आंध्रप्रदेश केंद्रीय विश्वविद्यालय
CENTRAL UNIVERSITY OF ANDHRA PRADESH
Ananthapuramu

**Postgraduate Programme Structure
as per the UGC Credit Framework (NEP 2020)**

Vidya Dadati Vinayam
(Education Gives Humility)

MSc. Computational Social Science

"The secrets of the universe lie within the stars; gaze upon them with wonder and curiosity"

– Aryabhatta

Programme Structure
(With effect from AY 2024 - 25)

CONTENTS

Introduction to the programme

MSc. Computational Social Science is one of the new postgraduate programmes being offered by CUAP from the academic year 2024-2025 in tune with the National Education Policy, 2020. Computational social science is an exciting new field that combines the methods and tools from computer science and data science with the fundamentals of social science disciplines. It draws inspiration from the experimental, social, and behavioral sciences, merging their explanatory focus with the predictive capabilities of large-scale data. This integrative approach, combined with the creation of robust research infrastructure, allows computational social scientists to pursue replicable, cumulative, and ultimately useful solutions.

Programme Objectives

- To comprehend the foundations of interface between computer science and the traditional social sciences in order to uses computationally methods to analyze and model social phenomena, social structures, and collective behavior.
- To discover how social networks and human dynamics create social systems and recognizable patterns.
- To enable the students to undertake web scrape online data, create social network visualization with it, and use machine learning to analyze its content. opinions regarding contemporary national or international issues and policies.

Learning Outcomes

On successful completion of the programme students:

- Gain knowledge and understanding of the key theories and concepts of Computational Social Science, and insights into the theoretical advances in the discipline.
- Evaluate theories in the light of empirical evidence or normative repositions.
- Apply appropriate theories to understand and analyse social and computing phenomena.
- Understand the significantly contribute in the coming age of AI and data-driven technology.
- Carry out an independent research in Computational Social Science with appropriate findings.

Semester and Course wise Credits

Semester	Discipline Specific Core (DSC)	Discipline Elective (DSE) / Elective (EL)	Project Work/Dissertation	Common Compulsory Course (CCC)	Inter Disciplinary Elective	Internship	Lab	Total Credits
I	DSC 1 (4) DSC 2 (3) DSC 3 (4) DSC 4 (3)	DSE 1 (4)/ DSE 2 (4)/ DSE 3 (4)/ MOOCs	___	___	IDE 1 (3) Online	___	DSC 2 (1) DSC 4 (1)	23
II	DSC 5 (4) DSC 6 (2) DSC 7 (3) DSC 8 (3)	DSE 4 (4)/ DSE 5 (4)/ DSE 6 (4)/ MOOCs	___	CCC 1: Artificial Intelligence and Machine Learning (4)	IDE 2 (3) Online	___	DSC 6 (2) DSC 7 (1) DSC 8 (1)	27
III	DSC 9 (3) DSC 10 (2) DSC 11 (3)	DSE 7 (4)/ DSE 8 (4)/ DSE 9 (4)/ MOOCs	___	CCC 2: Building Mathematical Ability (4)	IDE 3 (3) Online	Internship (2)	DSC 9 (1) DSC 10 (2) DSC 11 (1)	25
IV	DSC 12 (2)	___	Dissertation (16)	___	___	___	DSC 12 (2)	20
Total	36	12	16	8	9	2	12	95
Percentage	37.90	12.63	16.84	8.42	9.47	2.11	12.63	100

IDE: Inter-disciplinary Electives   **AECC**: Ability Enhancement Compulsory Course   **CCC:** Common Compulsory Course
SIP: Summer Internship Project   **SEC:** Skill Enhancement   **VAC:** Value-Added Courses
MOOCs: Massive Open Online Course

Programme Structure with Course Titles

S. No	Course Code	Title of the Course	Total Credits	Credits Distributions		
				L	T	P
Semester– I						
1.	MCS101	CC: Fundamentals of Computational Social Science	4	3	1	0
2.	MCS102	CC: Computational International Relations (CIS)	4	3	0	1
3.	MCS103	CC: Understanding Social Realities	4	3	1	0
4.	MCS104	CC: Quantitative Methods for Social Science	4	3	0	1
5.		**DSE: Any one of the following/MOOCs**	4	3	0	1
	MCS111	Data Programming				
	MCS111	Behavioral Theories in the Social Sciences				
	MCS111	Introduction to Policy Analysis				
6.	MCS112	IDE : Online (MOOCs)	3	3	0	0
		Total	**23**	**18**	**2**	**3**
Semester– II						
1	MCS201	CC: Principles of Macroeconomics	4	3	1	0
2.	MCS202	CC: Research Methodology and Data Analysis with SPSS	4	2	0	2
3.	MCS203	CC: Introduction to Python Programming	4	3	0	1
4.	MCS204	CC: Machine Learning for Social Science	4	3	0	1
5.		**DSE: Any one of the following/MOOCs**	4	3	0	1
	MCS211	Statistics and Data Science				
	MCS211	Social and Ethical Issues of Big Data & AI				
	MCS211	Data Harvesting for Social Science Research				
6.	MCS212	IDE: Online (MOOCs)	3	3	0	0
7.	MCS213	CCC: Artificial Intelligence and Machine Learning	4	2	0	2
		Total	**27**	**19**	**1**	**7**
Semester– III						
1.	MCS301	CC: Individual and Strategic Decision Making: Theory and Applications	4	3	0	1
2.	MCS302	CC: Introduction to Human Computer Interaction	4	2	0	2
3.	MCS303	CC: Advanced Modeling	4	3	0	1
4.		**DSE: Any one of the following/MOOCs**	4	3	0	1
	MCS311	Data Visualization				
	MCS311	Causal Inference for Social Science				
	MCS311	Text Mining				
5.	MCS312	IDE: Online (MOOCs)	3	3	0	0
6.	MCS313	CCC: Building Mathematical Ability	4	3	1	0
7.	MCS314	Internship*	2	0	0	2
		Total	**25**	**17**	**1**	**7**

S.No	Course Code	Title of the Course	Total Credits	Credits Distribution		
				L	**T**	**P**
Semester– IV						
1.	MCS401	CC: Survey Research Methodology	4	2	0	2
2.	MCS411	Project: Dissertation	16	0	0	16
		Total	**20**	**2**	**0**	**18**
		Total Credits	**95**	**56**	**4**	**35**

*Internship shall be completed during the summer vacation.

CC: Core Course
DSE: Discipline Specific Elective
IDE: Interdisciplinary Elective
CCC: Common Compulsory Course
L: Lectures
T: Tutorials
P: Practicals/Project

Semester-Wise Credit Distribution

Semester	Total Credits	Cumulative credit at the end of the semester
I	23	23
II	27	50
III	25	75
IV	20	95

Important Information to Students

1. Programme: MSc. Computational Social Science

2. Eligibility: Bachelor's Degree with at least 50% marks or Equivalent Grade in Social Sciences or Humanities subjects or 55 % marks in any other subject.

3. The minimum duration for completion of any PG Program is four semesters (two academic years) and the maximum duration is eight semesters (four academic years) or as per amendments made by the regulatory bodies from time to time.

4. A student should attend at least 75 % of the classes, seminars, practical/ lab in each course of study.

5. All theory courses in MSc. Computational Social Science carry Continuous Internal Assessment (CIA) component of 40 marks and Semester-end component of 60 marks. The minimum pass marks for a course are 40%.

6. In case of courses with lab component, Continuous Internal Assessment (CIA) component shall be of 60 marks and Semester-end component for 40 marks. The minimum pass marks for a course are 40%.

7. The student is given 3 Continuous Internal Assessment (CIA) tests per semester in each course from which the best 2 performances are considered for the purpose of calculating the marks in CIA. A record of the continuous assessment is maintained by the academic unit. The 3 internal tests are conducted for 15 Marks each; out of the best 2 tests scores are considered for 30 marks. Out of the remaining 10 marks, 5 marks are awarded for assignments, class presentations and class participation of the students and the remaining 5 marks are awarded for punctuality, and attendance of the student.

Marks for the Attendance will be considered as follows:

S.NO	ATTENDANCE %	MARKS
1	95% or more	5
2	90-94%	4
3	85-89%	3
4	80-84%	2
5	75-79%	1

8. A student should pass separately in both CIA and the ESE, i.e., a student should secure 16 (40% of 40) out of 40 marks for theory and 24 (40% of 60) out of 60 marks for lab components in the CIA. Therefore, a student should secure 24 (40 % of 60) out of 60 marks for theory and 16 (40% of 40) out of 40 marks for lab components in the End-semester examination (ESE).

9. Semester-end examination shall consist of objective type questions, descriptive type questions, short answer questions and case studies or any other recommended by the BoS.

10. A student failing to secure the minimum pass marks in the CIA is not allowed to take the end semester examination of that course. She/he has to redo the course by attending special classes for that course and get the pass percentage in the internal tests to become eligible to take the end semester examination.

11. Students failing a course due to lack of attendance should redo the course.

12. Re-evaluation is applicable only for theory papers and shall not be entertained for other components such as practical /thesis/ dissertation/ internship etc.

13. An on-campus elective course is offered only if a minimum of ten or 40% of the students registered, whichever is higher.