Nonlinear Analysis

2 units (selection)

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Target〉 Introduction to nonlinear functional analysis.

Outline〉 Methods of nonlinear analysis; fundatmental mathematical theories and techniques of ordinary and partial differential equations.

Style〉 Lecture

Goal〉 To be familiar with mathematical concepts, ideas and tools involved in doing nonlinear mathematics.

Schedule〉

1. Introduction
2. Mathematical modelling 1
3. Mathematical modelling 2
4. Mathematical modelling 3
5. General topology
6. Function space 1
7. Function space 2
8. Function space 3
9. Integral operator
10. Contraction mapping theorem
11. Example
12. Variational methods 1
13. Variational methods 2
14. Variational methods 3
15. Minimax principles

Contents〉 http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216846

Contact〉
⇒ 工学部数学教室 (A棟211室,219室)

Note〉 授業を受ける際には，2 時間の授業時間毎に 2 時間の予習と 2 時間の復習をしたうえで授業を受けることが，授業の理解と単位取得のために必要である．