**Approval for mapping of NOC discipline-based modules to CEG Programme/Major requirements**

Note: Students should try to map their NOC discipline-based modules to CG/EE-coded modules, so as to earn NUS credits (MCs).

If this is really not possible, please read and act as follows:

General level 3000 (breadth elective) and level 4000 (depth elective). If NUS does not offer an equivalent of a technical elective available at a partner university, but deems the content deems relevant and of a suitable standard, a module may be mapped to a general Level 3000 (breadth) elective or a Level 4000 (depth elective). However, mapping too many modules to general electives should be avoided. That can give rise to students repeating some material in other modules and getting credit for studying the same topic twice. Students should try to map to one of our electives if at all possible, and reserve mapping to general electives only in those cases where the content is not covered in any of our electives.

\* Please state according to your programme and mapping request.

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| \* Stanford / UPenn / Fudan / Stockholm Modules | NUS Modules |
| **<EXAMPLES>**  **74127 – System Aspects in Signal Processing (MSCE 3) : 3 SWS**  Review of Probability and Information Theory.  Independent Component Analysis (ICA) [ICA Problem Definition, Different Algorithms for ICA (Mutual Information Minimization, Maximization of non-Gaussianity, Entropy Maximization (InfoMax), Cumulant expansion Criterion), Relation to Blind Source Separation, Uniqueness of the solution] . Estimation Theory and its Applications [Bayesian Estimation (Minimum Variance (MV/MMSE), Mean Absolute Error, Maximum A Posteriori Estimators, Linear MMSW), Fisher Estimation (Maximum Likelihood and Least Squares (norm minimization)), Properties of Estimators (Unbiasedness, Consistency, Efficiency, Cramer-Rao Lower Bound), Recursive Maximum Likelihood parameter estimation, Discrete Kalman Filter for signal estimation (properties, time-varying and the steady-state solution)] | **\*Technical Electives Breadth / Depth / Core**  **EE5306 Random Signal Analysis – (4MC)**  The module serves as an intermediate course in statistical methods for the analysis of stochastic processes. This course begins with a review of the theory of probability and continues with a fairly rigorous treatment of random variables and stochastic processes. It introduces various statistical definitions and deals selectively with fundamental topics that are found to be most useful in engineering design and analysis of signals and systems. The course is targeted for engineering senior undergraduate and early stage graduate students. Good competency in undergraduate level engineering mathematics and statistics is expected. Besides the pre-requisite modules stated above, contents of EE4102-Digital Communications will also provide helpful preparatory materials for this course.  OR  This module is not offered in ECE NUS and no similar module can be found. |
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