Course Category	TBA	Credits	2
Subject Code	TBA	Taking Year	1st Grade, 2nd Grade
Course Title (Japanese)	数値近似法	Course Period	1st Semester
Course Title	Numerical Approximation Methods	Day of the week / Hour	Wednesday / The fifth period
Registration Code	TBA	Compulsory / Elective	Elective
Instructor(s)	Daishi Kuroiwa Satoshi Suzuki	Course Qualification	Students of Postgraduate Mathematics Course

Course Style	Lecture
Course Aim	There are a lot of problems which can not be solved analytically in the real world. In this lecture, we study the munerical methods and theory for approximation such solutions.
Goals and Objectives (Level of Achievement)	1. To understand basic notions in numerical approximation methods 2. To understand ideas of numerical approximation methods 3. To understand theorems and its proofs in numerical approximation methods
Course Plan	1. Introduction 2. Basic functional analysis 3. Spaces and norms 4. Best approximation 5. Inner products 6. Orthogonal system 7. Fourier approximation 8. Various examples 9. Weierstrass approximation theorem 10. Bernstein polynomials 11. Chebyshev alternation theorem 12. Linear interpolation 13. Polynomial interpolation 14. Spline interpolation 15. Bezier interpolation
Teaching Methods	Homeworks will be given during the course.
Key Words	Numerical analysis, Functional analysis
Texts	None
Reference Books	To be introduced in the class when necessary
Other Teaching Materials	To be given in the class when necessary
Performance Evaluation	To be decided by reports and examinations
Notes on the Course	Review the previous lecture if you could not understand.
Office Hour	To be announced
Other Notes	None