	Ministry of Higher Education and Scientific Research. University of Anbar. Department of Information System.	

MODULE DESCRIPTOR FORM

Module Information					
Module Title	Mathematic II		**Module Type**	TYPE C	
Module Code	ISDC116		**ECTS Credits**	6	
Module Level	UGI		**Semester of Delivery**	One	
Administering Department	IS		**Faculty**	CSIT	
Module Leader	Mohammed Rabeea Al-Dahhan		**e-mail**	mohammed.rabeea@uoanbar.edu.iq	
Module Leader's Acad. Title	Lecturer		**Module Leader's Qualification**	PhD.	
Module Tutor			**e-mail**		
Peer Reviewer Name	/		**e-mail**	/	
Review Committee Approval			**Version Number**	2.0	

Relation With Other Modules	
Pre-requisites	ISDC115
Co-requisites	/
Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	In a computer science department, the specific aims of a Mathematics II module can vary depending on the curriculum and the intended learning outcomes. However, here are some common aims of a Mathematics II module in a computer science department: Advanced Algebra and Calculus: The module aims to provide a deeper understanding of advanced algebraic concepts such as matrices, vectors, and complex numbers. It also covers calculus topics including limits, derivatives, and integrals.

	Discrete Mathematics: Discrete mathematics is essential in computer science as it provides the foundation for many algorithms, data structures, and problem-solving techniques. The module aims to introduce topics like logic, set theory, combinatorics, graph theory, and formal languages. Probability and Statistics: Probability theory and statistics play a crucial role in various aspects of computer science, such as machine learning, data analysis, and algorithm design. The module aims to cover probability concepts, random variables, statistical distributions, hypothesis testing, and basic statistical analysis.
Module Learning Outcomes	Understanding Advanced Algebra and Calculus: Students should demonstrate a solid understanding of advanced algebraic concepts, such as matrices, vectors, and complex numbers. They should be able to apply calculus techniques, such as limits, derivatives, and integrals, in the context of computer science problems. Applying Discrete Mathematics: Students should be able to apply discrete mathematics concepts and techniques to solve problems in computer science. This includes understanding and using logic, set theory, combinatorics, graph theory, and formal languages in algorithm design and analysis. Analyzing Probability and Statistics: Students should be able to analyze and interpret probabilistic and statistical data relevant to computer science problems. They should understand concepts such as probability distributions, random variables, hypothesis testing, and basic statistical analysis. Using Numerical Methods: Students should be proficient in using numerical methods to solve computational problems encountered in computer science. This includes employing numerical approximation techniques, solving equations numerically, and performing numerical integration.
Indicative Contents	
Learning and Teaching Strategies	
Strategies	The main strategy that will be adopted in delivering this module are: 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning.

Module Delivery	
Structured workload (h/w)	3.3
Unstructured workload (h/w)	6.7
Total workload (h/w)	10

Module Evaluation

	Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Quizzes	2	6% (6)	5 and 10	
Assignments	2	6% (6)	2 and 12	
Projects / Lab.	1	5% (5)	Continuous	
Report	1	5% (5)	13	
Midterm Exam	2 hr	18% (18)	7	
Final Exam	3 hr	60% (60)	16	
Total		100% (100 Marks)		

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts		Yes/No
Recommended Texts		Yes/No
Websites		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Topic: Integral Calculus - Techniques of Integration Integration by substitution Integration by parts Trigonometric substitutions

Week 2	Topic: Integral Calculus - Techniques of Integration Integration by substitution Integration by parts Trigonometric substitutions
Week 3	Topic: Integral Calculus - Techniques of Integration Integration by substitution Integration by parts Trigonometric substitutions
Week 4	Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions
Week 5	Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions
Week 6	Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions
Week 7	Mid-Term Exam
Week 8	Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions
Week 9	Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions
Week 10	Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions

Week 11	Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions
Week 12	Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions
Week 13	Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions
Week 14	Topic: Review and Practice Comprehensive review of topics covered Problem-solving exercises and practice problems Preparation for the final assessment
Week 15	**Preparatory Week**
Week 16	**Final Exam**

APPENDIX:

UNIVERSITYof Anbar				
GRADING SCHEME				
Group	**ECTS Grade**	**% of Students/Marks**	**Definition**	**GPA**
Success Group (50 - 100)	**A** - Excellent	Best 10%	Outstanding Performance	**5**
	B - Very Good	Next 25%	Above average with some errors	**4**
	C - Good	Next 30%	Sound work with notable errors	**3**
	D - Satisfactory	Next 25%	Fair but with major shortcomings	**2**
	E - Sufficient	Next 10%	Work meets minimum criteria	**1**
Fail Group (0 – 49)	**FX** – Fail	(45-49)	More work required but credit awarded	
	F – Fail	(0-44)	Considerable amount of work required	
Note:				

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The university has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.