

### Module Outline (GeNext Programme)

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|--|------------------------------|---|-------------------------------------|
| <b>Module Code</b> :   | SP3402                       |   |                                     |
| <b>Module Title</b> :  | Energy Environment & Society |   |                                     |
| <b>Type of Module</b> :  | Breadth                      |   |                                     |
| <b>Modular Credits</b> :   | 4                            | <b>Student Workload :</b><br><b>Contact hours for timetabling</b> : | 8-10 hours/week<br>2 x 2-hours/week |
| <b>Prerequisite</b> :  | None                         |   |                                     |
| <b>Anti-requisite</b> :  | None                         |   |                                     |
| <b>Aims/Objectives/Rationale (in words):</b>   |                              |   |                                     |
| <p>Suitable for any student enrolled under the GeNext B. Sc programme. This breadth course aims to impart the technical, environmental, and economic dimensions of energy conversion and consumption in a contemporary society.</p>  |                              |   |                                     |
| <b>Module Content:</b>   |                              |   |                                     |
| <p>The module starts with an overview on global energy scenario which will lead to a focused discussion on the National energy issues. Energy use pattern in various sectors like domestic, commercial, industrial and transport would be included in these discussions which can portrait the future energy scenario in the Country. Various resources and technologies for energy conversion would be introduced at this stage, giving emphasis to both conventional and alternate energy sources. The environmental implications of energy conversion and consumption would then be discussed, which includes the outlining of the relative merits and demerits of different technologies. The module takes a further step to introduce the concepts of energy conservation and management, under which the principles of energy efficiency and energy auditing would be described. Another area which the module would cover is the methods of solid waste management in the National context which will explore the possibilities of 'waste to energy' conversion under local conditions. The module would be concluded by emphasizing the need for a "sustainable and secure" approach in the energy sector of the Nation.</p> |                              |   |                                     |
| <b>Assessment:</b>   | Examination: ----            | Course Work: 100%   |                                     |
| <b>Textbook(s) References:</b>   |                              |   |                                     |
| <ol style="list-style-type: none"> <li>1. David Elliott. <i>Energy, Society and Environment: Technology for a Sustainable Future</i>. Taylor &amp; Francis, 2007.</li> <li>2. Craig R. Humphrey , Tammy L. Lewis and Frederick H. Buttel. <i>Environment, Energy and Society: Exemplary Works</i>. Wadsworth Publishing, 2002.</li> <li>3. Robert A. Ristinen and Jack P. Kraushaar. <i>Energy and the Environment</i>. Wiley, 2005.</li> </ol>  |                              |   |                                     |
| <b>*Staff:</b>   |                              |   |                                     |
| <p>Dr Sathyajith Mathew</p>  |                              |   |                                     |