

ENERGY TRANSITION SYSTEMS AND TECHNOLOGIES (ONLINE – SEPTEMBER START) (MSc/PgDip/PgCert)

63J91SB1/63J91SVX/63J91SVZ

Duration: MSc 12 months full time and 27 months part time; PgDip 9 months full time and 18 months part time; PgCert 4 months full time and 8 months part time.

Content: The MSc in Energy Transition Systems and Technologies introduces and gives an overview of the topic of energy transition. The focus is on the diverse challenges faced in the context of the energy transition, and multiple technical solutions. As well as technical dimensions, the programme intentionally focusses on non-technical (e.g. economic, policy) aspects of the energy transition as examples of critical elements. The programme also introduces students to systems thinking in the context of energy systems and teaches them some relevant methods for system-level analysis (e.g. GIS, energy system analysis). Upon completion of the programme, students should have an overview of the key issues in energy transition, and be well equipped to address some of them (as they must in their final project) with some of the taught methods.

Students will undertake the project and complete the dissertation in Energy Transition Systems and Technologies which will be defined to be research or industrial relevant.

Candidates shall be required to study the following designated programme of courses:

FULL TIME ROUTE

Session 1

EG504J Introduction to Energy Transition: Demand, Technology and Economics (15 credit points)
EG504L Carbon Capture, Utilisation and Storage (15 credit points)

Plus one from the following:

EG504A Energy from Biomass (15 credit points)
EG503W Solar Energy (15 credit points)
EG503B Geothermal and Hydro Energy (15 credit points)

Plus one from the following:

EC50B2 Economic Analysis for Energy Markets (15 credit points)
EC50B3 Investment Analysis for Energy (15 credit points)
GG5066 Introduction to GIS Tools, Techniques, Cartography and Geovisualisation (15 credit points)

Session 2

EG55M3 Energy Conversion and Storage (15 credit points)
EG554U Energy Systems Integration (15 credit points)

Plus two from the following:

EG552V Marine and Wind Energy (15 credit points)
EG552T Legislation, Economics and Safety (15 credit points)
EG55M5 Renewable Energy Integration to Grid (15 credit points)

EG59F2 Individual Project (60 credit points) (Continues into year 3)

Session 3

EG59F2 Individual Project (60 credit points)

PART TIME ROUTE

Year 1

EG504J Introduction to Energy Transition: Demand, Technology and Economics (15 credit points)
EG504L Carbon Capture, Utilisation and Storage (15 credit points)
EG55M3 Energy Conversion and Storage (15 credit points)
EG554U Energy Systems Integration (15 credit points)

Year 2

One from the following:

EG504A Energy from Biomass (15 credit points)

EG503W Solar Energy (15 credit points)

EG503B Geothermal and Hydro Energy (15 credit points)

Plus one from the following:

EC50B2 Economic Analysis for Energy Markets (15 credit points)

EC50B3 Investment Analysis for Energy (15 credit points)

GG5066 Introduction to GIS Tools, Techniques, Cartography and Geovisualisation (15 credit points)

Plus two from the following:

EG552V Marine and Wind Energy (15 credit points)

EG552T Legislation, Economics and Safety (15 credit points)

EG55M5 Renewable Energy Integration to Grid (15 credit points)

EG59F2 Individual Project (60 credit points) (Continues into year 3)

Year 3

EG59F2 Individual Project (60 credit points)

Assessment: By a combination of written examination and course work as prescribed for each course. In addition, MSc candidates must submit a dissertation on their individual project and may be required to undergo an oral examination. The Degree of MSc shall not be awarded to a candidate who fails to achieve a CGS Grade of D3 or above in the individual project, irrespective of their performance in other courses.