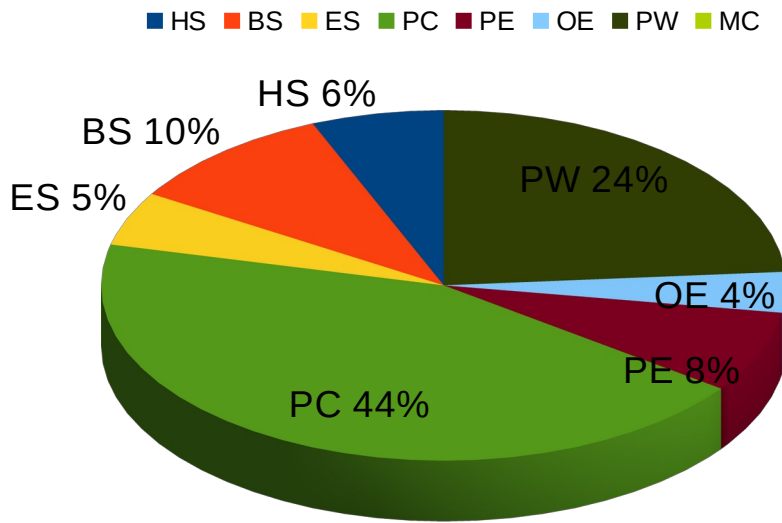
Thread Name	PE-1	PE-2	PE-3	PE-4
Data Science	Big Data Analytics	Business Analytics	Recommendation System	Text & speech Analysis
Emerging Technologies	Computer graphics & Game Theory	Robotic Process Automation	Augmented Reality & Virtual Reality	3D-Printing & Designing
Cyber Security and Data Privacy	Information Security	Cyber Security	Digital & Mobile forensic	Crypto Currency & Block chain Technology
Cloud Computing and Data Center Technologies	Storage Technology	Cloud Security Management	Stream Processing Software & Network Management	Security Services in Cloud
Advanced AI and ML	Computer graphics & Game Theory	Knowledge Engineering	Reinforcement Learning	Cognitive Computing/Conversational AI

Comparison between AICTE Model curriculum CSE-AI&ML and Stanley CSE-AI&ML Proposed

S. No	Category	Credits breakup for	
		AICTE -AI&ML	Stanley-AI&ML (present)
1.	Humanities and Social Sciences including Management courses	10*	11
2.	Basic Science courses	16*	22
3.	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	8*	22
4.	Professional core courses	71*	70
5.	Professional Elective courses relevant to chosen specialization / branch	16*	13
6.	Open subjects – Electives from other technical and /or emerging subjects	6*	6
7.	Project work, seminar and internship in industry or elsewhere	38*	16
8.	Mandatory Courses /audit courses [Environmental Sciences, Induction Program, Indian Constitution, Essence of Indian Knowledge Tradition]	-	
	Total	165*	160

***Minor variation is allowed as per need of the respective disciplines.**

AICTE-AI&ML



Stanley-AI&ML

