

Course Description Form

1. Course Name:	
Complex Analysis II	
2. Course Code:	
MS407	
3. Semester / Year:	
Second 2024- 2025	
4. Description Preparation Date:	
31/ 3/2024	
5. Available Attendance Forms:	
Theory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60hrs	4 units
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Thekra Ibraheem Latif Email: thekra.i.latif@tu.edu.iq	
8. Course Objectives	
Course Objectives	<p>1.The student will be familiar with sequences and series of complex analytical functions represented by convergence and divergence, and compare their properties.</p> <p>2.Knowledge and identification of power series and how to use them to find complex integrals.</p> <p>3. Getting acquainted with the residuals by identifying the points at which the function is not analytical, which are called (singular points or residuals) to calculate complex integrals and definite integrals.</p> <p>4. Introducing students to applications of clipboard angles and their importance in medical and physics applications</p>
9. Teaching and Learning Strategies	
Strategy	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students. And knowing the basis of the concepts and where they came from and taking realistic applications on that.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Definition & examples	Sequences: Test of convergence	Course	Examinations: daily & monthly
2	4	Definition & examples	Series: Convergence & divergence	Course	Examinations: daily & monthly
3	4	Definition & examples	Power series with examples	Course	Examinations: daily & monthly
4	4	Definition & examples	Taylor series: some examples	Course	Examinations: daily & monthly
5	4	Definition & examples	Taylor & Maclaurin series: Some Examples	Course	Examinations: daily & monthly
6	4	Definition & examples	Laurent series with examples	Course	Examinations: daily & monthly
7	4	Definition & examples	Laurent series with examples	Course	Examinations: daily & monthly
8	4	Definition & examples	Zeros and Singularities: Type of singular points	Course	Examinations: daily & monthly
9	4	Definition & examples	The residue calculus with examples	Course	Examinations: daily & monthly
10	4	Definition & examples	The Cauchy Residue Theorem: Applications of residues	Course	Examinations: daily & monthly
11	4	Definition & examples	Improper integrals	Course	Examinations: daily & monthly
12	4	Definition & examples	Solve examples: (Improper integrals)	Course	Examinations: daily & monthly
13	4	Definition & examples	Portfolios applications for Angeles: conformal map	Course	Examinations: daily & monthly

14	4	Definition & examples	Solve examples for conformal map	Course	Examinations: daily & monthly
15	4	Definition & examples	Some examples with application.	Course	Examinations: daily & monthly