Aston Business School
Birmingham

BNM804 ENTERPRISE RESOURCE PLANNING

Academic Year 2011/12

Number of Aston Credits: 15

Number of ECTS Credits: 7.5

Staff Members Responsible for the Module:

Dr Pavel Albores, Operations & Information Management Group
Aston Business School Room: 254, Ext:3262
Email: p.albores@aston.ac.uk
Office hours appointments may be made online via
http://tinyurl.com/Pavel-OH
Or Contact the Operations & Information Management Group Administrator
John Morley: Aston Business School Room: 266,
Email: j.p.morley@aston.ac.uk

Pre-Requisites for the Module:

None

Module Learning Outcomes:

This module provides a broad understanding of the functionality and capabilities of Enterprise Resource Planning (ERP) Systems.

On successful completion of the module students will be able to:

> Demonstrate an appreciation of the core interactions and dependencies that exist between the key functions of a business
> Discuss the role of information systems in the support of business functions and, particularly, cross-functional business processes
> Describe the way Enterprise planning Systems have developed, their functional capabilities and the role of the underpinning technologies
> Discuss ERP success rates, implementation strategies and related issues
> Discuss the role of business process re-engineering (BRP) in ERP implementation
> Discuss recent extensions of ERP into Advanced Planning Systems (APS), Supply Chain Management (SCM), Product Data Management (PDM) and the impact of technology developments like Service Oriented Architecture (SOA).

Module Content:

The ability to appreciate the value and challenge of ERP systems depends on the student understanding the interdependencies that are present between the functions in all businesses. Traditionally information systems were developed for the separate functions of the business leading to inevitable deficiencies in their ability to support the integrating processes that cross functional boundaries. The rationale behind the development of ERP has been presented as being based on this latter business model although it grew out of the integrated manufacturing systems of the 1980's. It has also been presented as being a natural consequence of the development of new underpinning information technologies, particularly client-server architecture although the earliest systems were mainframe-based. The module will examine these perspectives in order to develop an understanding of the role, functionality, capabilities and implementation challenges of modern ERP systems.

The module will make use of opportunities offered by Aston's membership of the SAP Alliance (SAP are the largest supplier of business software systems in the world). The Alliance allows hands-on access to state-of-the-art ERP software for students and staff as well as a community of experts and commercial users.

Specific topics covered include:

> Business functions, processes and information systems
> ERP development history (MRP to ERP) and enabling technologies (relational databases, client-server, 4GL, SOA etc)
> Functionality and role of information systems in the core business processes that involve the key functions of Sales, Manufacturing and Finance
> Role of information systems in support functions like Design & Development, HRM, asset management etc.
> Advanced capabilities and functionality: examples from supply chain management, scheduling, business intelligence, etc
> Implementation issues and strategies: supplier selection, tailoring, application development, training & support, project management, costs, continuous improvement.

International Dimensions:

International aspects are fundamental to ERP as the focus of many implementations is to provide support for multi-site, multi-company global operation. This has particular relevance to the financial and decision support systems. Recent extensions to the functionality of ERP to provide supply chain management facilities are global in context and the rapid development of web transactions and reporting capabilities have also been aimed at international operations.

Corporate Connections:

Contact with current/past KTP companies is used to provide students with exposure to the current problems of implementing and operating ERP systems. The case exercise that forms the core of the coursework is based on one such company.

The SAP Alliance provides access to case materials, external speakers and SAP software. The Alliance provides the opportunity for students to take a foundation SAP certification qualification during the year utilising on-line delivery arranged through the Alliance (i.e. not delivered by Aston). This module provides an excellent preparation for this further study.

Method of Learning and Teaching:

To understand the benefits and role of ERP it is necessary to put the use of the system in the context of the normal operational processes of a business. This is achieved here by the in-depth analysis of the potential for application of ERP in a real company (the subject of ERP implementation through an ABS/KTP programme). This is the basis of the group project. The students have to develop the case for ERP through analysis of the impact ERP would have on the company's competitive position, the changes necessary to its business processes and the issues that must be considered for successful implementation. Conventional lectures, directed reading and tutorials are also employed. The completed project is assessed through submission of a report detailing the recommendations for ERP implementation to the case company. The standard ABS system for peer assessment will be used. The group size is set at maximum of 5. Tutorial sessions will be used to support the case exercise and the lectured material.

Workshop sessions will be used to provide students with experience of the operation of an ERP system in a way that parallels the use of such systems in real companies. External speakers will be used to further develop this understanding of the practical implications of the application of such systems.

Contact and directed learning:

Lectures	15 hours
Tutorials	5 hours
Workshops	10 hours
Background & Directed study	30 hours
Group Design Exercise	50 hours
Group workshop exercises	30 hours
Revision	10 hours
Total	**150 hours**

Method of Assessment:

The assessment is via a two-hour closed book examination (60%) and one piece of coursework (40%).

The piece of coursework (40%) is group based and concerns the analysis of a case company business processes and the development of a proposal to justify the implementation of ERP in the firm. The analysis and design work are assessed through submission of a project portfolio of materials that documents the company analysis completed during the module. In addition to the covering the business analysis, it must provide additional material (in appropriate formats) to cover the specification and selection of a suitable ERP system and the business case for ERP in the case company. The portfolio of materials should be submitted via the coursework office.

Small groups are self-formed with a maximum of 5 members. The standard ABS peer assessment of effort is used to determine distribution of the project marks together with and attendance record taken for the case-related lecture or tutorial sessions.

Any difficulties students may have with the effective working of the group should be brought to the lecturers' attention as soon as possible. Disputes over contribution can be resolved through team interviews with the lecturers or by recourse to the ABS group work arbitration procedure run by the Curriculum and Student Support Manager. It is essential that full records of meetings (Agendas, minutes, actions) and contributions are retained throughout the exercise.

Group working is fundamental to the nature of this type of work and it mirrors the way in which it is done in industry.

Workshops on the computer lab, using SAP a carrying out an exercise will count for 5% of the coursework mark.

The following essential and recommended readings are subject to change. Students should not therefore purchase textbooks prior to commencing their course. If students wish to undertake background reading before starting the course, many of the chapters/readings are available in electronic form via on-line library catalogues and other resources.

Essential Reading:

Magal, S.R. and Word, J., Integrated Business Processes with ERP Systems, John Wiley & Sons, 2011 ISBN 978-0-470-47844-8

Magal, S.R. and Word, J., Essentials of Business Processes and Information Systems, John Wiley & Sons, 2009. ISBN 978-0470418543

Indicative Bibliography:

Wagner BJ & Monk EF (2008), (Concepts in) Enterprise Resource Planning, 3rd Edition, Delmar, ISBN-10: 1423901797. Or Earlier editions:

> Monk EF & Wagner BJ (2005), (Concepts in) Enterprise Resource Planning, 2nd Edition, Independence, KY: Course Technology.

> Brady JA, Monk EF & Wagner BJ (2001), Concepts in Enterprise Resource Planning, 1st Edition, Independence, KY: Course Technology.

Harwood S (2003), ERP, The Implementation Cycle, Oxford: Butterworth-Heinemann.

Norris G, Hurley J, Hartley K, Dunleavy J & Balls JD (2000), E-Business and ERP Transforming the Enterprise, New York: John Wiley & Sons Class.

O'Leary DE (2000), Enterprise Resource Planning Systems, Systems, Life Cycle, Electronic Commerce, and Risk, Cambridge: Cambridge University Press.

Shields MG (2001), E-Business and ERP, Rapid Implementation and Project Planning, New York: Wiley.

Wallace TF & Kremzar MH (2001), ERP, Making it Happen, The Implementers' Guide to Success with Enterprise Resource Planning, New York: Wiley.

Practitioner Journals:

Institute of Operations Managament (IOM): Control