Course Description for ISA5305: Computational Mathematics

This course aims to provide the entry-level graduate students the fundamental background of Linear Algebra and Probability & Statistics and their applications using Matlab, including solving linear least squares problems (LLSQ), supervised and unsupervised learning problems, principal component analysis (PCA), linear discriminant analysis (LDA), image processing and analysis problems. We attempt to train the entry-level graduate students to efficiently read up-to-date papers in the related topics including Clustering and Classification, Biometrics, and/or Data Hiding. At the end of the semester, students should be able to write a technical report of 4~6 pages in the format of IEEE proceedings.

http://www.cs.nthu.edu.tw/~cchen/ISA5305/isa5305.html

1. Teaching Method

    Oral presentations and discussion, students might be requested to participate workshops or to listen to speeches by some of the invited speakers.

2. Special Request

    In addition to lectures, students (in several groups) are required to give at least a 12-minute presentation.

3. The lectures will be mainly given in English.

    The students without background of Calculus are not encouraged to take this course. ISA international students are encouraged to take this course.

4. Evaluation

    (a) Homework Assignments and Class Attendance (30%)

    (b) Two Written Exams   (30%)

    (c) Oral Presentation and a Technical Report   (40%)