SUPPLEMENTARY MATERIAL

Article

Education for Sustainable Energy: Comparison of Different Types of E-Learning Activities

María Ángeles Martín-Lara ¹* and Nuria Rico ²

¹ Chemical Engineering Department, Faculty of Sciences, Avda. Fuentenueva, s/n, 18071 Granada, Spain
² Department of Statistics and Operational Research, Faculty of Sciences, Avda. Fuentenueva, s/n, 18071 Granada, Spain; nrico@ugr.es
* Correspondence: marianml@ugr.es; Tel.: +34-958-240445

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COURSES CONTENT

COURSE 1: SOLID AND GASEOUS WASTE TREATMENT COURSE

Part I – Solid Waste Management (SWM).

Module 1: An overview of the steps of SWM from waste generation to final use/disposal.


Module 5: Waste conversion/treatment processes: thermochemical conversion technologies.

Module 6: Most suitable SWM options in a specific local context.

Module 7: Environmental and economic impact of SWM options.

Module 8: Innovative solutions of SWM in urban areas.

Module 9: An introduction to Circular Economy.

Part II – Treatment of gaseous effluents.

Module 10: Air quality and pollution control.

Module 11: The engineering control of air pollution: cyclone.
Module 12: The engineering control of air pollution: electrostatic precipitation.

Module 13: The engineering control of air pollution: wet and dry scrubbing.

Module 14: The engineering control of air pollution: thermal and catalytic oxidation.

Module 15: The engineering control of air pollution: emerging air pollution control technologies.

COURSE 2: BIOFUELS AND RENEWABLE ENERGIES COURSE

Part I – Biomass Processing Technologies.

Module 1: Introduction of bioenergy and biomass fuels.

Module 2: Combustion of biomass.

Module 3: Torrefaction, pyrolysis and gasification for the production of fuels and chemical from biomass.

Module 4: Production of biodiesel from biomass.

Module 5: Production of bioethanol from biomass.

Module 6: Production of biogas from biomass.

Module 7: Life-Cycle environmental impacts of biofuels and co-products.

Part II – Alternative renewable energy production technologies

Module 8: Hydropower technologies.

Module 9: Wind Power Technologies.

Module 10: Solar Power Technologies

Module 11: Geothermal Power Technologies.

Module 12: Other Renewable Power Technologies.


Module 14: Existing Marketplaces.