Course Description for ISA5305 - Computational Mathematics

This course aims to provide the entry-level graduate students the fundamental
background of Linear Algebra, Probability & Statistics, and their applications
using Matlab, including solving linear least squares problems (LLSQ), AI and
machine learning problems, principal component analysis (PCA), linear
discriminant analysis (LDA),   image processing and analysis.   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 Information Security. At the end of semester, students should be able
to write a technical report of 4~6 pages in the format of IEEE proceedings or
other conference formats.

(TextBooks) See http://www.cs.nthu.edu.tw/~cchen/ISA5305/isa5305.html

(Teaching Method)
    Lectures and class discussions, students might be requested to participate
      workshops or to listen to speeches by some of the invited speakers.

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

(Evaluation)
(a)   Homework Assignments and Class Attendance (40%)
(b)   Two Written Exams   (30%)
(c)   Oral Presentation and a Technical Report   (30%)