



AMBIGA COLLEGE OF ARTS AND SCIENCE FOR WOMEN
(AFFILIATED TO MADURAI KAMARAJ UNIVERSITY)
ANNA NAGAR, MADURAI-625 020, TAMIL NADU.

www.ambigacollege.com

Define Program Outcomes (PO's)

PO	Statement
PO1	Basic And Core Knowledge: Apply the knowledge of Life Science, Physical and Chemical Science, Mathematics, statistics, Computer science and humanities for the attainment of solutions to the problems that come across in our day-to-day life/activities.
PO2	Analysis and Problem Solving : Identify and analyze the problem and formulate solutions for real time problems using the principles of mathematics, natural sciences with appropriate consideration for the public health, safety and environmental considerations.,
PO3	Communication by information Technology: Communicate the fundamental and advanced concepts of their discipline in written and oral form. Able to make appropriate and effective use of information and information technology relevant to their discipline.
PO4	Life-Long Learning: Ability to engage in independent and life-long learning in the broadest context of technological change.
PO5	Ethical, Social and Professional Understanding: Acquire the responsibility to contribute for the personal development and for the development of the community. Respect the ethical values, social responsibilities and diversity.
PO6	Innovative, Leadership and Entrepreneur Skill Development: Able to function as an individual or leader in diverse teams and in multidisciplinary field. Adequate professional skills to become as an entrepreneur by acquiring technical, communicative, problem solving, intellectual skills.



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Define Program Specific Outcomes (PSOs')

PSO	Statement
PSO1	Effectively communicating computing concepts and solutions to bridge the gap between computing industry and to create and initiate innovation.
PSO2	Develop sustainable solutions to current and future computing problems, in emerging areas like Cloud and High performance computing, Data analytics and Cyber security.
PSO2	Exhibit their computing expertise within the computing community through corporate leadership, entrepreneurship, and/or advanced graduate study.



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Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs)

Course outcomes

Course Outcome Statement	
SUBJECT CODE & NAME:	SCAGC11-C PROGRAMMING
CO'S	COURSE OUTCOMES
CO1	Students will able to understand basic structure of C programs and variables, tokens, operators, and arithmetic expressions
CO2	Students will able to learn if else statements and reading writing a character.
CO3	students can implement the knowledge about the arrays and string concepts
CO4	Students will able to know about user defined functions, structure and union .
CO5	Students will be able to expose the concepts pointers error handling during I/O operations.

SUBJECT CODE & NAME:	SCAGC21-OBJECT ORIENTED PROGRAMMING WITH C++
CO'S	COURSE OUTCOMES
CO1	Students will able to understand the benefits of OOP, and Applications of OOP, data types concepts
CO2	To analyze member functions and array within class and constructors.
CO3	Students will able to understand operator overloading and inheritance
CO4	Students will able to understand virtual functions and unformatted I/O operations.
CO5	Understand advanced features of C++ specifically stream I/O, templates and operator overloading



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SUBJECT CODE & NAME:	SCAJC31-JAVA PROGRAMMING
CO'S	COURSE OUTCOMES
CO1	To indicate knowledge in java programming concepts.
CO2	To provide knowledge in package and applet concepts.
CO3	To enrich the knowledge in multi read and graphics concepts.
CO4	students will able to develop graphics programming
CO5	Students analyze errors and exceptions handling methods.

SUBJECT CODE & NAME:	SCAGC41-DATA STRUCTURE AND COMPUTER ALGORITHM
CO'S	COURSE OUTCOMES
CO1	Students will able to analyze the basic concepts of data structures and algorithms
CO2	To understand concepts about searching and sorting techniques
CO3	To understand basic concepts about stacks, queues, lists, trees and graphs
CO4	To understanding about writing algorithms and step by step approach in solving problems with the help of fundamental data structures
CO5	Students will have Ability to summarize searching and sorting techniques



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COURSE CODE & NAME:	SCAGC5P-RELATIONAL DATABASE MANAGEMENT SYSTEM LAB
COS	COURSE OUTCOMES
CO1	To be educated about data information and information processing.
CO2	To become skilful at SQL queries.
CO3	To understand the concept of Entity Relationship model and Relational Data Base Management System.
CO4	To gain knowledge of PL/SQL.
CO5	To understand the sql queries ,constraints& triggers.

COURSE CODE & NAME:	SCAGC62-SOFTWARE ENGINEERING
COS	COURSE OUTCOMES
CO1	Students shall have strong foundation in science, mathematics, and engineering, and can apply this fundamental knowledge to software engineering tasks.
CO2	Students can effectively apply software engineering practice over the entire system lifecycle.
CO3	Students can select and tailor appropriate methods for projects, and can apply them as both team members and managers to achieve project goals.
CO4	Students can get the knowledge of the ethics, professionalism, and cultural diversity in the work environment.
CO5	Students can apply basic software quality assurance practices to ensure that software designs, development, and maintenance meet or exceed applicable standards.

Table 1

CO-PO matrices of courses selected in

table 1 Correlation levels

- “1” – Slight (Low)
- “2” – Moderate (Medium)
- “3” – Substantial (High)
- “-” indicates there is no correlation.

(a) CO-PO matrices of selected courses in table 1

Course	CO-PO	PO	PO	PO	PO	PO	PO	PSO	PSO	PSO
		1	2	3	4	5	6	1	2	3
SCAGC11 C PROGRAMMING	C01	3	2	-	3	2	2	-	1	2
	C02	3	2	1	-	1	1	2	1	2
	C03	-	3	1	2	-	2	1	2	1
	C04	2	2	2	2	1	1	1	1	-
	C05	1	3	3	2	2	1	1	2	1
	Course level mapping	2.3	2.4	2.0	2.0	2.0	1.0	1.0	1.0	1.0

Course	CO-PO	PO	PO	PO	PO	PO	PO	PSO	PSO	PSO
		1	2	3	4	5	6	1	2	3
SCAGC21 C ++PROGRAMMING	C01	3	3	2	2	1	3	2	2	1
	C02	3	2	-	3	2	2	-	1	2
	C03	2	2	1	-	1	1	2	1	2
	C04	2	2	2	2	1	1	1	1	-
	C05	3	3	2	2	1	1	1	2	1
	Course level mapping	3.0	2.4	2.0	2.3	1.2	2.0	2.0	1.4	2.0

Course	CO-PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3
SCAGC11 JAVA PROGRAMMING	C01	3	3	2	2	1	2	2	2	1
	C02	2	3	2	2	1	3	3	2	1
	C03	2	2	2	1	1	1	1	2	1
	C04	3	3	2	3	1	3	1	2	2
	C05	2	3	1	1	1	2	1	2	1
	Course level mapping	2.4	3.0	2.0	2.0	0.2	2.2	2.0	2.0	1.2

Course	CO-PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3
SCAGC41 DATA STRUCTURE & COMPUTER ALGORITHM	C01	3	2	2	2	1	2	2	2	1
	C02	3	3	2	2	1	2	2	1	1
	C03	2	2	3	2	2	2	1	2	1
	C04	3	2	3	3	2	3	1	1	2
	C05	2	2	1	2	1	2	2	1	3
	Course level mapping	3.0	2.2	2.2	2.2	1.4	2.2	2.0	1.4	2.0

Course	CO-PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3
SCAGC5P RELATIONAL DATABASE MANAGEMENT SYSTEM LAB	C01	2	2	3	3	1	2	1	2	1
	C02	2	2	3	2	2	3	1	1	2
	C03	2	2	3	3	2	3	1	2	2
	C04	2	3	3	3	2	3	2	1	3
	C05	2	1	2	2	1	2	2	1	2
	Course level mapping	2.0	2.0	3.0	3.0	2.0	3.0	1.4	1.4	1.6

Course	CO-PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3
SCAGC62 SOFTWARE ENGINEERING	C01	3	2	2	2	1	2	3	2	2
	C02	2	3	3	3	2	2	2	1	1
	C03	2	3	3	3	2	2	2	2	2
	C04	2	3	2	3	2	2	2	2	2
	C05	3	2	3	2	3	3	1	2	3
	Course level mapping	3.0	3.0	3.0	3.0	2.0	2.2	2.0	2.0	2.4

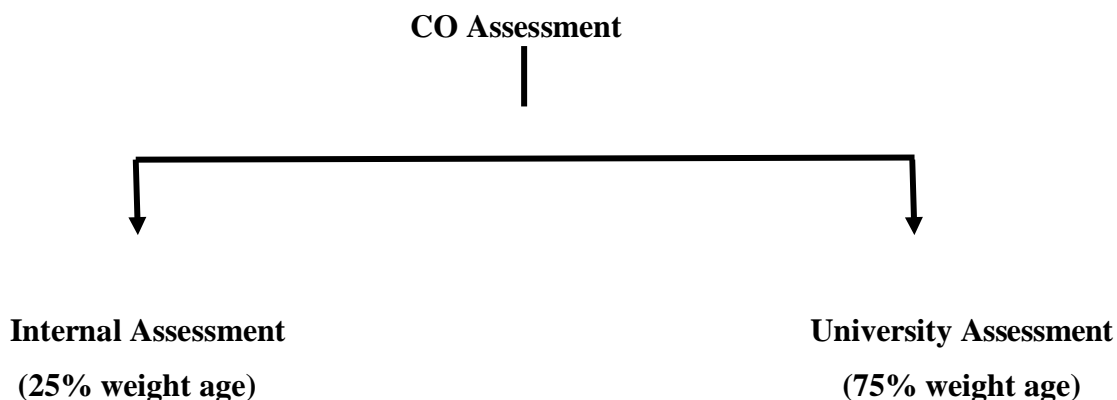
Program level course-PO matrix

Code	Course	PO 1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
SCAGC11	C PROGRAMMING	2.3	2.4	2.0	2.0	2.0	1.0	1.0	1.0	2.0
SCAGC21	C++ PROGRAMMING	3.0	2.4	2.0	2.3	1.2	2.0	2.0	1.4	2.0
SCAGC31	JAVA PROGRAMMING	2.4	3.0	2.0	2.0	0.2	2.2	2.0	2.0	1.2
SCAGC41	DATA STRUCTURE & COMPUTER ALGORITHM	3.0	2.2	2.2	2.2	1.4	2.2	2.0	1.4	2.0
SCAGC5P	RELATIONAL DATA BASE MANAGEMENT LAB	2.0	2.0	3.0	3.0	2.0	3.0	1.4	1.4	1.6
SCAGC62	SOFTWARE ENGINEERING	3.0	3.0	3.0	3.0	2.0	2.2	2.0	2.0	2.4

Attainment of Course Outcomes

Describe the assessment processes used to gather the data upon which the evaluation of course outcome is based

CO assessment rubrics



Record the attainment of course outcomes of all courses with respect to set attainment levels
Considering average performance levels in the university examination, attainment level is set as X% for both Internal and University assessments, where X is 40% marks for both University and Internal assessments.

(i) **Measuring course outcomes attained through university examinations**

Attainment levels of CO's through University examinations

Assessment Methods	Attainment Levels	
University Assessment (THEORY)	Level 1	50% of students scoring more than X% marks in university examination.
	Level 2	60% of students scoring more than X% marks in university examination.
	Level 3	70% of students scoring more than X% marks in university examination.

X is 36% marks for university examination.

(ii) Measuring CO attainment through internal assessments:

Attainment levels of CO's through internal assessments (internal tests and assignments)

Assessment Methods	Attainment Levels	
Internal Assessment (THEORY)	Level 1	50% of students scoring more than X% marks in internal assessment tools
	Level 2	60% of students scoring more than X% marks in internal assessment tools
	Level 3	70% of students scoring more than X% marks in internal assessment tools

X is 52%marks both for internal tests and assignments.

(iii) Measuring course outcomes attained through university examinations

Attainment levels of CO's through University examinations

Assessment Methods	Attainment Levels	
University Assessment (PRACTICAL)	Level 1	50% of students scoring more than X% marks in university examination.
	Level 2	60% of students scoring more than X% marks in university examination.
	Level 3	70% of students scoring more than X% marks in university examination.

X is 50% marks for university examination.

(iv) Measuring CO attainment through internal assessments:

Attainment levels of CO's through internal assessments (internal tests and assignments)

Assessment Methods	Attainment Levels	
Internal Assessment (PRACTICAL)	Level 1	50% of students scoring more than X% marks in internal assessment tools
	Level 2	60% of students scoring more than X% marks in internal assessment tools
	Level 3	70% of students scoring more than X% marks in internal assessment tools

X is 50%marks both for internal tests and assignments.

(v) CO attainment calculation :

(i)THEORY: C PROGRAMMING I-SEMESTER / I-YEAR

EXAM PATTERN	ATTAINMENT LEVEL	PERCENTAGE CALCULATION	NO .OF STUDENT PASSED
EXTERNAL	3	70% of students getting 36% of mark	20 students out of 26 students
INTERNAL	3	70% of students getting 52% of mark	26 students out of 26 students

(ii) PRACTICAL: SCAGCSP-RELATIONAL DATABASE MANAGEMENT SYSTEM
V-SEMESTER / III-YEAR

EXAM PATTERN	ATTAINMENT LEVEL	PERCENTAGE CALCULATION	NO .OF STUDENT PASSED
EXTERNAL	3	70% of students getting 50% of mark	20 students out of 26 students
INTERNAL	3	70% of students getting 50% of mark	26 students out of 26 students

CO-ATTAINMENT VALUE

EXAM PATTERN	COURSE	COURSE CODE	INTERNAL ATTAINMENT	25%	EXTERNAL ATTAINMENT	75%	CO ATTAINMENT
THEORY	C PROGRAMMING	SCAGC11	3	0.8	3	2.3	3.1
EXAM PATTERN	COURSE	COURSE CODE	INTERNAL ATTAINMENT	40%	EXTERNAL ATTAINMENT	60%	CO ATTAINMENT
PRACTICAL	RDBMS-LAB	SCAGC5P	3	1.2	3	1.8	3.0

PO ATTAINMENT VALUE

FORMULA

Po-attainment = CO/PO mapping average

----- * *co attainment*

Maximum attainment

$$PO1=2.3/3*3.1=2.4$$

Attainment of POs 2016-17

Sub Code	Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3
SCAGC11	C PROGRAMMING	2.4	2.5	2.1	2.1	2.1	1.0	1.0	1.0	2.1
SCAGC5P	RDBMS LAB	2.0	2.0	3.0	3.0	2.0	3.0	1.4	1.4	1.6


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