Course Syllabus

Code - Course Title	**MAT311 - Numerical Analysis I**
Course Type	V. SEMESTER
Laboratory + Practice	3+0
ECTS	**5.0**
Language of Instruction	Türkçe
Course Type	Area Elective Courses
Course Instructor(s)	DOÇ. DR. YILMAZ DERELİ

Mode of Delivery	The mode of delivery of this course is Face to face
Prerequisites	There is no prerequisite or co-requisite for this course.
Courses Recomended	None.
Recommended Resources	The instructor will provide a course pack(bulk pack) with all suggested readings
Work Placement	N/A

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Curve fitting method	
Week - 2		curve fitting with lines and error calculation	
Week - 3		Curve fitting with polynomial of degree n and error calculation.	
Week - 4		Curve fitting with exponential function and error calculation.	
Week - 5		Interpolation and Taylor polynomial.	
Week - 6		Lagrange interpolation polynomial.	
Week - 7		Examples of Lagrange interpolation polynomial	
Week - 8		Hermite interpolation polynomial.	
Week - 9		Cubic naturel spline interpolations.	
Week - 10		Cubic clamped spline interpolations.	
Week - 11		Numerical solutions of nonlinear equations	
Week - 12		Bisection algorithm	
Week - 13		Fixed-point iteration.	
Week - 14		The Newton-Raphson Method.	

Learning Outcomes

#	Learning Outcome
1	perform curve fitting
2	construct a function which closely fits given n- points in the plane by using interpolation method
3	investigate the solution of a nonlinear equation

Sustainable Development Goals

No content has been provided.

Course Theme

No content has been provided.

AKTS Workload

Activity	Duration (Hour)	Count	Workload
Teorik Derse Katılım	0	0	0
Sınıf Dışı Çalışma (Ön Hazırlık & Pekiştirme Amaçlı)	0	0	0
Ödevler	0	0	0
Proje - Rapor - Sunum Hazırlama	0	0	0
Ara Sınav Hazırlığı (sınav süresi dahil)	0	0	0
Final Sınavı Hazırlığı (sınav süresi dahil)	0	0	0
Uygulama (Laboratuvar, Müzik/Enstrüman Uygulaması, Atölye/Saha Çalışması vb.)	0	0	0
Staj Uygulaması	0	0	0
		Calculated ECTS	**0**

Assessment Method and Passing Requirements

No content has been provided.

Assessment Method and Passing Requirements	Quamtity	Percentage (%)
1.Midterm Exam	1	30
Final Exam	1	40
2.Midterm Exam	1	30
	Sum (%)	**100**