

Module Name:	Financial Investment in Engineering
Module Code:	EGTM75
Presenter(s):	Professor Peter Alberry
Credit Rating:	10
Venue:	College of Engineering, Swansea University

Synopsis:

This module, a combination of interactive seminars and computer based exercises, will provide engineering students with a detailed appreciation of financial investment for the technical environment. It will highlight the role of the individual and management during financial decision making procedures and associated risk assessment. Case studies of large scale investments in the aerospace industry will be employed throughout the course.

Intended Outcomes:

On completion of the module the student will demonstrate:

- A comprehensive understanding of corporate investment, particularly in relation to gas turbine technologies
- Informed financial decision making skills concerning gas turbine engineering projects
- Appreciation of the interacting roles of individual team members and managers in financial planning for gas turbine projects
- Self-direction in the incorporation of advanced computer orientated tools for financial decision making
- Technical competency in the calculation of economic risks and uncertainty in relation to international gas turbine projects

Module Aims:

To provide engineering students with an appreciation of the financial context behind setting up and operating an engineering operation.

Syllabus:

Definition and justifications of engineering investment for gas turbine technologies
Financial accounting: production costs, revenue analysis, earnings, depreciation and cash flow.
Basic tax law.
Models of Investment Appraisal: compounding, discounting, time value for money, payback, net present value, internal rates of return
Financial Risk: risk management options, risk assessment, sensitivity analysis, probabilistic assessment with particular emphasis on international gas turbine technologies.

Assessment:

Computer based exercise to be submitted within three weeks, after course presentation.