Module Mindmap

Module Mindmap was an initiative by Ng Xin Zhao in the 2008 edition of Momentum. This mindmap is constructed based on the module structure of NUS Physics for the academic year of 2014/15.

Please note that this Module Mindmap is only applicable for AY2014/15. In case of conflicts between this mindmap and NUS Physics Department website, the department's website will prevail. You can also check the NUS Physics Society website for the latest version of the module mindmap (see attached QR link).

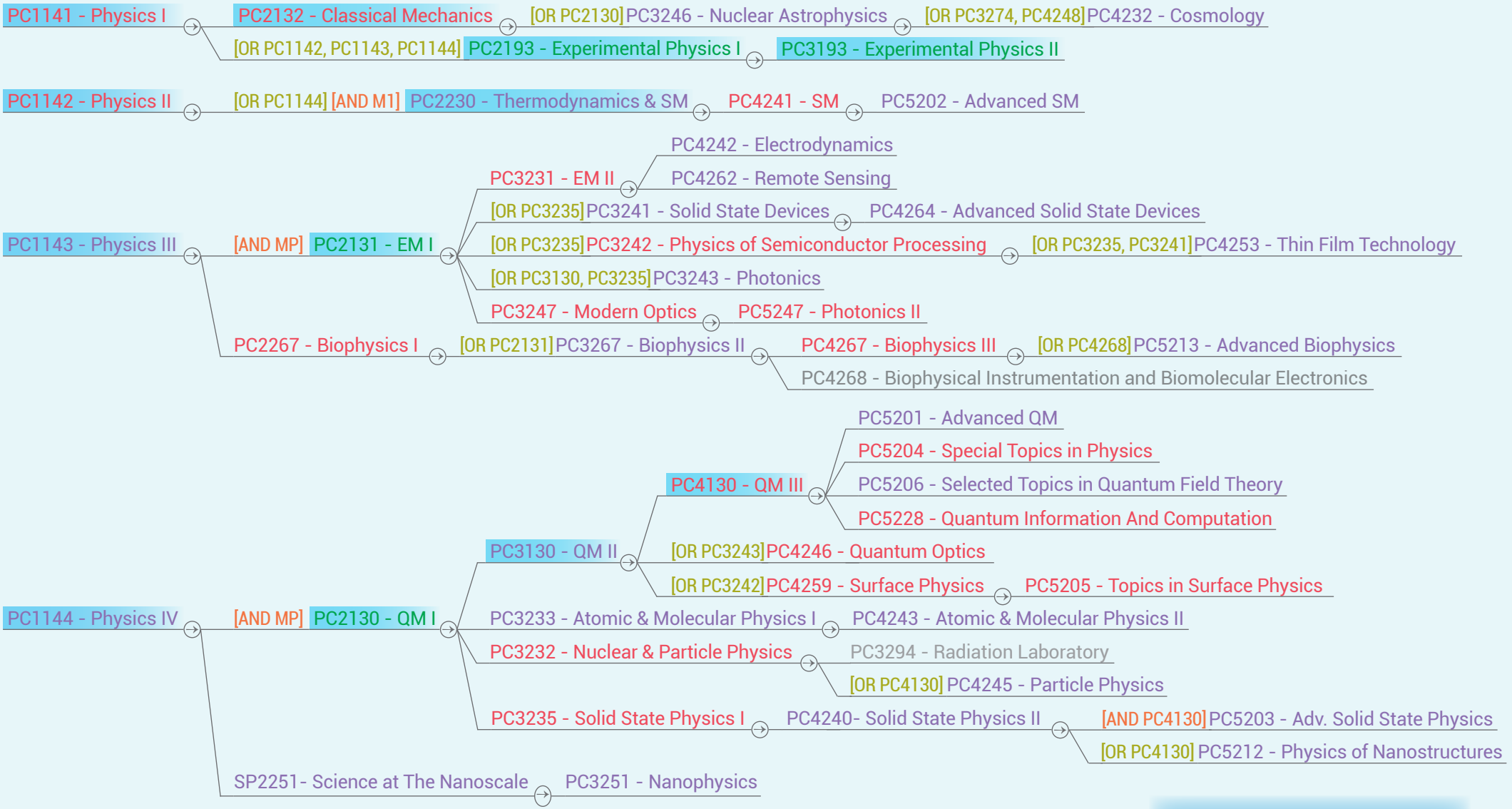
Notes:
- Compulsory modules are highligted in blue, e.g. PC#### - Lorem Ipsum
- [OR PC####] denotes OR prerequisite, i.e. either module fulfils the prerequisite.
- [AND PC####] denotes AND prerequisite, i.e. both modules are necessary as prerequisites.
- Modules offered in semester one are red-colored, e.g. PC#### - XXXX
- Modules offered in semester two are purple-colored, e.g. PC#### - XXXX
- Modules offered in both semesters are green-colored, e.g. PC#### - XXXX
- Modules not offered in AY2014/15 are gray-colored, e.g. PC#### - XXXX
- Besides the compulsory modules, students are required to read and pass 3 level 3000 and 4 level 4000 electives. PC4199 (Honours Project in Physics) is also to be completed to graduate with honours degree. Level 4000 requirements are not necessary for students graduating without honours degree.

Mathematics Prerequisites
MA1102R - Calculus *or* MA1505 - Mathematics 1
MA1101R - Linear Algebra 1 *or* MA1506 - Mathematics 2

Note: Students matriculated in AY 14/15 are to read MA1101R and MA1102R instead of MA1505 and MA1506.

List of Freshmen Seminar Modules
FMS1204P Conceptual Development of Physics
FMS1205P Nanoworld and Synchroton Radiation
FMS1206P Energy Storage Devices: Clean Energy Solution for Tomorrow
FMS1207P The Scientific Method and How It Can Fail
FMS 1210P Imaging Our World
FMS 1212P SYC: Simple Yet Complex

Link to the latest module mindmap



*PC3232B or PC2133 can be taken instead of PC3233 or PC3235. Please check NUS Physics Department website for more information regarding the module and prerequisites.

Other physics modules not in the mindmap
PC2239/PC3239 - Special Problems in Undergrad Physics I/II (project based) PC2288/PC2289 - Basic UROPS in Physics I/II (project based) PC3288/PC3289 - Advanced UROPS in Physics I/II (project based) *These modules are to be registered with a faculty member.*
PC3280 - Senior Student Seminar

List of GEM/GEKs offered by Physics Department and available for physics majors
GEK1519/PC1327 - Science of Music
GEM1535 - Clean Energy and Storage
GEK1536 - Computation and Machine: Ancient to Modern
GEM1537 - Nanotechnology Smart Phone And Beyond
GEK1539 - A Brief History of Science
GEK1540 - Modern Technologies in Health & Medical Care
GEK1547 - The Art of Science, The Science of Art
GEK1548 - How the Ocean Works
GEK2503 - Remote Sensing for Earth Observation
GEK2508 - Sky And Telescopes

List of other graduate modules not in the mindmap
PC5198 - Graduate Seminar Module in Physics
PC5207 - Topics in Optical Physics (Prerequisite: Department Approval)
PC5209 - Accelerator Based Materials Characterisation (Prerequisite: Dept. Approval)
PC5214 - Principles of Experimental Physics (Prerequisite: A basic background in optics is recommended)
PC5208 - Superconductivity (Prerequisite: PC4240)
PC5216 - Advanced Atomic and Molecular Physics
QT5101 - Quantum Measurements and Statistics (Prerequisites: PC2130 or PC3130)

Students graduating with honours can opt for a specialisation in either Astrophysics or Physics in Technology.

To graduate with a specialisation in Astrophysics, one must read and pass PC3246 (Nuclear Astrophysics), PC4232 (Cosmology), and PC4248 (Relativity). For Physics in Technology, one must read and pass any 12 MCs from the following: PC3235 (Solid State Physics I), PC3241 (Solid State Devices), PC3242 (Physics of Semiconductor Processing), PC3243 (Photonics), PC4246 (Quantum Optics), or PC4253 (Thin Film Technology).

For both specialisations, the Honours Project has to be in the area of specialisation.