SPECIALISATION IN COMPUTATION AND MODELLING

Students must obtain at least a **minimum grade of B-** for each of the courses (from the course list for the specialisation) in order to graduate with the specialisation.

Specialisation Requirements

At least 5 courses (20 Units) from the following course list, each with a grade of at least B-:

Courses for Specialisation

ME5300A*	Special Project in Computation and Modelling I
ME5300B*	Special Project in Computation and Modelling II
ME5302	Computational Fluid Mechanics
ME5311	Data-Driven Engineering and Machine Learning
ME5361	Advanced Computational Fluid Dynamics
ME5401/EE5101	Linear Systems
ME5404/EE5904	Neural Networks
ME5701	Mathematics for Engineering Research
ME6303	Advanced Fluid Dynamics
ME6604	Modelling of Manufacturing Processes

*Students can choose to take either (i) ME5300A only or (ii) both ME5300A and ME5300B to be counted towards the specialisation requirements. The projects can be offered either by staff in the Department of Mechanical Engineering or by industry.

The remaining 5 courses (20 Units) to satisfy the degree requirements may be selected from the Level 5000 and 6000 courses listed in the course listing for the MSc (Mechanical Engineering) programme.

SPECIALISATION IN ADVANCED MANUFACTURING

Students must obtain one core course and four elective courses (from the course list for the specialisation) in order to graduate with the specialisation.

Specialisation Requirements

At least 5 courses (20 Units) from the following course list:

Courses for Specialisation

Core Course

ME5608	Additive and Non-Conventional Manufacturing Processes

Elective Course

ME5612	Computer Aided Product Development
ME6505	Engineering Materials in Medicine
ME5402	Advanced Robotics
ME5405	Machine Vision
ME5422	Computer Control and Applications
ME5513	Deformation, Fracture and Fatigue of Materials
ME5600A	Project in Advanced Manufacturing I
ME5600B	Project in Advanced Manufacturing II
ME5611	Sustainable Product Design & Manufacturing
ME5616	Material Processing of Cellular Solids
ME6604	Modelling of Manufacturing Processes

The 5 courses must include 1 core course ME5608 and 4 elective courses.

Students can choose to take either (i) ME5600A only or (ii) both ME5600A and ME5600B to be counted towards the specialisation requirements. The industry or internal projects related to 3DP technologies and applications will be offered by hospitals, NUS staff or biomedical companies.

The remaining 5 courses (20 Units) to satisfy the degree requirements may be selected from the Level 5000 and 6000 courses listed in the course listing for the MSc (Mechanical Engineering) programme.