

**BEng (Hons) in Nuclear Engineering - 2012 Entry**
**(pre/co-req in brackets)**

Year	Course	Course	Course	Course	Course	Course
1-1	<b>COMM 1050</b> Technical Communications	<b>ENGR 3200</b> Engineering Graphics and Design	<b>MATH 1010</b> Calculus I	<b>MATH 1850</b> Linear Algebra for Engineers (Coreq: MATH 1010)	<b>PHY 1010</b> Physics I	<b>Liberal Studies Elective</b>
1-2	<b>CHEM 1800</b> Chemistry for Engineers	<b>ENGR 1200</b> Introduction to Programming	<b>ENVS 1000</b> Environmental Science	<b>MATH 1020</b> Calculus II (MATH 1010)	<b>NUCL 1530</b> Radiation and Nuclear Technologies	<b>PHY 1020</b> Physics II (PHY 1010)
2-1	<b>ENGR 2140</b> Problem Solving, Modelling and Simulation (MATH 1020, PHY 1020, ENGR 1200) (Coreq: MATH 2860)	<b>ENGR 2220</b> Structure and Properties of Materials (CHEM 1020 or CHEM 1800)	<b>ENGR 2500</b> Introduction to Nuclear Physics (MATH 1020, PHY 1020)	<b>ENGR 2790</b> Electric Circuits (MATH 1020, PHY 1020)	<b>ENGR 2860</b> Fluid Mechanics (MATH 1020, PHY 1020)	<b>MATH 2860U</b> Differential Equations (MATH 1020, MATH 1850U)
2-2	<b>ENGR 2010</b> Thermodynamic Cycles (MATH 1020, PHY 1020)	<b>ENGR 2950</b> Radiation Protection (ENGR 2500)	<b>ENGR 3820</b> Nuclear Reactor Kinetics (ENGR 2500, MATH 2860)	<b>MATH 2810</b> Adv Engineering Mathematics (MATH 1020 Calculus II) <u>OR</u> <b>MATH 2070</b> Numerical Methods (MATH 1020, MATH 1850)	<b>SSCI 1470</b> Impact of Science and Technology on Society	<b>STAT 2800</b> Statistics and Probability for Engineers (MATH 1020)
3-1	<b>ENGR 3570</b> Environmental Effects of Radiation (ENGR 2950)	<b>ENGR 3740</b> Scientific Instrumentation (ENGR 2790, STAT 2800)	<b>ENGR 3750</b> Integrated Engineering Laboratory (ENGR 2140, ENGR 2860, ENGR 2220)	<b>ENGR 3930</b> Heat Transfer (ENGR 2010 or ENGR 2320 or ENGR 2640)	<b>ENGR 4640</b> Nuclear Plant Operation (PHY 1020)	<b>Complementary Studies Elective</b> (BUSI or Liberal)
3-2	<b>ENGR 3360</b> Engineering Economics (OR BUSI 1700 if you are mgmt see mgmt map for addition)	<b>ENGR 3380</b> Strength of Materials (PHY 1010, ENGR 2220)	<b>ENGR 4610</b> Corrosion for Engineers (CHEM 1020 or CHEM 1800)	<b>ENGR 4730</b> Reactor Control (MATH 2860)	<b>ENGR 4780</b> Nuclear Reactor Design (ENGR 2500, ENGR 2860, ENGR 3820, ENGR 3930, MATH 2070 or 2810)	<b>Liberal Studies Elective</b>
4-1	<b>BUSI 3700</b> Strategic Management for Professionals	<b>ENGR 4620</b> Radioactive Waste Management Design (ENGR 3570, ENGR 3930, ENGR 4610)	<b>ENGR 4660</b> Risk Analysis Methods (STAT 2800)	<b>ENGR 4700</b> Nuclear Plant Design and Simulation (ENGR 2010, ENGR 4640, ENGR 4780)	<b>ENGR 4994</b> Thesis Design Project I (See Advisor)	<b>Engineering Science Elective</b>
4-2	<b>ENGR 4520</b> Nuclear Plant Safety Design (ENGR 4640, ENGR 4660, ENGR 4700)	<b>ENGR 4760</b> Ethics, Law and Professionalism for Engineers	<b>ENGR 4810</b> Nuclear Fuel Cycles (ENGR 4610, ENGR 4780)	<b>ENGR 4998</b> Thesis Design Project II (ENGR 4994, See Advisor)	<b>Engineering Design Elective</b>	<b>Engineering Science Elective</b>