STUDENT HANDBOOK

With a comprehensively developed Curriculum considering future aspirations of the Global and Sri Lankan process industry which is moving towards a 'circular economy'...

MSc/PG Diploma in

Sustainable Process Engineering

Department of Chemical and Process Engineering,
University of Moratuwa.
Sri Lanka.

CPE

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Message from Head of the Department

As the Head of the Department, I would like to take this opportunity to thank you for joining the MSc/PG Diploma in Sustainable Process Engineering study program conducted by the Department of Chemical and Process Engineering (DCPE).

The DCPE at the University of Moratuwa, Sri Lanka is one of the premier engineering departments in the country. Being operated with a vision to standardize, optimize and scaleup the production processes in a commercially viable manner through sustainable utilization of raw materials, the department has its unique mission to satisfy its objectives.

The academic staff of the DCPE consists of Twenty-Two (22) full-time staff members including two senior professors, nine professors and seven senior lecturers, who are well-qualified in the field and lead high quality research in a wide spectrum of areas. In addition, the Department is assisted by a dedicated team of academic support and technical staff. The Department has strong links with the industry and conducts collaborative tasks of research and development.

The MSc/PG Diploma in Sustainable Process Engineering study program is one of the two master's degree programs conducted by the department. This study program, under the name of MSc/PG Diploma in Sustainable Process Development, was first commenced in 2007 with 12 students in collaboration with the Telemark University College, Norway. It was renamed as M.Sc/PG Diploma in Sustainable Process Engineering in 2015, and restructured with a new comprehensive curriculum at the current form since the 2019/20 Intake.

I would like to gratefully remind the previous Course Coordinators in this Program, Prof. P.G. Rathnasiri, the founding Course Coordinator, then, Prof. Shantha Amarasinghe, Prof. Mahinsasa Narayana, and Dr. Duleeka Gunarathne, respectively. And the present course coordinator is Dr. Mahinsasa Rathnayake.

The postgraduates can learn the latest subject areas related to the sustainability improvements in chemical and process industries from leading academics and industry experts in international/national organizations and can attend many workshops, industry visits, training programs, seminars, and webinars organized in parallel to the master's degree program. I trust that the graduates from this study program possess the knowledge and skills necessary to excel in a wide range of chemical and process industries in Sri Lanka and across the world that will also be in line with our department's Vision that is "Delivering Chemical and Process Engineering knowledge, skills and innovation for a sustainable tomorrow"

I wish you all the best for your future endeavors in this program, and sincerely welcome you to the Department of Chemical and Process Engineering, University of Moratuwa.

Prof. (Ms.) Manisha Gunasekera
Head of the Department
Department of Chemical and Process Engineering
University of Moratuwa
Katubedda, Sri Lanka

Message from the Course Coordinator

On behalf of the lecture panel, I warmly welcome all of you for the Course Program of MSc/Post-graduate Diploma in Sustainable Process Engineering at the Department of Chemical and Process Engineering, University of Moratuwa, Sri Lanka.

This part-time post-graduate degree program was initiated in year 2007 with the name of MSc/PG Diploma in Sustainable Process Development with the first batch of 12 students in collaboration with the Telemark University College, Norway. With this collaboration, there was an arrangement to offer MSc scholarships for the graduates of this degree program and Chemical and Process Engineering graduates in Norway. Since 2007, the degree program was offered for several intakes of post-graduate students as a part-time course for around 10 years.

In year 2015, the MSc/PG Diploma course in Sustainable Process Development was converted into MSc/PG Diploma course in Sustainable Process Engineering with a major curriculum revision by adopting the latest subject areas related to sustainability improvement the process industries, such as sustainability assessment tools like life cycle assessment and theories like circular economy, sustainable process design of new processes and revamping or retrofitting existing processes, simultaneous integration of safety, energy, environmental, social, and economic aspects, and process analysis and design aspects supplemented with R&D and supply chain management.

The first student intake of the MSc/PG Diploma course in Sustainable Process Engineering was admitted in year 2019/20 with 21 students followed by the second student intake in year 2021/22 with 28 students. The third student intake admitted in year 2023/24 with 35 students completed their coursework program, and the new intake of 2025/26 is the commencing batch with approx. 50 students. In addition to the regular course units in the curriculum, this post-graduate degree program provides the opportunity for the candidates to join various supplementary sessions and learning activities, including Training Programs, offered parallel to the MSc Course, Guest Lectures by Foreign Professors, Industry Experts and Top Managers from renown Companies, Workshops/Seminar Sessions offered in collaboration with Industries and foreign universities, Industrial Visits to local process industries, Energy auditing and Sustainability Assessments for selected industry cases, etc.

As the present course coordinator, it's an utmost pleasure for me to witness the success of the MSc/PG Diploma program in Sustainable Process Engineering for the three past student intakes so far. I strongly believe that the genuine efforts that we make through this post-graduate degree program will contribute shaping-up expert professionals in the field of Sustainable Process Engineering and bring forward new dimensions to the Sri Lankan process industry in the near future.

Dr. Mahinsasa Rathnayake
Course Coordinator - MSc/PGD in sustainable Process Engineering
Senior Lecturer
Department of Chemical & Process Engineering
University of Moratuwa
Katubedda, Sri Lanka

1. Introduction

The MSc/PG Diploma course program in Sustainable Process Engineering assists the graduates who are seeking a career in the process industry as well as to enhance existing career prospects and technological knowhow of sustainable process development of experienced professionals. The program has been designed considering future aspirations of the Global and Sri Lankan process industry which is moving towards a 'circular economy' as follows:

- ***Reduction in non-renewable energy sources, primary raw material intensity, and improvement of recycling, reuse, and resources recovery concepts.***
- ***Applications of clean energy technologies and use of advanced energy systems.***
- ***Mitigation of product/process life cycle greenhouse gas (GHG) emissions and other environmental impacts through life cycle sustainability assessments.***
- ***Added value from the process industry to end-user sectors with sustainability improvement strategies, design, and development.***

The program focuses on the development of sustainable processes in terms of new process designs and retrofitting or revamping of existing sub-optimal processes. Simultaneous integration of safety, energy, environmental, and sustainability aspects, and process analysis and design aspects supplemented with R&D and management will be considered as key areas of study as shown in Figure 1. Theoretical knowledge and practical skills are complemented with project work in this course.

Figure 1: Brief classification of key subject areas covered in the course

The course units have been carefully designed so that the key pillars of the Sustainable Process Engineering are 'mastered' by the students upon completion of the program as shown in Figure 2 below. The graduates of this course with PG diploma or MSc are expected to play a key role in regional industrial development initiatives (chemical, food, water services, energy services, cement, pulp and paper, textile, water treatment, biotechnology, plastic, agricultural industry, etc.) where a wide range of opportunities are available with career advancements. Further, graduates will be eligible for admission to PhD studies in any foreign university after completion of this MSc course.

2. Course Structure

The first year consists of three academic semesters and the lectures normally conducted on Saturdays and Sundays. The course delivery is in hybrid mode (both online and physical sessions).

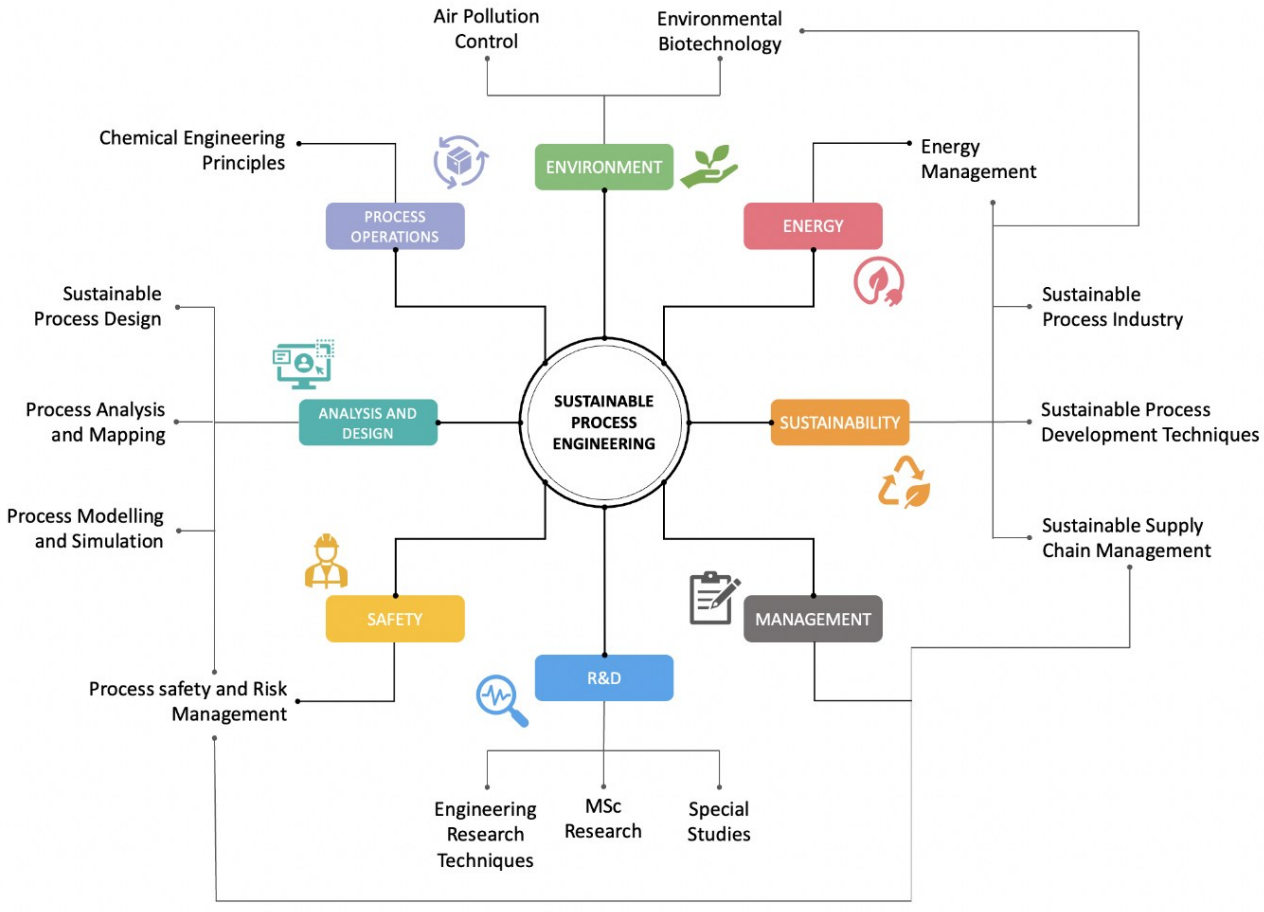

Figure 2: Mapping of course units with learning domains of Sustainable Proceee Engineering

In addtion to the regular course units in the curriculum, this MSc program provides the opportunity for the candidates to join various supplementary sessions and learning activities that are arranged simultaneous to the MSc course units delivery.
These learning activities are designed with project work while improving theoretical knowledge and practical skills of the candidates with supplementary sessions as follows.

- Training Programs offered parallel to the MSc Course
- Guest Lectures by Foreign Professors
- Guest Lectures by Industry Experts and Top Managers from renown Companies
- Workshops/Seminar Sessions offered in collaboration with Expert Academics, Industries and Foreign Universities
- Virtual Factory Tours and Physical Industry Visits to local process industries
- Energy auditing and Sustainability Assessments for selected industry cases

2.1 Graduation Requirements

The Post-Graduate Diploma Program in Sustainable Process Engineering consists of three academic semesters with taught subjects of total 40 Credits. Those who successfully complete the Continuous Assessment components (Take-home Assignments, Quizzes, Group Works, Mini-Projects, Field Activities, etc.) and Final Examinations for the taught subjects of total 40 Credits will be eligible for the award of the Postgraduate Diploma. In addition, the completion of a MSc dissertation (thesis) of 20 Credits as individual research is required for the award of the MSc degree. The maximum duration to complete the MSc dissertation (thesis) in research is four (04) years from the date of registration in the course.

Figure 3 illustrates the pathway for graduation with graduation options in this program.

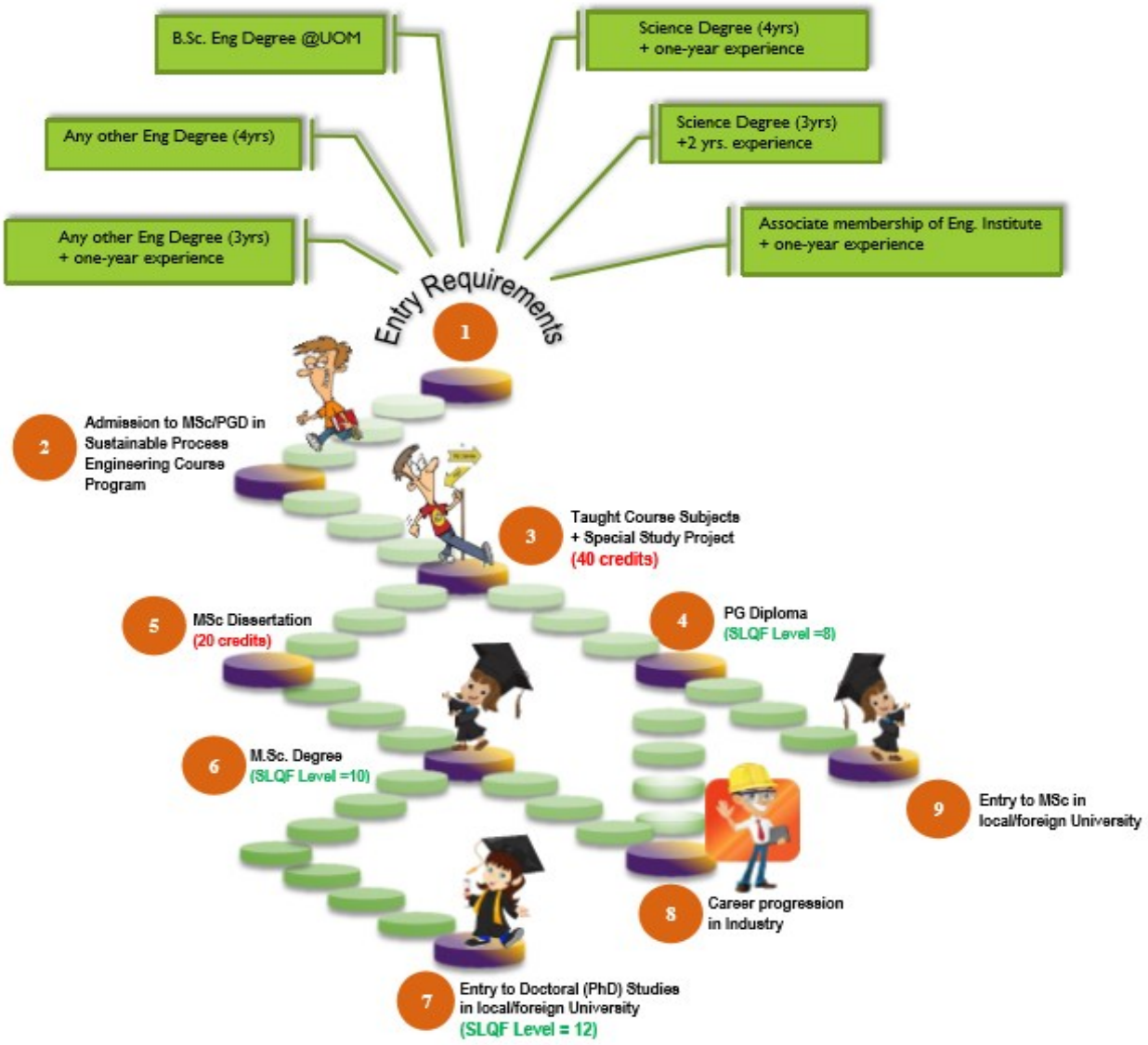

Figure 3: Pathway for graduation with graduation options in this degree program

2.2 Course Modules and Brief Curriculum

Code	Course Modules	Credits[1]	Evaluation[2] (%)	
			Continuous Assessments	Final Exam
Semester 01 (14 Credits)				
CH 5010	Energy Management	3	40%	60%
CH 5020	Environmental Biotechnology	4	40%	60%
CH 5030	Sustainable Process Industry	3	40%	60%
CH 5040	Chemical Engineering Principles	4	40%	60%
Semester 02 (12 Credits)				
CH 5050	Process Analysis and mapping	3	40%	60%
CH 5060	Process Safety and Risk Management	3	40%	60%
CH 5070	Sustainable Process Development Techniques	3	40%	60%
CH 5080	Engineering Research Techniques	3	40%	60%
Semester 03 (14 credits)				
CH 5210	Sustainable Process Design	3	40%	60%
CH 5230	Air Pollution Control	3	40%	60%
CH 5240	Sustainable Supply Chain Management	3	40%	60%
CH 5250	Process Modeling and Simulation	3	40%	60%
CH 5200	Special Study	2	-	100
After Semester 03 (For Completion of MSc)				
CH 6099	MSc Dissertation	20	-	100

[1] 1 credit corresponds to 14 hours of lectures or equivalent.

[2] The Evaluation and Assessments will take place in Two forms as Continuous Assessments and Final Written Examination. The Lecturers/Examiners will announce the respective Continuous Assessments to the students at the commencement and the delivery of the course units.

2.3 Eligibility Requirements

The degree of the **Bachelor of Science of Engineering** of the **University of Moratuwa** in a relevant field of specialization; the relevancy of the field to be judged by the Faculty and approved by the Senate of University of Moratuwa.

OR

Any other **Engineering degree** of at least **four years** duration, in a relevant field of specialization, from a recognized university; the recognition of the university, the acceptability of the course, and the relevancy of the field to be judged by the Faculty and approved by the Senate of University of Moratuwa.

OR

Any other **Engineering degree** of at least **three years** duration, from a recognized university; **AND** a minimum of **one year** of appropriate experience in a relevant field after obtaining such degree; the recognition of the university, the acceptability of the course, and the relevancy of the experience to be judged by the Faculty and approved by the Senate of University of Moratuwa.

OR

Any other **Science degree** of at least **four years** duration from a recognized university, **AND** a minimum of **one year** of appropriate experience in a relevant field after obtaining such degree; the recognition of the university, the acceptability of the course, and the relevancy of the experience to be judged by the Faculty and approved by the Senate of University of Moratuwa.

OR

Any other **Science degree** of at least **three years** duration from a recognized university, **AND** a minimum of **two years** of appropriate experience in a relevant field after obtaining such degree; the recognition of the university, the acceptability of the course, and the relevancy of the experience to be judged by the Faculty and approved by the Senate of University of Moratuwa.

OR

At least the **Associate Membership** (satisfying the educational requirements for Corporate Membership or similar graduate membership) of a recognized professional engineering institute in a relevant field **AND** a minimum of **one year** of appropriate experience after obtaining relevant qualification for such membership; the acceptability of the Associate Membership status of the candidate, the recognition of the institute and the relevancy of the field for this purpose shall be judged by the Faculty and approved by the Senate of University of Moratuwa

2.4 Course Fees

Description of Fee Structure	Amount (LKR)
Tuition Fee (For all Semesters)	400,000.00
Registration Fee*	1,500.00
Examination Fee*	1,000.00
Non-Refundable deposit for library facilities	2,500.00
Tuition fee can be payable in installments at the begining of each semester as follows.	
Semester 01	200,000.00
Semester 02	80,000.00
Semester 03	80,000.00
Research Thesis (MSc only)	40,000.00

*Registration fee and Examination fee are one-time payments for all Semesters. However, if the student has repeat attempts for any subject, a re-examination fee of Rs. 1,000 must be paid for each repeated subject.

2.4.1 Registration and Enrollment for Course Units

At the commencement of each semester, students must pay the course fee installment corresponding to that semester and register for the semester. After the payment confirmation, the enrollment for the course units in the Learning Management System – University of Moratuwa will be conducted by the Course Coordinator.

2.4.2 Payment Method

All payments must be made to the bank account of '**University of Moratuwa'** with the following details.

Account Name : University of Moratuwa
Account No. : 70993353
Bank : Bank of Ceylon
Branch : Katubedda

Allowed modes of payment are; payment at the bank cashier with a payment slip or online bank transfer from a personal bank account. Deposit from ATM machines is NOT allowed.

If you make online bank transfer, please make sure to type "Your Name with initials" in the Sender Remarks and "MSc in SPE" in the Beneficiary Remarks before transferring the payment. Please print the online transfer statement as a PDF.

All payment slips should be scanned and email to pg-spe@uom.lk with CC to mratnayake@uom.lk.

The original payment slips should be sent via registered post or physically handed over to the following address.

Dr. H. H. M. P. Rathnayake
Course Coordinator,
MSc/PG Diploma in Sustainable Process Engineering,
Department of Chemical and Process Engineering,
University of Moratuwa, Katubedda.

2.5 Detailed Syllabus of Course Units

Semester 01

1) Energy Management

Module Code	CH5010	Title	Energy Management	Credits: 3

Learning Outcomes:

On completion of this module, students should be able to;

1. *Understand* energy efficiency, losses, and saving/recovery methods of different energy systems.
2. *Apply* them along with system thinking to *analyze* energy systems by performing energy audits.
3. *Apply* proper economic measures to *evaluate* the cost-effectiveness of energy-saving/recovery methods.

Outline Syllabus:

1. Introduction to energy management
2. Energy auditing
3. Combustion and waste as a fuel
4. Steam generation and distribution
5. Combined Heat and Power (CHP)
6. Cooling systems
7. Energy recovery
8. Alternative energy sources

2) Environmental Biotechnology

Module Code	CH5020	Title	Environmental Biotechnology	Credits: 4

Learning Outcomes:

On completion of this module, students should be able to;

1. *Understand* the basic principles of biological wastewater treatment.
2. *Apply* these principles to analyze, evaluate, design, and simulation of wastewater treatment processes.
3. *Understand* the environmental management system and conduct life cycle analysis.

Outline Syllabus:

1. Principles of biological wastewater treatment
2. Wastewater treatment technologies and design
3. Principles of biological process modeling
4. Wastewater treatment plant modeling and simulation
5. Solid waste management
6. Environmental Management systems
7. Environmental Impact Assessment and system analysis

3) Sustainable Process Industry

Module Code	CH5030	Title	Sustainable Process Industry	Credits: 3

Learning Outcomes:

On completion of this module, students should be able to;

1. *Analyze* and *develop* processes considering their economic, social, and environmental impact.

Outline Syllabus:

1. Introduction to process engineering
2. Key concepts, strategies, and evaluation methods in sustainable process engineering
3. Waste and its sources in process and utility systems and waste minimization strategies
4. Planning, development, design, and operations in the sustainable process industry
5. Case study analysis on the practical implementation of sustainable processes

4) Chemical Engineering Principles

Module Code	CH5040	Title	Chemical Engineering Principles	Credits: 4

Learning Outcomes:

On completion of this module, students should be able to;

1. *Describe* principles of Unit Processes in Process Engineering industries
2. *Select* a suitable mode of operation and equipment for a given process
3. *Apply* material and energy balance to a variety of process equipment
4. *Perform* Design calculations for process equipment and evaluate the performance
5. *Apply* novel software packages for chemical engineering design calculations

Outline Syllabus:

1. Introduction to Chemical and Process Engineering- Concept of Unit processes
2. Mode of Operations – Continuous, batch, steady and unsteady state processes, reactor types
3. Fundamentals of transport phenomena: principles and applications - Moment, Heat and Mass Transfer
   Unit operations - Mass Transfer separations: Distillation, Extraction, Absorption, and Stripping
   Mechanical separation processes: Sedimentation, Filtration, Centrifugation

Semester 02

5) Process Analysis and Mapping

Module Code	CH5050	Title	Process Analysis and Mapping	Credits: 3
Learning Outcomes: On completion of this module, students should be able to; 1. *Understand* the basics of process maps 2. *Understand* the different applications of process maps in the industry **3.** *Evaluate* different types of process maps used in the industry				
Outline Syllabus: 1. Process mapping basics 2. Conceptual modelling using diagrams and maps 3. Applications of process mapping 4. Suitability of process maps in business process renovation projects 5. Knowledge maps and their applications 6. Identification of process improvement opportunities 7. Automation emerging from process mapping 8. Process mapping and QMS 9. Value stream maps and process efficiency 10. Process evaluation using swim-lane-value-stream-maps (SLVSM) as a tool				

6) Process Safety and Risk Management

Module Code	CH5060	Title	Process Safety and Risk Management	Credits: 3
	Learning Outcomes: On completion of this module, students should be able to; 1. *Identify* hazards in the chemical and process industry 2. *Apply* appropriate technologies or measures to reduce process hazards and risks 3. *Analyze* hazards and risks in the chemical and process industry 4. *Evaluate* hazards and risks in the chemical and process industry **5.** *Assess* and *manage* hazards and risks in the chemical and process industry			
	Outline Syllabus: 1. hazards identification and structured analysis tools: 2. hazards assessment (Fire, explosion, and toxic releases consequence assessment): 3. risk terminology and quantified risk analysis (QRA) techniques: 4. Inherent safety and risk management strategies (passive, active, procedural): 5. Operating procedures; Industrial and Process Safety systems; Human factors in safety: 6. Management of change; Process safety culture: **7.** Learn from experience: accident case histories:			

7) Sustainable Process Development Techniques

Module Code	CH5070	Title	Sustainable Process Development Techniques	Credits: 3

Learning Outcomes:

On completion of this module, students should be able to;

1. *Describe* sustainable process development techniques and methodologies
2. *Apply* sustainable process development techniques
3. *Analyze* and *evaluate* alternative processes
4. *Select* environmentally sustainable processes
5. *Select* economically and environmentally sustainable processes
6. *Select* technologically and environmentally sustainable processes

Outline Syllabus:

1. Life Cycle Assessment for Environmental Performance;
2. Life Cycle thinking for social and inherently safer chemical processes
3. Design for sustainability and eco-design
4. Cleaner Production Assessment
5. Process integration solutions for waste avoidance (water pinch)
6. Sustainable development mechanisms (SDM): (Clean Development Mechanism (CDM) and carbon trading)
7. Sustainability assessment tools: (carbon footprint, water footprint, ecological footprint, GHG quantification methods)
8. Source Reduction and Waste Minimization
9. Resource recovery from waste and recycling techniques
10. Environmental Accounting
11. Industrial Symbiosis and Circular Economy approach

8) Engineering Research Techniques

Module Code	CH5080	Title	Engineering Research Techniques	Credits: 3

Learning Outcomes:

On completion of this module, students should be able to;

1. *Understand* the basic concepts and methodologies needed to conduct research from the inception of the research problem to the dissemination of new knowledge as a publication.

Outline Syllabus:

1. Research problem formulation
2. Literature review
3. Research proposal writing
4. Ethics in engineering research
5. Experimental planning and designing
6. Data analysis
7. Synthesizing and preparation of a research article

Semester 03

9) Sustainable Process Design

Module Code	CH5210	Title	Sustainable Process Design	Credits: 3

Learning Outcomes:

On completion of this module, students should be able to;

1. *Define and identify* a sustainable process and its key parameters
2. *Evaluate* the environmental impact of a proposed design
3. In-depth *analysis* of an existing design and its impact on society throughout the life cycle
4. *Communicate* SPD and its effects to the management
5. *Align* organizational elements and production processes for SPD

Outline Syllabus:

1. An introduction to Sustainable Process Design (SPD)
2. A life-cycle approach to design assessment – In-depth study on raw material to the waste stream of a process design
3. Environmental impact assessment (EIA) and its link to SD
4. Reconsideration of existing designs: examples from the industry
5. Sustainable Design strategies – Innovation, Low-Impact Raw Materials, Optimized Manufacturing, Efficient Distribution, Low-Impact Use … etc.
6. Sustainable process design optimization with data and machine intelligence
7. Participatory approaches to SPD
8. Case studies – Several case studies related to a process design covering the selection of raw materials, identification, and calculation of key design parameters, commissioning for optimum operating conditions, and waste disposal.

10) Air Pollution Control

Module Code	CH5230	Title	Air Pollution Control	Credits: 3

Learning Outcomes:

On completion of this module, students should be able to;

1. *Understand* air pollution, principles of atmospheric environmental pollution management
2. *Design* air pollution control equipment and processes.

Outline Syllabus:

1. Introduction to air pollution
2. Atmospheric pollution problems and their impact assessment
3. Atmospheric pollution monitoring
4. Control technologies for air pollution
   Stack emission modelling, Particulate emission control: Technologies and equipment design, Gaseous pollutants control: absorption, adsorption, biological, thermal destruction and advanced methods

11) Sustainable Supply Chain Management

Module Code	CH5240	Title	Sustainable Supply Chain Management	Credits: 3

Learning Outcomes:

On completion of this module, students should be able to;

1. *Understand* the principles of supply chain management
2. *Apply* sustainability principles in supply chain management
3. *Analyze* supply chain operations
4. *Evaluate* sustainable supply chain performance
5. *Assess* and *manage* sustainable supply chains
6. *Evaluate and appraise* emerging supply chain sustainability models and strategies

Outline Syllabus:

1. Introduction to sustainable supply chain management
2. Design for environment
3. Sustainable sourcing
4. Green manufacturing
5. Green warehousing
6. Green transportation
7. Collaboration and multi-stakeholder partnerships
8. Assessment and Certification tools and methodologies
9. Strategic Corporate Sustainability
10. Emerging supply chain sustainability concepts and strategies

12) Process Modeling and Simulation

Module Code	CH5250	Title	Process Modeling and Simulation	Credits: 3

Learning Outcomes:

On completion of this module, students should be able to;

1. *Formulate* dynamic models based on the mechanisms that drive the systems, with special emphasis on simplifying assumptions.
2. *Apply* methods for simulating (solving) the resulting mathematical models.
3. *Apply* basic techniques for model analysis.

Outline Syllabus:

1. Formulation of dynamic models based on material, momentum, and energy balances.
2. Mass conservation in reactions.
3. Overview of constitutive equations (reaction kinetics, thermodynamic models, transport laws).
4. Modelling of coupled systems (co- and counter-current flow, recirculation, etc.).
5. Elementary systems theory: solution of linear models, stability.
6. Solution of models using computers.
7. Accuracy and sources of error in numerical work.
8. Numerical solution of sets of linear- and non-linear equations.
9. Interpolation and extrapolation.
10. Numerical differentiation and integration.
11. Numerical solution of ordinary differential equations and systems of equations.
12. Boundary-value problems for ordinary differential equations.
13. Partial differential equations.
14. Optimization and curve fitting.
15. The use of computer tools for numerical computations.

13) Special Study

Module Code	CH5200	Title	Special Study	Credits: 2

Learning Outcomes:

On completion of this module, students should be able to;

1. *Understand* the theoretical nature of the case.
2. *Analyze* a case to explain the practical nature of a process or system in the real-world scenario.

Outline Syllabus:

1. This is a course in project work, preferably in co-operation with industry.
2. The assignments will normally be of a cross-disciplinary nature. It may necessitate that the students attain theoretical understanding within a specific subject field not covered in the ordinary courses. Assignments can also be research-related. The work can be of theoretical, experimental, and/or practical nature.
3. The project work is to be carried out as individual work, i.e., single student should carry out a project alone.

After Semester 03,

14) MSc Dissertation

Module Code	CH6099	Title	Dissertation	Credits: 20

Learning Outcomes:

On completion of this module, students should be able to;

1. *Review* literature critically and *identify* research gaps/problem
2. *Develop* new experimental set ups/ models/strategies
3. *Construct* new ideas or approaches independently
4. *Develop* self-integrity under challenging environment
5. *Analyze* data obtained from an experiment or modelling
6. *Evaluate* results in the context of related literature
7. *Produce* research findings as a published material

Outline Syllabus:

1. The main thesis should incorporate an experimental and/or theoretical topic.
2. The work is to be carried out on an individual basis, even when more students work on the same or related topics.
3. Assignments are suggested by the tutors (researchers). The students have the opportunity to suggest topics in which they are interested. In this case, the tutor will still have to be the author of the assignment texts.

3. Lecture Panel and Resource Persons

Head of the Department: **Prof. (Miss.) M.Y. Gunasekara**	
Course Coordinator: **Dr. H.H.M.P. Rathnayake**	

Lecture Panel:

Department of Chemical and Process Engineering:

1. **Senior Prof. A.A.P. de Alwis**	
2. **Senior Prof. (Mrs.) B.M.W.P.K. Amarasinghe**	
3. **Prof. P.G. Rathnasiri**	
4. **Prof. A.D.U.S. Amarasinghe**	
5. **Prof. M. Narayana**	

6. **Prof. S. Walpalage**	
7. **Prof. (Miss.) M.Y. Gunasekara**	
8. **Dr. (Mrs.) R.M.D.S. Gunarathne**	
9. **Dr. S.A.D.T. Subasinghe**	
10. **Dr. H.H.M.P. Rathnayake**	
11. **Dr. (Mrs.) G.S.M.D.P. Sethunga**	
12. **Dr. (Mrs.) T.P. Keerthisinghe**	
13. **Dr. P.W. Vidanage**	

Visiting Staff:	
1. **Mrs. Gayani de Alwis** **Supply Chain Consultant & Chairperson (WiLAT)**	
2. **Dr. Deshai Botheju** **Consultant - Safety and Sustainability Management & Design- Norway**	
Guest Lecturers:	
1. **Prof. Sachin Mandavgane** **Professor** **Department of Chemical Engineering** **Visvesvarya National Institute of Technology (VNIT), Nagpur, India.**	
2. **Mr. Indika Kumara** **Factory Manager** **Unilever Sri Lanka Ltd**	
3. **Mr. Rushanth Chandrabose** **Director – Technical** **Industrial Solutions Lanka Pvt Ltd**	
4. **Mr. Danushka Dassanayake** **Product Manager** **Forbes Marshall (Pvt) Ltd**	
5. **Dr. Asoka Fonseka** **Chief Executive Officer** **Illukkumbura Industrial Automation Pvt Ltd.**	

Subject Coordinators:

Code	Course Modules	Subject Coordinator
CH 5010	Energy Management	Dr. (Mrs.) R.M.D.S. Gunarathne
CH 5020	Environmental Biotechnology	Prof. P.G. Rathnasiri
CH 5030	Sustainable Process Industry	Prof. A.D.U.S. Amarasinghe
CH 5040	Chemical Engineering Principles	Dr. S.A.D.T. Subasinghe
CH 5050	Process Analysis and mapping	Dr. (Mrs.) G.S.M.D.P. Sethunga
CH 5060	Process Safety and Risk Management	Dr. M.Y. Gunasekara
CH 5070	Sustainable Process Development Techniques	Dr. H.H.M.P. Rathnayake
CH 5080	Engineering Research Techniques	Prof. P.G. Rathnasiri
CH 5210	Sustainable Process Design	Dr. H.H.M.P. Rathnayake
CH 5240	Sustainable Supply Chain Management	Dr. H.H.M.P. Rathnayake
CH 5250	Process Modeling and Simulation	Prof. M. Narayana
CH 5230	Air Pollution Control	Senior Prof. (Mrs.) B.M.W.P.K. Amarasinghe
CH 5200	Special Study	Dr. H.H.M.P. Rathnayake

4. Contact Details

Postal Address:

Dr. H.H.M.P Rathnayake

The Course Coordinator,

MSc/PG Diploma in Sustainable Process Engineering

Department of Chemical and Process Engineering,

University of Moratuwa, Moratuwa

Official Email: cc-msc-spe@uom.lk or pg-spe@uom.lk or mratnayake@uom.lk

Tel: 011-2640051 Ext 4607

Mobile: 0702532785

Website: https://uom.lk/cpe/academic/postgraduate-courses

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Dr. H.H.M.P Rathnayake
The Course Coordinator,
PG Diploma/MSc in Sustainable Process Engineering
Department of Chemical and Process Engineering,
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