

EOLSS  
ENCYCLOPEDIA OF LIFE  
SUPPORT SYSTEMS



*A source of knowledge for sustainable  
development and global security to lead to  
fulfilment of human needs through simultaneous  
socio-economic and technological progress and  
conservation of the Earth's natural systems.*

# **UNENE COURSE UN 702**

## **POWER PLANT THERMODYNAMICS**

### **COURSE NOTES**

The course notes consist of selected Articles from the UNESCO sponsored Encyclopedia of Life Support Systems (ELOSS). These articles were based on the instructor's course material for three senior level courses at UNB so are uniquely relevant for this course.

#### **MODULE 1 THERMODYNAMIC CYCLES**

- Article 3.10.1.4 Thermodynamic Theory**
- Article 3.10.1.5 Power Plant Steam Cycle Theory**
- Article 3.10.1.6 Exergy Analysis**

#### **MODULE 2 NUCLEAR HEAT REMOVAL**

- Article 3.10.1.3 Thermal Fluid Theory**
- Article 3.10.2.9 Nuclear Reactor Heat Removal**
- Article 3.10.2.10 Nuclear Reactor Steam Generation**
- Article 3.10.3.4 Steam Turbine Steam System**

#### **MODULE 3 STEAM TURBINE OPERATION**

- Article 3.10.3.2 Steam Turbine Impulse and Reaction Blading**
- Article 3.10.3.3 Steam Turbine Components and Systems**
- Article 3.10.3.5 Steam Turbine Operational Aspects**