Diploma Supply Chain Management

Programme Information

Contents

Programme Title:

Diploma in Supply Chain Management

Award Type and Level on National Framework of Qualifications:

Postgraduate Diploma Minor Award Level 8

Rationale:

The development of this programme was inspired by a specific demand from industry to meet the clear need to upskill current personnel who have shown the aptitude and track record of competence in supply chain operations to aspire to a degree level qualification. This programme represents the outcome of a close, respectful, responsive and productive collaboration with an industry partner who is a significant global player in the domain of high-technology supply-chains. This innovative work has received strong encouragement from IDA Ireland. It has strong potential to reach a broader supply-chain audience, both in Europe and in Asia.

Supply-chain enterprises operate in a highly dynamic business environment characterised by three Cs – change in globalisation such as outsourcing, change in product possibilities and expectations such as product-service bundling, and change in ways of integrating businesses such as the emergence of enterprise networks.

This programme's content aligns with the framework of the Supply-Chain Council's Supply Chain Operations Reference model (SCOR). While in the form of a template, this model places operations planning and control centrally in a way that prior implicit framings did not and so provides a basis for the strongly conceptual navigations that supply-chain managers face in their everyday lives. The programme combines strong human factor, cause-effect modelling, and process improvement orientations to leverage innovative opportunities

Learning Outcomes:

After completing this programme, students should be able to:

Knowledge - Breadth and Kind:
- Describe and discuss an operations management framework of concepts related to supply-chain activity and grounded in the SCOR model, including source, make, deliver/return planning and performance measurement.
- Describe and discuss enabling dimensions for supply-chain activity including reference to the human factor and culture, capacity planning, optimisation and simulation, information systems, and continuous improvement.

Knowhow and Skill - Range and Selectivity:
- Locate supply-chain activities at different levels of aggregation and integration.
- Identify performance measures in relation to different levels of supply-chain activity and to elicit latent opportunities for continuous improvement from people involved at all levels.

Competence - Context and Role:
- Context: High-technology supply-chains involve many activities including the preparation of reliable, producible and affordable new product designs, the sourcing of materials and production capacity around the world, transport of materials, and provision of coordinating information. Rapid changes in market demand (product specification, mix and life-cycle) dictate the need to be responsive in capacity reconfiguration (production, materials and logistics) with the active participation of geographically and culturally dispersed companies. Competition necessitates high quality outcomes, responsive and economic delivery.
- Role: Competent to actively participate in performance improvement and re-design projects relating to supply-chain structures and business processes; competent to discuss these in terms of their contribution to operational agility, structural adaptability, and the need for alignment with emergent market and supply-base constraints and possibilities; competent to collaborate in projects with people of different cultures and different contexts; competent to span the major organisational boundaries associated with for example marketing, production, product design, logistics and finance; competent to provide both leadership and followership towards organisational interoperability and supply-chain integration.

Competence - Learning to Learn:
- Competent to search for information on alternative methods to address new questions relating to supply-chain operations, and their outcomes.
- Competent to understand one's personal capabilities and how they might be developed.

Competence - Insight:
- Competent to frame new or emerging situations using concepts based on operations management models, supporting awareness of current state and future possibilities in a geographically distributed business environment, and so developing productive answers to real problems in a climate of uncertainty overlaid with multiple goals and constraints.

Structure

The terminal award on this programme is a Postgraduate Diploma Minor Award in Supply Chain Management NFQ Level 8.

The programme consists of 10 Modules each of 6 ECTS (9 Taught Modules, 1 Project Module) All modules are core to the programme

Normal progression regulations will apply to this programme. The minimum standard for progression to the next semester of the programme is a QCA of ≥ 2.00 with no deficient grades.

Students will be able to apply for exemptions from modules in line with the University Of Limerick Recognition Of Prior Learning Policy.

There is no provision for the conferring of awards on progressing students.

Semester One	Semester Two	Semester Three
1. Introduction to Supply Chain Management	4. Make within Supply Chains	8. Deliver & Return within Supply Chain
2. Teamwork Change & Cultural Diversity	5. Sigma Improvement Methodologies	9. Information Systems & Decision Support
3. Plan within Supply Chains	6. Source within Supply Chains	10. Integrating Development to Production
	7. Supply Chain Project - Concept	11. Supply Chain Project - Development

05/12/2016

Entry Requirements

A NFQ level 7 qualification in any discipline from a third-level institution. This includes a NCEA National Diploma from an Irish third-level institution. The course board may at its discretion accept a level 6 qualification with stronger evidence of prior learning and experience as per university policy below.

Or

An equivalent qualification.

And

A minimum of 3 years working within a service/manufacturing/supply-chain environment.

And

If the course board deem it necessary after reviewing a candidate's application, an interview

And

If the course board deem it necessary after reviewing a candidate's application, successful completion of PT4900 Professional Skills module.

The recognition of prior learning and prior experiential learning as per university policy will be applied to this course.

PT4900 skills portfolio module:

PT4900 is a formalised skills portfolio development module designed to assist candidates capture and report their professional and personal skills development and to codify their prior experiential learning. Candidates will only be required to complete PT4900 if their prior learning and prior experiential learning portfolio submitted with their application is not of a standard to facilitate an assessment of their eligibility for admission.

05/12/2016

Module Outlines

PT3001 – Introduction to Supply Chain Management

Rationale and Purpose of the Module:
Position supply-chain management in the context of its roots in operations management, and its relationship with other functional management

Syllabus:
CONTEXT: Operations and Supply Chain Strategy, integration and the SCOR framework structure and possible approach to implementation. SOURCE: Forecasting, New Product Development, Project Management, MAKE: Capacity Planning, Process Design and Analysis, Quality Management **DELIVER/RETURN:** Independent Demand Inventory, Dependent Demand Inventory, Optimization/ Simulation Modelling and logistics. PLAN: Quality Improvement Methods and Lean Enterprise, Technology and Integrated Supply Management, Global Supply Chain and Service Integration.

Learning Outcomes:
Cognitive (Knowledge, Understanding, Application, Analysis, Evaluation, Synthesis)
- Explain some key concepts underpinning decision-making in supply-chain management Appreciate the central role of planning in integrating source, make, deliver and return activities, and in accounting for work done and feedback into revaluation and review towards continuous improvement. Understand need for an integrative frame of reference in structuring supply-chain activities in terms of transactional activities and outcome measurement; in particular to understand the main high-level elements of the SCOR model with some ideas on how to implement it in practice.

Affective (Attitudes and Values)
- To understand the system nature of supply-chain at a global level. To link the elements in a systematic fashion to the practical context of supply-chain work, with reference to the spirit of the SCOR framework.

Prime Texts:
- Verma, Rohit, and Boyer, Kenneth K. (2010) Operations and Supply-Chain Management. , Southwestern Publishing/Cengage
- Bolstorff, Peter. Robert Rosenbaum () Supply Chain Excellence: A Handbook for Dramatic Improvement Using the SCOR Model.

Other Relevant Texts:
- Poluha, Rolf G. (2007) Application of the SCOR Model in Supply Chain Management, Cambria Press.
- Stevenson, William (2008) Operations Management w Student OM DVD. , McGraw-Hill/Irwin Series Operations and Decision Sciences.
- David Simchi-Levi, Philip Kaminsky, Edith Simchi-Levi (2007) Designing and Managing the Supply Chain: Concepts, Strategies, and Case Studies. 3rd ed., McGraw-Hill.
- Slack, Nigel, Chambers, Stuart, Johnston, Robert. (2009) Operations Management: and MyOMLab , FT Pitman

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PT3011 – Plan within Supply Chains

Rationale and Purpose of the Module:
Develop the student's management techniques for planning and controlling the flow of materials, information & value in a supply chain. Describe current planning systems and how they are used for planning the supply chain.

Syllabus:
Demand and Order Management: Role of demand management in supply chain planning, Forecasting, Fundamentals of sales and operational planning. Capacity Planning and Utilization: Role of capacity planning, Capacity planning techniques, Scheduling capacity and materials. Production and Inventory Management: Master Production Scheduling (MPS) techniques, Bill of material structuring for MPS, Production Activity Control (PAC), Inventory management concepts, Inventory related costs, Multi-item management. Distribution Requirements Planning: Distribution Requirements Planning (DRP) in the supply chain, Available to Promise, Allocated Available to Promise. Planning in Source, Deliver and Product Returns: Source requirements, Deliver requirements, Product return requirements, Reverse logistics. Planning Systems: Enterprise Resource Planning (ERP), Performance measures for system effectiveness, Material Requirements Planning (MRP) techniques, Advanced Planning and Optimisation tools and techniques

Learning Outcomes:
Cognitive (Knowledge, Understanding, Application, Analysis, Evaluation, Synthesis)
- Ability to distinguish and understand the requirements of the different aspects of planning in a supply chain context (e.g. Demand, capacity, production, supply and return) Knowledge of the systems used in supply chain planning and understanding of the principles on which they operate. Ability to explain planning principles through the application of analysis techniques to planning problems

Prime Texts:
- Vollmann, T. E., W. Berry, D. C. Whybark, F. R. Jacobs (2010) Manufacturing Planning And Control Systems For Supply Chain Management: The Definitive Guide for Professionals, 6th ed., McGraw-Hill. Supply Chain Council. () SCOR Model Version 9.0 ,

Other Relevant Texts:
- Ross, D. F. (2003) Distribution Planning and Control: Managing in the Era of Supply Chain Management , Springer
- Wisner, J. and L. Stanley (2007) Process Management: Creating Value Along the Supply Chain , Thomson
- Jonsson, P. and S-A Mattsson (2009) Manufacturing Planning and Control , McGraw-Hill
- Voss, S., and D. Woodruff (2006) Introduction to Computational Optimization Models for Production Planning in a Supply Chain , Springer

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PT3021 – Make within Supply Chains

Rationale and Purpose of the Module:
Outline how production systems have developed historically and identify how they are being currently impacted by recent developments such as Mass Customisation, and Just-in-Time.

Syllabus:
Introduction To Operations Engineering, Operations Strategy, Quality Planning And Control, Product And Service Design, Process Technology, Facility Layout And Line Balancing, Human Resources, Key Performance Indicators In Semiconductor Manufacturing, X-Factor And Operations Curves, Forecasting, Capacity Planning And Aggregate Production Planning, Inventory Management, Scheduling, Just In Time (JIT) And Lean Systems, Project Planning And Control, Enterprise Resource Planning (ERP)

Learning Outcomes:
Cognitive (Knowledge, Understanding, Application, Analysis, Evaluation, Synthesis)
- Describe the steps involved in product development and service design. Explain the key performance indicators, x factor and operation curves in semiconductor manufacturing. Describe the layouts and characteristics of the basis manufacturing processes-product, process, fixed location and cellular.

Affective (Attitudes and Values)
- Demonstrate an understanding of project planning and control and enterprise resource planning (ERP).

Prime Texts:
- Slack N, and Chambers, S (2008) Operations and Process Management: Principles and Practice for Strategic Impact ,

Other Relevant Texts:
- L. F. Atherton and R. W. Atherton (1995) Wafer Fabrication: Factory Performance and Analysis , Kluwer Academic Publishers
- Taiichi Ohno (1988) Toyota Production System: Beyond Large-Scale Production , Productivity Press, Portland, Oregon

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PT3031 – Teamwork Change & Cultural Diversity

Rationale and Purpose of the Module:
On completion of this module students will have developed their understanding of each of the key areas, and will have a number of perspectives and frameworks on which to draw in the workplace. The module is divided into three key learning blocks; each combines time for reading, discussion, reflection and writing.

Syllabus:
This module actively engages students in three key areas of academic study: Teamwork, Cultural Diversity and Change. The module builds on students¿ professional and personal experiences while highlighting relevant and influential thinking drawn from the literature. Teamwork explores, group dynamics, role and communication. Cultural diversity covers the concept of team and organisational culture and explores individual identity. Change deals with the cycles of change, resistance and strategies for implementing change. Students engage in a workplace change initiative.

Learning Outcomes:
Cognitive (Knowledge, Understanding, Application, Analysis, Evaluation, Synthesis)
- Describe basic team dynamics and articulate their preferred team roles. Develop awareness of cultural diversity and how to successfully leveraging it in the workplace. Explain concepts and strategies related to organisational change

Affective (Attitudes and Values)
- Identify personal strengths and challenges in the areas of teamwork, diversity and change

Prime Texts:
- Harris, T and Sherblom, J (2010) Small Group and Team Communication 5th Ed , Allyn and Bacon

Other Relevant Texts:
- Wilde, D. (2009) Teamology: The Construction and Organisational of Effective Teams, Springer-Verlag London Ltd.

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PT3041 – Sigma Improvement Methodologies

Rationale and Purpose of the Module:
Explain the concept of Six Sigma by knowing the definitions of quality and the principles on which quality management philosophies are based.

Syllabus:
Six Sigma Principles of Quality Management, Sigma Improvement Methodologies, Principles of Six Sigma, DMAIC Process, Define, Measurement, Analysis, Improve, Control, Concept and Design, Implementation

Learning Outcomes:
Cognitive (Knowledge, Understanding, Application, Analysis, Evaluation, Synthesis)
- Know how to use the Lean Sigma Improvement Methodologies in terms of lean supply chain for product and service functionality; To introduce innovation into problem solving To introduce flexibility to process improvement To encourage process owners to be change oriented To incorporate agility in to process design Know how the correct application of the tools and techniques in Lean Sigma Improvement Methodologies can reduce variability and increase the speed of a process.

Affective (Attitudes and Values)
- Appreciate Sigma Improvement Methodologies. Appreciate how Sigma Improvement Methodologies meet the challenges of modern complex manufacturing systems (semiconductor manufacturing). Appreciate Sigma Improvement Methodologies can bring the voice of the customer (VoC) into the design of a product and service.

Prime Texts:
- Evans, Lindsay (2004) An Introduction to Six Sigma and Process Improvement, International Student Edition ,
- James P Womak and Daniel T Jones (2003) Lean Thinking , Free Press, London and New York
- Taiichi Ohno (1988) Toyota Production System: Beyond Large-Scale Production , Productivity Press, Portland, Oregon

Other Relevant Texts:
- Mike Rother and John Shook (2003) Learning to See , The Lean Enterprise Institute, Brookline, Massachusetts
- Richard L. MacInnes (2002) The Lean Enterprise Memory Jogger , Goal/QPC Salem, NH
- James P. Womack and Daniel T. Jones (2001) Lean Thinking, Banish Waste and Create Wealth in Your Corporation

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PT3051 – Source within Supply Chains

Rationale and Purpose of the Module:
Explain the context, role and objectives of purchasing activity in supply chains. Explain the key concepts in supply-based development.

Syllabus:
Context and evolution of industrial purchasing, context, role and objectives of purchasing activity, purchasing process, integration, organisation, category and sourcing strategies, Supplier evaluation concepts and tools, supplier evaluation and selection, supply-base development, worldwide sourcing pitfalls and success factors, costing for purchasing, Economic costing towards appropriate decisions, negotiation, contract management, key recurrent constructs of contract structure purchasing law, principles of law in dealing with dynamic working relationships in supply-make-deliver/return, subject to temporal contractual relationships with suppliers/customers ethics in purchasing, procurement under government contracts, performance measurement and evaluation, current practices in measurement and presentation of performance of suppliers for purposes of purchasing supply chain and its integration with supplier development, emerging trends in supply-chain purchasing with respect to supply-base, production, delivery, and return policies.

Learning Outcomes:
Cognitive (Knowledge, Understanding, Application, Analysis, Evaluation, Synthesis)
- A strong awareness of the principles and practices of purchasing in the context of a large-scale OEM organisation which is dynamically reconfiguring its supply-chain. Knowledge of how the principles and practices of purchasing are applied within their organisation. The ability to recognise improvement opportunities based on purchasing best practices and emergent trends. Knowledge on how to support economic based purchasing decisions (e.g. the importance of costing analysis). Describe the current practices in measurement and presentation of performance of suppliers for purposes of purchasing supply chain and its integration with supplier development. Identify Key emergent trends in purchasing with respect to supply-base, production, delivery, and return policies.

Affective (Attitudes and Values)
- Acknowledge Strategic thinking in terms of categories of products/services, supply-chain development, and sourcing.

Prime Texts:
- Monczka, R., Handfield, L., Giunipero, C, and Patterson, J (2010) Purchasing and Supply Chain Management 5th edition , CENGAGE Lrng Business Press
- Johnson, P., Leenders, M. & Flynn, A (2010) Purchasing and Supply Management 14 edition. , McGraw-Hill Higher Education
- SCOR (2009) Supply Chain Operations Reference Model Version 9.0 , Supply Chain Council

Other Relevant Texts:
- Lysons, K., and Farrington, B. (2011) Purchasing and Supply Chain Management 8th edition , Financial Times/ Prentice Hall;
- Barrat, C., and Whitehead, M (2004) Buying for Business: Insights in Purchasing and Supply Management, John Wiley & Sons.

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PT3061 – Deliver & Return within Supply Chains

Rationale and Purpose of the Module:
This module offers a broad framework and clear description of the basic functions and elements related to logistics and distribution. Relevance to practice is a primary focus throughout the material. Key aspects of supply chain philosophy are included along with costing, contractual and legislative concerns but with the primary focus on distribution and logistics including international logistics requirements. Logistics revolves around freight movement or flow of goods and storage of items between the point of origin and end users and is supported by information, energy people and other resources. More importantly logistics refers to the planned and systematic application of these functions with specific objectives usually based around low costs and high service and quality levels. This module will introduce logistics in a historical context, define its concepts, and track the main drivers in the area along with exploring the theories of logistics. It aims to give practical and holistic tools to the student to identify logistics functions, to plan, and maintain effective logistics networks.

Syllabus:
Logistics International Contracts, Customs, Regulations, Incoterms, Managing transaction risk, payments, exchange rate exposure, Regulation and Green Logistics Reverse logistics and product lifecycle management, return of goods at end of life, Logistics and the environment.

Learning Outcomes:
Cognitive (Knowledge, Understanding, Application, Analysis, Evaluation, Synthesis)
- Understand logistics concepts and development and their place in the business/industrial environment Understand how products move to point of retail Comprehend logistics planning as a whole in the context of company strategic plans Be familiar with the fundamentals of warehouse management, including equipment, information and methodologies for effective inventory holding Understand modes of transport, integration of modes in logistics, cost considerations and transporting legislation Appreciate the contractual obligations involved in logistics and international logistics Be familiar with terminology and gain understanding of obligations. Understanding of concepts of payment and international trade Understand the process of transactions of money in logistics particularly international payment processes Understand the emergence of Reverse Logistics and its role in future manufacturing Understand the concepts of Product Lifecycle Management (PLM) and manufacturing under green legislation

Affective (Attitudes and Values)
- Appreciate logistics functions within the business, plan accordingly and manage relationships

Prime Texts:
- *Managing Supply Chains - A Logistics Approach (Langley et al.2009)*
- David, P. and Steward, R (2008) International logistics: The management of international trade operations, Thomson.
- Murphy, P. R. J. and Wood, D. (2007) Contemporary Logistics, Prentice Hall.
- Rushton, A., Croucher, P., et al. (2009) The handbook of logistics and distribution management, Kogan Page.

Other Relevant Texts:
- Brewer, A., Button, K. J., et al., Eds. (2001) Handbook of Logistics and Supply-Chain Management (Handbooks in Transport), Elsevier.
- Gattorna, J., Ed. (1994) Handbook of Logistics and Distribution Management (The handbook of physical distribution management), Gower Publishing Ltd.

- Harrison, A. and Van Hoek, R. (2008) Logistics Management and Strategy: Competing Through the Supply Chain, Financial Times/ Prentice Hall.

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PT3071 – Information Systems & Decision Support

Rationale and Purpose of the Module:
At the end of the module, students will have an introduction to: The role of information systems within supply chains Basic Programming Concepts Relational database management systems. The software development process Software specification to support the software development process

Syllabus:
Role of Information Systems in Supply Chain, Descriptions of elements of integrated Supply Chain Information Infrastructure, Case studies to show the strategic importance of information systems in supply chain, Introduction to Programming, Introduction to a programming tool and IDE, Breakdown and demonstration of a sample program, Structure of a software program, Programming: Basic Programming Blocks, Introduction to basic blocks, variables, sub programs, Introduction to Programming Interface Concepts, Understanding of basic concepts in graphical user interface development, Introduction to Database Systems, Description of a database, Description of components of a database system, Introduce database models, Relational Database Model, Phases of database design, Introduce Entity-Relationship Model, Relational Database Concepts, Querying databases, Introduction to Access, Introduction to Software Development, Software Characteristics, Process of Software Development, Introduction to Software Specification Concepts, Describe the role of software specification, Overview of software specification methods, Introduction to a software specification method, Process of Software Development, Basic Concepts Unified Modelling Language (UML)

Learning Outcomes:
Cognitive (Knowledge, Understanding, Application, Analysis, Evaluation, Synthesis)
- The role of information systems within supply chains Basic Programming Concepts Relational database management systems The software development process Software specification to support the software development process

Affective (Attitudes and Values)
- Ability to distinguish the elements and understand the importance of supply chain information systems Knowledge of the software development process and the basic concepts of programming. Understand the presentation tier and graphical user interfaces, underlying business logic and basic concepts of database systems The ability to understand develop software specification documents and basic UML models

Prime Texts:
- *Info Systems: Ralph M. Stair Information Systems, International Edition (with Printed Access Card)*
- Wang J, (2009) Innovations in Supply Chain Management for Information Systems: Novel Approaches (Advances in Information Systems and Supply Chain Management) , Business Science Reference
- Rautenstrauch, C., Seelmann-Eggebert, R., and Turowski, K. (2002) Moving into Mass Customization: Information Systems and Management Principles , Springer
- Dwivedi A and Butcher T (2008) Supply Chain Management and Knowledge Management: Integrating Critical Perspectives in Theory and Practice , Palgrave Macmillan

Other Relevant Texts:
- Leidner D and Kayworth T (2008) Global Information Systems: The Implications of Culture for IS Managment , Butterworth-Heinemann
- Coope, S., Cowley, J. and Willis, N. (2002) Computer Systems, Architecture, Networks and Communications , MaidenheadBerkshire: McGraw- Hill

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PT3081 – Integrating Development to Production

Rationale and Purpose of the Module:
New product development across a supply chain, Industrial design & Design for Manufacturing.

Syllabus:
New Product Development (NPD) Process Models, New Product Planning, The Product Development Team, The Role of Supplier and Buyer in NPD, Rapid Prototyping and Product Data Technologies, Identification of Customer Needs, Product Specification, Concept Generation, Concept Selection and Concept Testing, Product Architecture, Industrial Design and Design for Manufacturing, End of life design. Product development across a supply chain, distributed NPD, NPD Tools and Emerging NPD Paradigms

Learning Outcomes:
Cognitive (Knowledge, Understanding, Application, Analysis, Evaluation, Synthesis)
- Explain the design process from a procedural and practical business perspective. Describe the stages in the product lifecycle and their key actors and components. Apply the NPD theory to a supply chain setting and review the NPD process critically.

Affective (Attitudes and Values)
- Appreciate the responsibilities of running a product design programme from design brief to product launch. Describe the characteristics between NPD in a single organisation, a supply chain Describe the characteristics of NPD in collocated and distributed teams

Prime Texts:
- Ulrich and Eppinger (1995) Product Design and Development , McGraw-Hill
- Hollins and Pugh (1990) Successful Product Design , Butterworth

Other Relevant Texts:
- Baxter M (1994) Product Design: Practical Methods for the Systematic Development of New Products , Hudson pubs
- Charter, M. and Tischner, U. (2001) Sustainable solutions: developing products and services for the future , Greenleaf publishing
- Kalpakjian, Serope., Schmid, Steven R. (2007) Manufacturing Processes for Engineering Materials , Prentice Hall
- Mc Grath (2000) Product Strategy for High Technology Companies, 2nd Edition, , Mc Graw Hill

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PT3091 – Supply Chain Project

Rationale and Purpose of the Module:
Integrate the different aspects of the taught stream and apply the acquired knowledge to a business standard, industry focused project. Incorporate all module elements on the stream to demonstrate a well-rounded comprehension of tools, techniques and methodologies investigated.

Syllabus:
[Project Management] Students undertaking of this module must implement a project plan outlining various phases of the project. Estimation of goals and task scheduling must analyse, identified and prioritised. The project plan must be revisited throughout all stages of the lifecycle. [Independent Research] Students must demonstrate ability to research and investigate aspects of the project independently. A proven aptitude in coordination of, and active involvement in, information gathering, analysis and formal presentation of findings must be exhibited [Knowledge Implementation] Implementation of the project must incorporate all modules associated within the project stream. In this manner students are guaranteed to be equipped with the essential tools to acquire further knowledge and insight. [Documentation Proficiency] As part of the module criteria a report must be completed to support the project. This should include the initial scope, methodologies applied and tools and techniques employed, in addition to the motivations for the project.

Learning Outcomes:
Cognitive (Knowledge, Understanding, Application, Analysis, Evaluation, Synthesis)
- Construct a project plan outlining a schedule for task completion for each stage of the project lifecycle. Analyse and identify essential fundamental objectives and requirements relevant to the specific project. Employ and exercise judgement and problem-solving techniques. Communicate results and findings effectively both orally and in written form. Prioritise objectives within technical, time and knowledge constraints. Research, analyse, implement and document all stages of the project lifecycle resulting in a substantial overall project. Critically evaluate the overall project, proposing recommendations for future development and improvement.

Affective (Attitudes and Values)
- Increase the students understanding and appreciation for the processes involved in supply chain management.

Prime Texts:
- Wolf, J., (2008) The Nature of Supply Chain Management Research: Insights from a Content Analysis of International Supply Chain Management Literature from 1990 to 2006, Gabler, and European Business School Oestirich-Winkel.
- Kotzab,H. Seuring, S. Muller, M. & Reiner, G. Editors (2004) Research Methodologies in Supply Chain Management: In Collaboration with Magnus Westhaus , Physica-Verlag HD.

Other Relevant Texts:
- Saunders, M., Thornhill, A and Lewis, P. (2006) Research Methods for Business Students, Pearson Publishers, UK.
- Fisher, C. (2004) Researching and Writing A Dissertation for Business Students , Prentice Hall Financial Times
- Morley, M. (2005) A guide for Research ¿ Students and Supervisors , Graduate Studies Office: University of Limerick

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