



TECHNOLOGICAL EDUCATION INSTITUTE OF  
CENTRAL MACEDONIA  
SCHOOL OF TECHNOLOGICAL APPLICATIONS  
DEPARTMENT OF MECHANICAL ENGINEERING

Graduate Studies Program:  
Academic Year 2015 - 16

**"Renewable Energy Systems: Design,  
Development and Optimization"**

**Dr Ing Katsanevakis Athanasios**

Subject:

**An algorithm for the calculation of the optimum blade pitch of a  
wind turbine**

**Introduction & Motivation:**

The work will carry on a previous thesis resulted in an excel based visual basic code capable to calculate the power output of horizontal axis wind turbines based on the characteristics of airfoil used. The goal of the present thesis will be to improve the existing code by splitting the blade in more sections and by taking into account automatically the airfoil characteristics.

**Implementation & Means:**

Thesis work should be implemented by the student during the winter semester of the academic year 2015-2016.

**References:**

Those used during the course

**Requirements:** *Understanding of the physical phenomena taking place during the operation of wind turbine blades, familiarity with excel + motivation to start excel programming.*