

Module designation	Energy and Environmental
Code, if applicable	CIL 23827
Semester(s) in which the module is taught	2nd
Person responsible for the module	Dr. Ir. Hermawan, DEA
Language	<i>Indonesian and English</i>
Relation to curriculum	<i>Elective</i>
Teaching methods	<i>Lecture, Discussion (Q &amp; A), Presentation.</i>
Workload (incl. contact hours, self-study hours)	<p><i>(Estimated) Total workload:</i></p> <ul style="list-style-type: none"> <li>• <i>50 minutes of face-to-face lectures in class</i></li> <li>• <i>1 hour of structured assignments (doing homework or assignments given by lecturers) or independent work (reading books, papers, etc.)</i></li> </ul>
Credit points	<i>2 credits</i>
Requirements according to the examination regulations	<i>Minimum attendance of lectures 75%</i>
Required and recommended prerequisites for joining the module	<i>Existing competencies in renewable energy</i>
Module objectives/intended learning outcomes	<ul style="list-style-type: none"> <li>- <i>Able to measure trends in energy use in the household, industrial, and transportation sectors and their impact on the environment.</i></li> <li>- <i>Able to evaluate the use of renewable energy (technology, construction, and the impact on the environment) and the use of some waste as an energy source.</i></li> </ul>
Content	<i>Energy use in household, industry &amp; transportation sectors, renewable energy sources, fossil energy and the environment, waste and the environment, overall trends in energy use, manufacturing energy in households, energy in passenger &amp; freight, transpo-hydropower, petroleum energy, gas &amp; coal energy, biofuels, nuclear and fuel cells, plastic waste &amp; used tires, livestock and human waste, agricultural &amp; plantation waste.</i>
Exams and assessment formats	<i>One oral Midterm assessment (15 minutes each), one final oral exam (20 minutes), take-home written assignments.</i>
Study and examination requirements	<p><i>Requirements for successfully passing the module</i></p> <p><i>e.g. the final grade in the module is composed of 60% performance on exams, 20% take-home assignments, 20% in-class participation. Students must have a final grade of 60% or higher to pass.</i></p>

Reading list	<p>Breeze, P., 2019. <i>Power generation technologies</i>. Newnes.</p> <p>Infield, D. and Freris, L., 2020. <i>Renewable energy in power systems</i>. John Wiley &amp; Sons.</p> <p>Loulou, R., Waaub, J.P. and Zaccour, G. eds., 2005. <i>Energy and environment</i> (Vol. 3). Springer Science &amp; Business Media.</p>
--------------	--