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| **Course Number :** | **CBEg 6342** |
| Course Title:  | Sustainable Energy, Environment & Economics |
| PG Program | MSc, Environmental Engineering |
| Module Objectives & Competences to be Acquired | The course aims to introduce the basic concepts, principles, potentials and limitations of various renewable energy sources. It emphasis on alternate energy sources and their technology, application, including environmental, and economic issues. A comprehensive approach to the resolution of resource, technical, economic, strategic, environmental, socio- and geopolitical problems of the energy industries, Energy plantation.  |
| * Learning outcome
 | On completion of this Module the students will be able to:* Identify basic principles of different renewable energy technologies
* Ethiopia energy scenario
* Global energy scenario
* Linkage between development and sustainability
* Identify fundamental characteristics of the energy sources
* Understand energy and environmental stress
* Compare renewable versus non-renewable energy sources
* Make economic and environmental analysis
* Device environmental and energy management plan
* Cover basic principle of Environmental Economics
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| * Course Description/Module Contents
 | * Introduce the basic concepts, principles, and potentials of various renewable energy sources
* Fundamental characteristics of various renewable energy
* Describe the challenges and problems associated with the use of renewable various energy sources
* Special emphasis ( Biomass Energy Production)
* The global scenario
* Ethiopia energy scenario
* Quantification of energy demands and make comparisons among energy uses, resources, and technologies.
* The sustainability challenge
* Environmental implications of various renewable energy sources
* Economic and technical performance indicators of various renewable energy sources
* Carbon Trading
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| * Assessment/Evaluation & Grading System
 | * Course work assignments 25 %
* Seminars 15%
* Discussion 10%
* Homework assignments 10%
* Exam 40%
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