

Introduction to Energy Science	Lecture Hours
Context and Philosophy of Energy Science	2
Environmental Impact of Energy Utilisation	12
Economics of Energy & Energy Regulation & Policy	15
Thermodynamics, Reaction Kinetics and Heat Transfer	12
Energy Storage Electromagnetism	12
Materials for Energy Applications	7
Total	60



Core 1: Conventional Energy Sources & Technologies	Lecture Hours
Fossil fuels, Combustion, Engines & Emissions	25
Nuclear Reactions, Materials & Reactor Technology	15
Total	40

Core 2: Sustainable Energy Sources & Technologies I	Lecture Hours
Electrochemical Cell Technology	14
Photovoltaics	13
Carbon Dioxide Capture & Storage	13
Total	40

Core 3: Electric Power Generation & Distribution	Lecture Hours
Power Systems, Analysis & Smart Grids	20
Electric Machines & Power Electronics	20
Total	40

Core 4: Sustainable Energy Sources & Technologies II	Lecture Hours
Biofuels, Biomass & Hydrogen	18
Wind Energy Generation & Storage	22
Total	40

Core 5: Managing the Impact of Energy Utilisation	Lecture Hours
Raw Materials & Natural Resource Management	15
Techniques for Quantitative Analysis & Characterisation of Energy Critical Raw Materials	15
Nuclear Safety & Environmental Impact	10
Total	40

Research Project in Academia or Industry
15 Weeks Full-Time