

B.Sc

Operations and Technology Management

(Special) Degree Programme



STUDENT HANDBOOK



Department of Decision Sciences

Faculty of Management Studies and Commerce

University of Sri Jayewardenepura

2015 - 2018

Contents

The Faculty	1
The History	1
The Department and the Degree Programme.....	2
Description of Courses.....	6
Teaching and Learning	14
Student Development	15
Career Opportunities	16
OMSA.....	16
Selection and Examination Policies	17
The Staff.....	19
Contact	21

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The Faculty

Faculty of Management Studies and Commerce

For over 35,000 students, the Faculty of Management Studies and Commerce (FMSC) of the University of Sri Jayewardenepura (USJ) has been the gateway to success. FMSC has led the development of management education in Sri Lanka by designing its programmes to meet the need of Sri Lanka's economy and of its Business Managers for over 5 decades.

In all spheres, the faculty's work is closely linked to that of commercial and academic establishments in the national and international arena. FMSC offers 12 degree programmes. The research activities carried out by the faculty members demonstrates its leadership in management education in the country. The FMSC offers a rare combination in practical and relevant knowledge with transferable skills, which are essential for teamwork, communication and leadership.

The FMSC is a dynamic, futuristic and modern faculty. Irrespective of whether one intends to study at the undergraduate level (internal or external) or the postgraduate level, at the FMSC students will experience intellectual challenge and stimulation in a highly competitive environment.



The History

The University of Sri Jayewardenepura was established in 1883 by Reverend Hikkaduwe Sri Sumangala Thero as the Vidyodaya Pirivena at Maligakanda. As a consequence of the University Act No 45 of 1958, the Pirivena was recognized as a University and renamed as the Vidyodaya University of Ceylon in 1959. The University was relocated from Maligakanda to its present location at Gangodawila, Nugegoda in the same year and had a mere student population of 466. It was renamed again as the University of Sri Jayewardenepura in 1978 with the establishment of the area of Sri Jayewardenepura as the administrative capital of Sri Lanka.

Today it is the largest university in Sri Lanka in terms of the student population spreading over approximately 55 acres of land with an internal student population of about 10,000. The University consists of seven faculties, namely, Applied Sciences, Humanities and Social Sciences, Management Studies and Commerce, Medical Sciences, Engineering, Technology, and Graduate Studies.



The university commenced the first programmes of study in the area of management in 1958/1959 academic year by offering two degree programmes in Business Administration and Public Administration under the Department of Economics, Business and Public Administration. Under the reorganization of the university system in Sri Lanka in 1972, the Faculty of Management Studies and Commerce (FMSC) was established having two departments, namely, the Department of Management Studies, and the Department of Commerce. Gradually new departments such as Accounting and Finance, Marketing and Human Resources Management and new degrees programmes were added to the faculty until year 2001. The

restructuring programme implemented in 2001 formed 10 departments on the basis of academic disciplines to serve as service departments. A service department is a department which is identified with a specific functional area of business, whose staff members are solely from that specific area of expertise, and which offers courses from its own area of expertise for all the degree programmes offered by the FMSC. All degrees are offered by the FMSC and each department will serve the needs of all the degree programmes by offering courses from its functional area.

Currently, the FMSC offers twelve bachelors' degree programmes as shown in Table-1 with the response to the acute deficiency of trained professional managers and entrepreneurs in the country. All these programmes are regularly evaluated by the Quality Assurance and Accreditation Council of the University Grants Commission of Sri Lanka.

Table-1: Degree Programmes Offered by the FMSC

Academic Department	Degree
Accounting	B.Sc. Accounting (Special)
Business Administration	B.Sc. Business Administration (Special)
Business Economics	B.Sc. Business Administration (Business Economics) (Special)
Commerce	B. Com. (Special)
Decision Sciences	B. Sc. Operations and Technology Management (Special)
Estate Management and Valuation	B.Sc. Estate Management and Valuation (Special)
Finance	B.Sc. Finance (Special)
Human Resource Management	B.Sc. Human Resource Management (Special)
Information Technology	B.Sc. Business Information Systems (Special)
Marketing Management	B.Sc. Marketing Management (Special)
Public Administration	B.Sc. Public Management (Special)
Entrepreneurship	B.Sc. Entrepreneurship (Special)

The Department and the Degree Programme

Operations Management involves the tasks such as improving quality of manufactured products or services, selecting and implementing appropriate technologies, increasing productivity, managing projects, planning and scheduling productions, and constructing models to facilitate decision making to improve profits or reduce costs.

The B.Sc in Operations and Technology Management (Special) Degree Programme fulfils the requirements of the Level 6 of Sri Lanka Qualification Framework (SLQF-2015) with 121 credits of teaching and learning workload. The graduate profile of the degree programme is illustrated in Figure 1 in consistent with the main

domains of learning introduced by the SLQF–2015. The Operations and Technology Management Degree Programme is designed to mould students into thriving managers with excellent problem solving skills, analytical thinking, communication and the implementation of cutting edge management principles and technologies. These skills are vital in dealing with operational problems faced by managers in manufacturing, services and public organizations in the corporate world.

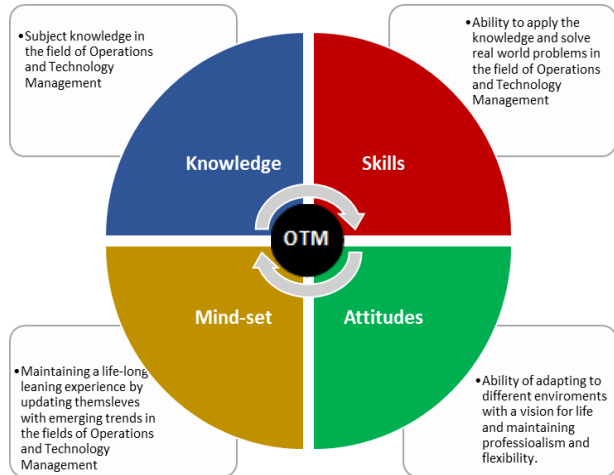


Figure 1: The Graduate Profile

Aims of the Degree Programme

In consistence with the Subject Benchmark Statement in Management developed by the Quality Assurance and Accreditation Council of Sri Lanka, the main aims of the B.Sc. Operations and Technology Management (Special) Degree Programme are:

- To produce a knowledgeable, well accomplished, skilled and contented student with the appropriate attitudes to face the challenges in achieving excellence with factual thinking, creativity, innovation, and research with appropriate entrepreneurial ability of national and international relevance in the field of Operations and Technology Management.
- To produce readily employable graduates with appropriate managerial knowledge in the field of Operations and Technology Management together with required skills and attitudes.
- To develop a range of transferable skills in students that will be of value for employment and also entrepreneurial pursuits.
- To provide students with analytical skills and an ability to develop simplified frameworks for studying the real world.
- To provide training within an intellectually sound physical and social environment to achieve excellence in Operations and Technology Management skills.
- To develop a student to achieve the status of a leading consultant and a provider of advanced consultancy services to the public and the private sector for improving productivity and quality of goods and services.

Graduate Snapshot



Manoj Mahanama
Manager– Risk & Quality/ Technical –PwC Sri Lanka

“As a student from the first intake of the Operations and Technology Management degree programme, I strongly believe that studies carried out for this degree contributed to my career progression exponentially. It’s a strong foundation in terms of understanding and applying the principles of Operations Management in any organization (production/ service) comprehensively while improving business communication and leadership skills. If I relate my studies (both degree and professional qualifications) with what I’m currently pursuing at work, I certainly recommend ‘BSc. Operations and Technology Management (Special) Degree’ as a smart choice among other options for any student who is interested to progress on the career ladder with a right mix of skill set in this dynamic business environment.”

- g) Contribute to the government policy making process and national development in building a production based economy in Sri Lanka.

Programme Learning Outcomes

In order to create a graduate with adequate knowledge, skills, attitudes, and mind-set in the field of Operations and Technology Management, the programme is designed to achieve 12 specific programme learning outcomes (PLO). Thus, at the successful completion of the B.Sc. in Operations and Technology Management (special) degree programme, a student should be able to:

- PLO-1. Express sufficient subject and theoretical *knowledge* in the core area, Operations and Technology Management.
- PLO-2. Demonstrate adequate *practical knowledge and application* in the areas in sub-areas such as, operations systems design, operations planning and controlling, supply chain management, quality management, and technology management.
- PLO-3. Employ *communication* skills to convey own views and attitudes to help themselves in social interactions.
- PLO-4. Practice *teamwork and leadership* skills in working with peers for projects, training programmes, and various assignments.
- PLO-5. Apply *creativity and problem-solving* skills in both theoretical and practical scenarios.
- PLO-6. Use *managerial and entrepreneurship* skills not only limiting to the subject knowledge to search for employment opportunities, but also to be innovative in creating new business opportunities.
- PLO-7. Demonstrate *information usage and management* skills during the learning process as well as in working environment.
- PLO-8. Apply *networking and social skills* not only in the university, but also at working places for an effective involvement in assigned responsibilities.
- PLO-9. Demonstrate *adaptability and flexibility* to various changes in the practices of Operations and Technology Management and show the ability to absorb new trends.
- PLO-10. Demonstrate good *attitudes, values and professionalism* in practicing knowledge gained from the degree programme and utilize them for the achievement of organizational excellence.
- PLO-11. Create *vision for life* in searching for career opportunities and during the progression of career path.
- PLO-12. Choose *self-updating and lifelong learning* strategies in personal development with a vibrant set of goals.

Achievement of the 12 programme learning outcomes help the graduated student to stand on the four domains mentioned in the graduate profile (Figure 1).

Programme Curriculum

The curriculum of the B.Sc in Operations and Technology Management (Special) degree is designed to fulfil SLQF Level 6 with 120 credits which includes an internship training programme and a research study. The programme covers four academic years of learning where an academic year consists of two semesters. Evaluations are based on both continuous assessments and semester end examinations. Table-1 illustrates the list of course modules being offered during four academic years along with other relevant information.

Table 1: Programme Curriculum

Course Code	Course Title	Status	Credit Hours	Credits
Year I – Semester I				
BUS 1340	Principles of Management	Core	45	03
DSC 1340	Business Mathematics	Core	45	03
ITC 1340	Introduction to Information Technology	Core	45	03
PUB 1240	Socio Political Environment	Core	45	02
COM 1240	Legal Environment	Core	45	02
BCC 1340	Business Communication I	Core	45	03
Total No. of Credits – Semester I				16
Year I – Semester II				
HRM 1340	Human Resource Management	Core	45	03
DSC 1341	Business Statistics	Core	45	03
BEC 1340	Microeconomics	Core	45	03
ACC 1340	Financial Accounting	Core	45	03
BCC 1341	Business Communication II	Core	45	03
Total No. of Credits – Semester II				15
<i>Total Credits for the First Year</i>				<i>31</i>
Year II – Semester I				
BEC 2340	Macroeconomics	Core	45	03
FIN 2340	Financial Management	Core	45	03
MAR 2340	Marketing Management	Core	45	03
DSC 2340	Operations Management	Core	45	03
ACC 2340	Management Accounting	Core	45	03
CDB 2001	Certificate in Professional Communication	Optional	45	00
Total No. of Credits – Semester I				15
Year II – Semester II				
ITC 2340	Computer Applications for Managers	Core	45	03
ENT 2341	Introduction to Entrepreneurship and SMEs	Core	45	03
BUS 2341	Organizational Behaviour	Core	45	03
DSC 2342	Supply Chain Management	Core	45	03
DSC 2343	Technology Management	Core	45	03
Total No. of Credits – Semester II				15
<i>Total Credits for the Second Year</i>				<i>30</i>

Table 1: Programme Curriculum contd.

Year III – Semester I					
DSC	3340	Operations Research	Core	45	03
ITC	3340	Management Information Systems	Core	45	03
BEC	3340	Managerial Economics	Core	45	03
DSC	3341	Statistical Data Analysis for Managers	Core	45	03
DSC	3342	Total Quality Management	Core	45	03
HRM	3343	Employee Health and Safety Management OR	Elective	45	03
DSC	3343	Project Management	Elective	45	
Total No. of Credits – Semester I					18
Year III – Semester II					
DSC	3344	Research Methods for Operations	Core	45	03
BUS	3345	International Business Management	Core	45	03
DSC	3345	Logistics and Distribution Management	Core	45	03
ITC	3347	Digital Business	Core	45	03
DSC	3346	Advanced Operations Research	Core	45	03
DSC	3347	Operations System Design and Management	Core	45	03
Total No. of Credits – Semester II					18
<i>Total Credits for the Third Year</i>					<i>36</i>
Year IV – Semester I					
BUS	4340	Strategic Management	Core	45	03
DSC	4340	Service Management	Core	45	03
DSC	4341	Operations Planning and Control	Core	45	03
DSC	4342	Personality and Skill Development	Core	45	03
Total No. of Credits – Semester I					12
Year IV – Semester II					
DSC	4643	Independent Study in Operations Management OR	Core	90	06
DSC	4644	Project in Operations Management			
DSC	4645	Internship*	Core	90	06
Total No. of Credits – Semester II					12
<i>Total Credits for the Fourth Year</i>					<i>24</i>
Total Credit Value for the Programme					121

* In case, if a student is not in a position to participate in the internship programme due to reasons such as health issues or disabilities, the department will make arrangements to cover the required amount of credits by two elective courses.

Description of Courses

Year 1

BUS 1340: PRINCIPLES OF MANAGEMENT

This course aims to provide a comprehensive introduction to the key elements of an organisation, its environment and the process of Management. Along with an introduction to historical evolution of

Management, the Course will facilitate you to gain a basic knowledge of the concepts, models and the theoretical foundations of Management.

DSC 1340: BUSINESS MATHEMATICS

This course, which is the first course in Mathematics, introduces students to basic principles, laws and rules necessary to develop an overview of application capabilities of the subject matter in the field of business and economics. This course covers functions, differentiation of functions, maxima and minima of functions, partial derivatives, integration, and area under curve and between curves and mathematics of finance. This course also includes the applications of differentiation and integration in business and economics. Under the applications of differentiation, topics such as profit maximization, cost minimization, elasticity of demand, and marginal analysis are discussed. The major topics covered under applications of integration include marginal revenue and marginal cost, consumer's surplus, producers' surplus, total change in revenue, etc.

ITC 1340: INTRODUCTION TO INFORMATION TECHNOLOGY

This is an introductory level course consisting of both basic theory and practice relating to Information Technology. The theoretical module includes: Introduction to Computers, Computer Hardware, Computer Software, Internet and World Wide Web and network and Internet Security. The practical module provides the knowledge and operational skills on word processing software, spread sheet software which are frequently used in an organizational environment.

PUB 1240: SOCIO-POLITICAL ENVIRONMENT

Socio-political environment and profit-oriented business are inter-dependent. In one hand, business are influenced by the socio and political forces while on the other hand, socio-political environment is influenced by the businesses. Accordingly, this introductory course unit is designed for the Management undergraduates to gain fundamental understanding about social and political environment in which every business operates. As prospective professionals and citizens who will interact with the societal and political institutions, it is necessary for an undergraduate to learn civic, social and political dimensions. This course facilitates learners to identify and respond to various social trends and changes in the political milieu, focusing on the substance of culture, socialization, social trends, social institutions, government, democracy, and interactions between different agents in the society. Further, it discusses the government mechanism which is currently being practiced in Sri Lanka.

COM 1240: LEGAL ENVIRONMENT

This course is intended to help undergraduates attain a basic understanding of the concept – Law and legal system in Sri Lanka particularly as it relates to business organisations. Undergraduates must be able to appreciate the very effect of the various areas of law in their work and life. This course prepares them for instances where they would encounter legal issues and in business/commercial formation issues throughout their career.

BCC 1340: BUSINESS COMMUNICATION – I

This course aims to help students reach the level of Band 4/5 of the UTEL. Upon completion of the course, students should be able to construct both simple and complex sentences accurately, express their views meaningfully in brief discussions and telephone conversations, obtain required information from auditory texts, read and extract information in texts for a variety of purposes, write short texts and business letters.

HRM 1340: HUMAN RESOURCE MANAGEMENT

An obvious interdependence exists between our society and organizations that produce goods and services in order to fulfill our needs. The standards of living and even survival of people in society depend on the goods and services of the organization. The main objective of this course is to provide a systematic and rational understanding of HRM, both conceptual understanding and job-oriented practical understanding.

It focuses on a systematic and scientific approach to the analysis and handling of issues/problems in HRM with especial reference to the Sri Lankan context.

DSC 1341: BUSINESS STATISTICS

This course provides an introduction to the fundamental concepts, principles and methods of Business Statistics. The topics include descriptive techniques, probability theory, probability distributions and inferential techniques. The major topics discussed under descriptive techniques include data collection, presentation and organization and statistical summary measures. Three important theoretical distributions, namely, Binomial, Poisson and Normal distribution are discussed under probability distributions. The major topics under inferential techniques include sampling and sampling distributions, estimation and hypothesis testing.

BEC 1340: MICROECONOMICS

This course is designed to introduce economic theories and tools and methods of analysis that are useful in the study of various economic issues and in business decision-making. It covers intermediate theory of demand and supply, theories of consumer behaviour and production, various market structures, factor market for labour, general equilibrium and welfare.

ACC 1340: FINANCIAL ACCOUNTING

This course aims at developing students' knowledge of accounting standards, and understanding of their application in the preparation and presentation of financial statements of a corporate entity. The areas covered are: overview of financial accounting; overview of accounting standard setting process; conceptual framework for financial reporting; preparation and presentation of financial statements of companies; fair value based measurement; revenue recognition and measurement; accounting for property, plant and equipment and investment property; accounting for intangible assets; impairment of assets; accounting for provisions, and contingent liabilities and assets; accounting for leases; and consolidated financial statements.

BCC 1341: BUSINESS COMMUNICATION – II

This course aims to help students reach the level of benchmark Band 5/6 of the UTEL. This course introduces the students to language skills required in different business situations. Upon completion of this course, students should be able to participate in business meetings confidently and effectively, communicate effectively in a variety of situations, take down notes from auditory texts, read and respond to texts for a variety of purposes, write short formal texts and business letters, and use presentation techniques effectively and make brief presentations.

Year 2

BEC 2340: MACROECONOMICS

This course intends to provide students with the basic understanding of the aggregate economic system: concepts of aggregate demand and supply, national income and product measures, consumption and investment, supply side economics and its applications, the government's role in an economy, use of social, monetary, and exchange rate policies to guide the economy, employment and inflation. It also encompasses macroeconomic analysis both in a closed and open economy, income-expenditure, IS-LM model and modern approaches.

Graduate Snapshot



Nisansala Sewwandhi
Senior Executive-Planning – Printcare Group

“The Operations and Technology Management Degree Programme helped me to successfully perform in my career through the skills in supply chain management, operations planning and controlling, data analysis with SPSS. I am also a winner of university colours for Volleyball in 2013 (Silver) and 2014 (Gold) as a result of my engagement in sports apart from regular studies”

FIN 2340: FINANCIAL MANAGEMENT

This course provides an introductory level understanding of a range of major concepts and techniques in Financial Management. The content of the course covers an introduction to financial management, analysis and interpretation of financial statements, financial environment, time value of money, risk and return, security valuation, cost of capital, capital budgeting, capital structure, dividend policy and working capital management.

MAR 2340: MARKETING MANAGEMENT

This is an introductory course on basic management. It familiarizes students with the marketing discipline. The course provides understanding of the nature and scope of marketing which includes marketing philosophies, the theoretical perspective of marketing strategies and analysing marketing opportunities.

DSC 2340: OPERATIONS MANAGEMENT

This course, which is the first course in Operations Management, introduces the students to key concepts, principles and design techniques that are essential to develop an appreciation of their uses in the field, and their interactions and relationships

with parallel management activities in order to cultivate a general understanding of the field as a totality. Major topics include operations strategy and competitiveness, product design and process selection, total quality management, capacity management, layout planning, job design, work measurements, supply chain management, inventory control, business process reengineering and manufacturing and service strategy.

ACC 2340: MANAGEMENT ACCOUNTING

This introductory level course provides basic knowledge and skills in relation to Management Accounting. It will enable students to understand salient principles, concepts and practices in Management Accounting as well as to develop requisite skills. The areas covered are: overview of Management Accounting; cost concepts, classifications and estimation; cost assignment; costing methods; Cost–Volume–Profit (CVP) Analysis; short–term decision making; capital investment decisions; budgeting; and standard costing.


ITC 2340: COMPUTER APPLICATIONS FOR MANAGERS

In today’s business environment, software applications may provide managers with the required knowledge to take swift business decisions. This course builds upon the knowledge disseminated in ITC 1340 course offered in the first year to provide the knowledge and skills required to use application software for organizational productivity and decision making. The course focuses on four areas: using spreadsheets as a decision–making tool, using databases for business intelligence, using online applications for information retrieval and information dissemination on the World Wide Web, and using Software Applications for collaboration in the workplace.

ENT 2341: INTRODUCTION TO ENTREPRENEURSHIP AND SMES

This is an introductory level course on basic concepts and theoretical foundations on the concept of Entrepreneurship and Small and Medium Scale Enterprises (SMEs). It discusses the meaning and definitions of entrepreneur, entrepreneurship and intrapreneurship, the nature characteristics and behaviour of the entrepreneur, entrepreneur’s role as a leader in an enterprise, the role of entrepreneur in the

Graduate Snapshot



Mohomad Altaz Abri
Merchandiser – MAS Bodyline

“I’m currently employed as a Merchandiser at MAS Bodyline. I handle E-commerce brands including renowned brand Amazon. Previously, I worked at Hela Intimates as a Supply Chain Analyst. The Operations and Technology Management Degree Programme gave me an edge over others by giving the skills of analytical ability to derive data, lean manufacturing, effective project management through critical path analysis, and effective supply chain management.”

economy, influences on entrepreneurship development. Moreover, the course aims at developing awareness among the students on the specific features of SMEs, especially in the Sri Lankan context. This involves a broad discussion of business environment of SMEs' in Sri Lanka, problems encountered by Sri Lankan SMEs, overcoming them and current issues in SME sector.

BUS 2341: ORGANISATIONAL BEHAVIOUR

This is a core course in the field of Business Management. It deals with understanding human behaviour in organisations. It analyses and examines individual, group, and organisational processes. It recognises the fact that human beings are complex: the same person's behaviour changes in different situations. Two people are not alike and often act very differently in the same situation. This complexity limits our ability to make simple predictions of human behaviour. Therefore, a systematic approach is required to understand human behaviour at work. The basis for using the systematic approach to study human behaviour in organisation is the belief that behaviour is not random and that we can offer reasonably accurate explanation and prediction of human behaviour in organisation. With this background, the contents of this course address the key issues and the dynamics of individual and group behaviour in the organisational context. Thus, the students who follow this course will be able to gain systematic knowledge and understanding about behaviour of individual and group as well as organisational processes from a broader perspective.

DSC 2342 SUPPLY CHAIN MANAGEMENT

This course is an introduction to the supply chain concept and explores the management of supply chains to improve an organization's overall supply efficiency. Further, it develops an understanding of key drivers of supply chain performance and their inter-relationships with strategy and other functions of the company such as marketing, manufacturing and accounting. Other concepts included are the definitions of supply chains, identification procedures, an overview of methods, processes, and systems used in the operation of supply chains, and the applications of methods, processes, and systems to improve supply chain performance.

DSC 2343: TECHNOLOGY MANAGEMENT

This course provides the students with an understanding of the primary relationship of technology to the strategic position of the firm. First, it emphasizes the importance and role of technology in determining the organization's competitive advantage and its distinctive competence. Second is the drive for acquiring new technology, management of innovation and technology development in organizations. This will be done by conscious design of the organization upon selection of appropriate technology in line with its focused business strategy.

Year 3

DSC 3340: OPERATIONS RESEARCH

This course is designed to give a basic introduction to fundamental concepts, methods and techniques of operations research (OR). The topics include definition of OR, scope of OR, the OR problem solving process, models and modelling in OR, model formulations of linear programming (LP), the graphical method and the Simplex method for solving LP problems, special cases of LP problems, definitions of the dual problem, primal dual relationship, economic interpretation of duality, dual simplex method, sensitivity or post optimal analysis, determination of starting solutions and solution of transportation problems, special cases of transportation problems, Hungarian method and an application of the assignment problem, project scheduling with certain activity time and time/ cost trade o in PERT/ CPM networks.

ITC 3340: MANAGEMENT INFORMATION SYSTEMS

This is an advanced course that deals with usage and application of information systems. This course covers information systems in global business today; e-business; information systems, organization and strategy; ethics and social issues in information systems; foundations of business intelligence; securing information systems and building information systems.

BEC 3340: MANAGERIAL ECONOMICS

This course provides students with an advanced knowledge on application of economic theory and decision science tools in in-firm managerial decision making. The major subject area includes demand analysis, demand estimation and forecasting, advanced production and cost analysis, market structures, game theory and strategic behaviour, pricing practices, and business and government decision making.

DSC 3341: STATISTICAL DATA ANALYSIS FOR MANAGERS

This course emphasises understanding, interpreting statistical information and using it to form sound judgments in business situations. It includes data analysis techniques such as ANOVA, Regression, Time Series Analysis and Non-Parametric methods. Statistical software will be used to perform data analysis using these techniques.

DSC 3342: TOTAL QUALITY MANAGEMENT

This course provides the student with the underlying principles and techniques of Total Quality Management (TQM) with emphasis on using quality as a strategic tool to gain competitive advantage. It emphasizes the importance of embedding TQM into the organizational culture. Topics covered include a historical perspective on quality, teachings of quality “gurus” , TQM models, standards, and implementation guidelines, application of Six Sigma and Statistical Quality Control.

HRM 3343: EMPLOYEE HEALTH AND SAFETY MANAGEMENT

The success and progress of any organization largely depends on the quality of the human resources it has and managing soundly the health and safety of employees which ensure the constant availability of high quality human resources. This is a specialized course that provides theoretical knowledge and practical aspects of employee safety, health and well-being in an organizational context and the main objective of the course is to provide a deep conceptual understanding as well as a practical understanding with regard to employee health and safety management. This course covers important aspects such as occupational health and safety (OHS) in organizations, importance of improving OHS, linkage between OHS and HRM, hazards to OHS, occupational accidents, occupational diseases, occupational stress, low quality of work life, OHS strategies for improvement, legislation on workmen’s compensation, organizing and starting for OHS, approaches to effective safety management, an effective safety management programme, an effective health management programme, poisoning, first aid, safe disposal of waste, in introduction to implementing good housekeeping practices through 5S, safety audit, statistical analysis, assessment of the effectiveness of health and safety management, special issues of OHS in Sri Lanka and safety awards in Sri Lanka.

DSC 3343: PROJECT MANAGEMENT

Project Management is recognized as one of the fastest growing professions today. This course develops a foundation of concepts and solutions that supports the planning, scheduling, controlling, resource allocation, and performance measurement activities required for successful completion of a project. This

Graduate Snapshot



Nadee Pathmaperuma
Business Development Executive – Mack Air, John Keells Group

“Since completing my degree in 2016, I have commenced employment as the Business Development Executive at Mack Air, the Airline Division of John Keells Group. Being in the Airline Industry, my day-to-day job involves in providing high-quality services to all stakeholders of the company. The Operations and Technology Management Degree presented me with the strongest foundation for understanding and growth in my career. The best of the Operations & Technology Management Degree program, in my opinion, is, definitely the lecturers and the high quality of lectures. It has given me the confidence and the knowledge to effectively and actively contribute to the resolution of challenges in my company. I have thoroughly enjoyed my time as a student of the Department of Decision Sciences, and I am forever grateful for the quality education that I received.”

course provides students with the opportunity to apply project management principles to real-world problems.

DSC 3344: RESEARCH METHODS FOR OPERATIONS MANAGEMENT

Even though this course has been designed as a prelude to DSC 4643, this is a compulsory course for all students. Its objective is to provide students with the theoretical knowledge required to carry out a research study in the operations/technology management area. Quantitative as well as qualitative research methods are discussed under this course. Using selected examples, this course introduces students to a variety of ways of conducting research in Operations/Technology Management. At the end of this course the students will have the ability to conduct a research study from the start to the end. During the course the students will develop a research/project proposal. The topics included in this course are fundamentals of research design, survey design, sample design, data sources, statistical analysis and writing the research report.

BUS 3345: INTERNATIONAL BUSINESS MANAGEMENT

This is an advanced course that provides the knowledge in doing business in the globalised world. This course is designed as a culmination of knowledge and skills from all management related subjects learned in the previous semesters of the Degree Programme and how that knowledge could be profoundly applied in order to exploit the opportunities of globalization and to successfully engage in overseas expansion. The major areas covered in this course include: analysis and understanding the international and global environments, global opportunity and threat assessment, risk analysis and overseas market selection, international market entry strategies, international trade theory, government and regional influences with respect to international business management. It also focuses on the ongoing and upcoming trends in global business management.

DSC 3345: LOGISTICS AND DISTRIBUTION MANAGEMENT

This module provides an overview of logistics management in organisations based on the concept of supply chain management (SCM). This course takes an in-depth look at each of the traditional fields of logistics: sourcing and procurement, storage, distribution and reverse logistics from the knowledge of the logistical implications in the functions of the organisation. Further, it analyses the different logistics strategies and basic tools commonly used for design and management.

ITC 3347: DIGITAL BUSINESS

This is an advanced course that deals with the concepts and practice of digital business. The major topics covered in this course include: introduction to e-business and e-commerce, market place analysis for e-commerce, e-environment, e-business strategy, supply chain management, e-marketing and customer relationship management.

DSC 3346: ADVANCED OPERATIONS RESEARCH

This is an extension of course DSC 3340 –Operations Research. Major areas include advanced topics in linear programming, integer programming, dynamic programming (multistage programming), decision theory, games and queuing theory with management applications. Students are provided with knowledge to apply quantitative techniques to solve various business problems especially in the operations management departments of both manufacturing and service organizations. Even though various quantitative techniques are successfully used by large as well as small companies in the developed countries they are hardly used in Sri Lanka. Therefore, the emphasis of this course will be on practical applications rather than on theory.

DSC 3347: OPERATIONS SYSTEM DESIGN AND MANAGEMENT

This course unit aims to develop learners' understanding of the issues and dynamics associated with the design and management of modern operations systems of both service and manufacturing organizations. This module explains the techniques available for the effective design and management of operations systems. Topics include design of production and operations layouts, job designs, work measurements,

group technology, work cells, and cellular manufacturing, automation and robotics. Applications of information systems to design are also explored in the course. Special attention is paid to Lean Manufacturing Systems during this course.

Year 4

BUS 4340: STRATEGIC MANAGEMENT

This is an advanced and capstone course that draws upon knowledge of previous courses delivered at elementary and intermediary levels of the Degree Programme. The purpose of this course is to deliver a holistic understanding of corporate and business strategy that ties previous disciplines together at a strategic level, in determining the strategic direction of organisations in the context of the broad general and immediate competitive environment and how successfully these strategies could be executed to ensure long term business survival and growth. The emphasis will primarily be on the analysis of the external and internal environment of various organisations and industries using appropriate model, frameworks, theories and approaches. Students will be provided with multiple perspectives to view organisations or industries. The students are thought to make the appropriate choice of future direction and alternative strategies to gain and retain competitive and corporate advantages.

DSC 4340: SERVICE MANAGEMENT

Service management techniques are important for managers to improve skills in managing efficiency and quality. The major topics covered include service strategy and competitiveness, service productivity, value of the customer, the effect of technology on services management, design and delivery of service systems, managing demand and supply in services, pricing of services, service quality and improvement, service innovations, waiting for services and service inventory systems. Services management in the international arena is also covered in the course.

DSC 4341: OPERATIONS PLANNING AND CONTROL

This course is aimed at providing students with knowledge and skills required to design and manage planning and control systems for manufacturing and service organizations. It provides an overview of the relationship of production planning and control to the operations management function. The content of the course deals with translating a sales forecast into a viable production plan to coordinate, execute and control the activities of an operation to ensure that the organization's goals are met in a cost effective manner. The topics include material requirement planning (MRP), just-in-time (JIT), facilities planning, capacity planning, production planning, scheduling, demand management and other current topics of Operations Management.

DSC 4342: PERSONALITY AND SKILL DEVELOPMENT

This course is designed to enhance the personality and soft skills of the students of the department through recognizing their importance to become dynamic and successful managers in the business world. This includes practical and theoretical exposed to personality theories, business etiquette, public speaking, physical and mental fitness, personal development and leadership. Outward bound training (OBT) programme which comes under this course unit is one of the annual events organized by the department for the students' personal development.

DSC 4643: INDEPENDENT STUDY IN OPERATIONS MANAGEMENT

Under the independent study the students are required to conduct an independent study on an Operations Management topic. Students are required to conduct the research study under the supervision of a lecturer of the department. Students are expected to carry out a professional research project by using the methods and technologies learned in DSC 3344 –Research Methods for Operations Management and are expected to submit a report at the end of the semester.

DSC 4644: PROJECT IN OPERATIONS MANAGEMENT

Under the project the students are required to analyse an Operations Management problem in an organization and to provide with a solution for the selected problem. Students are required to conduct the project under the dual supervision of a lecturer of the department and a practising Operations Manager from the selected organization. This project helps students to put knowledge and skill acquired so far into practice and to apply the techniques in a practical setting so that they gain much needed practical exposure. Students are expected to submit a report at the end of the semester.

DSC 4645: INTERNSHIP

The objective of this course is to provide students with an opportunity of exposure to the real world of work. They are expected to work in the Operations/Technology Management Department of a manufacturing or service organization. Even though the department provides every support needed, it is the responsibility of the student to find a suitable placement. At the end of the course students are expected to present a report based on the experience gained and face a viva. The department assigns a faculty member for counselling on matters relating to the internship and ideally the organization appoints a mentor from the organization.

Teaching and Learning

The first year of the programme is common to a majority of the degree programmes in the faculty and the courses are taught following a common structure. These courses include lectures, assignments, and practical sessions (if relevant). Due to the large intake (around 1200 a batch) the faculty divides the students into groups of 100–150 students and conducts parallel sessions for 4–5 groups. In order to maintain the consistency in teaching and learning process in the common programme, a coordinator is appointed for each subject by the corresponding department and subject meetings are conducted throughout the semester in a periodically. From the second year onwards, department offers courses related to the Operations Management, Technology Management, and Decision Sciences disciplines while acquiring the services from other departments for all other supportive and skill based disciplines. Course materials for all academic years are made available in the faculty's Learning Management System (LMS) and for certain courses, continuous assessments and mid semester examinations are also conducted through the LMS. Apart from the teaching and assignment workload hours, students are expected to allocate a required amount of time for each course to cover the corresponding amount of notional hours. These requirements and the other relevant information are available in course outlines.

In the fourth year, students are expected to do a research study in Operations and Technology Management under the supervision of a supervisor appointed by the department. Students are also expected to do an internship training at an organization (service or manufacturing) to achieve industrial exposure from the field of Operations and Technology Management. Guidelines on the research study and the internship programme are available in the LMS.

Assessment Methods and Strategies

The assessments of all taught courses have two components namely, continuous assessments and end semester examination. The nature of the continuous assessment depends on the course and may include mid-semester examinations, group assignments, individual assignments, in-class-quizzes, etc. A percentage of thirty to forty of the final assessment would be allocated to the continuous assessments while the remainder will be allocated to the end semester examinations. A grade point will be assigned for the final score and the weighted average of the grade points (GPA) is used to assess the performance of a student following the degree programme. Further information related to the computation of the GPA and evaluation criteria are stated under in the Selection and Examination Policies section.

Student Development

Organizations expect more than just the knowledge gained from a degree in today's competitive graduate labour market. They are also looking for skills and personal attributes which guide workplace performance. The development of students' job-ready skills is facilitated by several dedicated programs and resources available at the department, faculty, and university levels.

- **Co-curricular Activities** – Courses in the OTM degree programme incorporate various continuous assessment activities such as Group Works, Presentations, Field Visits, and Case Studies which enhance students' teamwork, leadership, and communication skills.
- **Business Communication** – The faculty provides the opportunity to all students to develop themselves in English Language skills with a special focus on Business Communication. All modules related to Business Communication Education are provided by the Business Communication Unit of the faculty.
- **Internship** – The curriculum of the OTM degree programme includes an Internship Training programme. This opens the window to the students initiate their career in a relevant field.
- **Guest Lectures and Workshops** – Students have the opportunity to participate guest lectures and workshops organized at the department, faculty, and university level. These events focus the development of skills and attitudes of the students to be job-ready.
- **ICT Facilities** – Necessary ICT facilities are available to all students to develop themselves with necessary training on software applications and computer usage. Information Technology Resource Centre of the faculty services all ICT needs of the students. Moreover, WIFI facility is available in the university for the students free-of-charge. Visit <http://itrc.sjp.ac.lk/> for more information. Learning activities are supported by the Learning Management System of the faculty. Visit <http://lms.mgt.sjp.ac.lk/> using your login credentials to access for resources. Students are also permitted to use Google™ services (email, unlimited cloud drive space etc.) using their university email addresses. Microsoft™ learning resources are also available to the students via subscriptions available through the Faculty.
- **Library Facilities** – The main library of the university facilitates the students with state-of-art services such as online catalogue system, online journal access, laptop lending service, study areas, multimedia computer access, etc. free-of-charge. Visit <http://lib.sjp.ac.lk/> for more information.
- **Career Guidance** – Guidance for the career development is provided by the department, faculty, and university level. Students have the opportunity to face interviews at job-fairs organized at the university premises annually. Career development unit also provides necessary guidance and support for the employment of graduates. Visit <http://www.sjp.ac.lk/students/> for more information.
- **Extra-curricular Activities** – Apart from the engagement on the curriculum, the department, faculty, university, and students organize numerous extra-curricular activities which include sports, religious programmes, aesthetic programmes, and CSR projects. At departmental level, Operations and Technology Management Students' Association organizes such events with the collaboration of the staff members of the department. Visit <http://www.sjp.ac.lk/students/> for more information.
- **Mentoring and Counselling**– The students can receive academic as well as personal mentoring and counselling services for their personal development through a panel of mentors and counsellors. Visit <http://www.sjp.ac.lk/students/> for more information.
- **Financial Support** – Students are eligible to apply for the Mahapola and Bursary scholarship at the time they enrol to the university. In addition, the Faculty of Management Studies and Commerce

provides hardship funds for those students with extreme financial difficulties. Visit <http://www.sjp.ac.lk/students/> for more information.

- **Medical Facilities** – Students are eligible to receive free medical services from the Medical Centre of the University of Sri Jayewardenepura which includes consultation services and treatments. Visit <http://www.sjp.ac.lk/students/> for more information.

Career Opportunities

Operations and Technology Management is a broad academic and a professional discipline, which has a number of employment opportunities in the manufacturing and service sectors. These opportunities include positions such as operations managers, project managers, inventory and warehouse managers, distribution systems managers, purchasing managers, quality managers, etc. The degree programme is the first of its kind in addressing these employment opportunities in line with needs of developing countries such as Sri Lanka. Moreover, many management schools and universities give top priority to this academic discipline as it promises more employment opportunities and its contribution to organizational productivity and competitiveness is vital. Current statistics of the employability of Operations and Technology Management graduates indicate sufficient evidence of the ability of undergraduates to assure their career in the field at the end of the degree programme. These statistics provide further evidence for the employability of undergraduates of this degree programme in other management fields such as Human Resource Management, Marketing Management, Finance, and Accountancy due to broader scope covered by the curriculum.

OMSA

Operations Management Students Association



OMSA is the student association affiliated to the Department of Decision Sciences. The society operates under the guidance of the staff of the department. Office bearers are elected annually from among the members of the society. Membership is open to students registered for the BSc Operations and Technology Management (Special) Degree programme. Head and the academic staff of the department serve as patrons of the society and a senior member of the staff serves as the senior treasurer of the association. The main objectives of the society are to facilitate and organize activities to enhance the knowledge and skills of the students, compile and publish newsletters and magazine in the field of Operations and Technology Management, organize workshops and other relevant events to develop and inculcate right attitudes and personalities in the members and to engage in any other activities deemed necessary to promote the image and well-being of the department. During the last five years OMSA has organized not only academic activities such as field

trips and guest lecturers but also non-academic activities such as musical shows. The OMSA has created a fund to help the students to carry out various activities such as field trips and outbound training programmes. Further, the OMSA in every year donates equipment to a school in a rural village in Sri Lanka to improve the education level of that school. Further information and details of the committee members are available in <http://mgt.sjp.ac.lk/dsc/omsa>.

Selection and Examination Policies

These regulations provide the criteria and other conditions relating to selection and examination policies of all the undergraduate degree programmes offered by the FMSC. Any interpretations of these regulations shall be submitted to the Senate and the decision of the Senate shall be final. These regulations shall be effective for the new entrants of the academic year 2015 and thereafter. Content of this section is adopted from the Faculty Prospectus 2015–2018 of the FMSC.

Student Admission Policy

Admission of students to the FMSC is based on their performance at the G.C.E. (Advanced Level) examination conducted by the Department of Examinations. Students seeking entrance to the FMSC must have studied one of the subject combinations stated in the Section 4.1 (p.179) of the Faculty Prospectus.

Criteria for Selection for the Degree Programme

Students are firstly selected to the FMSC under the heading of 'Management' and thereafter, in the year one, second semester of the common programme, the students are selected to these programmes based on criteria given in the Section 4.1.1 (p. 179–180) of the Faculty Prospectus.

Guidelines for the Calculation of Final Marks for the Courses

The end-semester examination carries a weight not less than 60% and not more than 75% of the final marks assigned to a course. Any exceptions to the above shall be approved by the Faculty Board and the Senate. The continuous evaluation component carries a weight of not more than 40% and not less than 25% of the final mark assigned to a course. This may comprise marks from one or more of the continuous evaluation modes such as mid-semester examinations/tests/quizzes, term and research papers, case studies, presentation, practical reports, skill builders, and class participations. When a candidate has not completed all the continuous assessments required for a course, the final marks shall be calculated based on the total marks allocated for the continuous assessments. For example, in a situation where 10 marks have been allocated for each of the 4 continuous assessments scheduled and the candidate has completed only 2 continuous assessments and earned 12 marks his final marks for the continuous assessments for that course shall be 12/40. See Section 4.2.7.3 (p. 183) of the Faculty Prospectus for more information.

Grading Scale

Student performance is graded on a 12-point scale, which ranges from A+ (excellent) to E (fail). The grading scale is shown in Table 2. The letter 'M' will be given for medical withdrawals.

Table 2: Grading Scale

Range of Marks	Letter Grade	Grade Points Per Semester Hour
85 – 100	A+	4.00
70 – 84	A	4.00
65 – 69	A–	3.70
60 – 64	B+	3.30
55 – 59	B	3.00
50 – 54	B–	2.70
45 – 49	C+	2.30
40 – 44	C	2.00
35 – 39	C–	1.70
30 – 34	D+	1.30
30 – 29	D	1.00
00 – 24	E	0.00

Guidelines for the Calculation of Grade Point Average

The grade point average (GPA) is a numerical representation of a student's overall academic achievement. The grade point average is the quotient obtained by dividing the total number of grade points earned by the total number of credit hours in which a student receives a 'letter' grade. Decimals beyond two places are truncated, not rounded, in computing the grade point average.

The formula for GPA calculation is given below.

$$GPA = \frac{\sum_{i=1}^N (\text{Credit Hours})_i \times (\text{Grade Points per Hour})_i}{\sum_{i=1}^N (\text{Credit Hours})_i}$$

Where, i = course number, and N = the total number of courses considered.

The maximum possible GPA is 4.00 while the minimum is 0.

Passing a year of the Degree Programme

A candidate shall be deemed to have passed any year of the degree programme, if he/she has earned a minimum GPA of not less than 2.00 for the year and has no fail grades (D or E).

Passing Referred subjects in Semester Examinations

A candidate who has failed to fulfil the requirements to pass any year of the degree programme shall sit for failed course/s (all 'D' and 'E' grades) and pass those courses under the relevant restrictions given in Section 4.2.11 (p.185) of the Faculty Prospectus. If a candidate has earned a GPA less than 2.00 s/he shall sit for the courses with C- and D+ and earn a minimum GPA of not less than 2.00, under the relevant restrictions given in Section 4.2.11 (p.185) of the Faculty Prospectus.

Award of Classes

First Class Standing

A student shall meet all the following requirements in order to be awarded a degree with First Class Standing:

- The student shall have earned an overall GPA of 3.70 or above in the entire degree programme.
- The student shall have earned grades of A or better in at least half the courses in the degree programme.
- The student shall not have earned grades below C.
- The student shall have fulfilled these requirements within four academic years from the first academic year of registration other than approved valid reason.

Second Class (Upper Division) Standing

A student shall meet all the following requirements in order to be awarded a degree with Second Class (Upper Division) Standing:

- The student shall have earned an overall GPA of 3.30 or above in the entire degree programme.
- The student shall have earned grades of A- grade or better in at least half the courses in the degree programme.
- The student shall not have earned more than two poor grades (C- or D+) for entire degree programme.
- The student shall have fulfilled these requirements within four academic years from the first academic year of registration other than approved valid reason.

Second Class (Lower Division) Standing

A student shall meet all the following requirements in order to be awarded a degree with a Second Class (Lower Division) Standing:

- The student shall have earned an overall GPA of 3.00 or above in the entire degree programme.
- The student shall have earned grades of B+ or better in at least half the courses in the degree programme.
- The student shall not have earned more than two poor grades (C- or D+) for entire degree programme.



Effective Date of the Degree

The effective date of the degree shall be the next date after the last date of the stipulated examination period on which the Year IV Semester II Examination concludes. To be eligible for this effective date, a candidate shall submit the completed research report, before the date specified by the department.

Awards

The student who will secure the highest GPA out of the students who successfully completed the B.Sc. Operations and Technology Management (Special) Degree Programme with a First or a Second Class (Upper pass) will be awarded the **Brandix Gold Medal** sponsored by the Brandix Lanka Limited, at the annual convocation.

The Staff

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Academic Staff

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