

Variable Renewable Energy Technologies

Variable renewable energy or intermittent renewable energy sources are renewable energy sources that are not dispatchable due to their fluctuating nature, such as wind power and solar power, as opposed to controllable renewable energy sources, such as dammed hydroelectricity or biomass, or relatively constant sources, such as geothermal power

Period:	Period 2
Course coordinator:	Prof. David Sanchez - University of Seville - email: ds.us@es
Lecturer:	To be decided
Educational management portal:	moodle.unitus.it
Objectives:	Provide the students with the principles of design and operation of variable renewable energy technologies for power generation: photovoltaics and wind
Programme:	<ul style="list-style-type: none"> • Fundamentals of photovoltaic systems • Design of photovoltaic systems: small and large scale • Fundamentals of wind turbines • Design of wind turbines • Operation of VRE systems: interaction with the grid"
Pre-requisites:	<p>i) Fundamentals of Thermodynamics, in particular energy conversion systems for power generation.</p> <p>ii) Fundamentals of fluid dynamics (turbomachinery would be useful, though not mandatory).</p>
Study material:	<ul style="list-style-type: none"> • Lecture slides; • Reading material; • Virtual reality material • Additional literature handed out during the course / made available via Blackboard/Moodle.