

DOCTOR OF PHILOSOPHY IN CHEMICAL ENGINEERING

Curriculum Structure

The PhD Program (Total 60 Cr Hrs)

Curriculum Component	Number of Courses	Total Number Cr Hrs
Core Courses	5	15
Elective courses	4	12
Thesis	1	33
Total:	12	60

Chemical Engineering Thesis Requirement (33 Cr Hrs)

Thesis course	
Course ID	Course Title
DENG 899	PhD Thesis

Core Required Courses (15 Cr Hrs)

Core Requirements (6 Cr Hrs)	
Course ID	Course Title
DENG 602	Applied Research Methodology
DENG 621	Graduate Seminar
Core Requirements sub-package (9 Cr Hrs)	
DENG 603	Advanced Numerical Analysis
DENG 604	Applied Statistics Techniques
DENG 624	Innovation and Technology Management
DENG 625	Sustainable Development
DENG 626	Modeling and Simulation

Concentration in Chemical Engineering (12 Cr Hrs)

Elective courses	
Course ID	Course Title
CHME 650	Transport Phenomena
CHME 653	Advanced Process Dynamics and Control
CHME 661	Principles of Bioprocess Engineering
CHME 662	Advanced Chemical Engineering Thermodynamics
CHME 651	Special Topics I
CHME 652	Special Topics II

STUDY PLAN

FIRST SEMESTER (9Cr Hrs)

Term	Course #	Course Title	Cr Hrs
Fall	DENG 602	Applied Research Methodology	3
	DENG XXX	Core Required Course I	3
	CHME XXX	Concentration Elective Course I	3
Total			9

SECOND SEMESTER (9 Cr Hrs)

Term	Course #	Course Title	Cr Hrs
Spring	DENG 621	Graduate Seminar	3
	DENG XXX	Core Required Course II	3
	CHME XXX	Concentration Elective Course II	3
Total			9

THIRD SEMESTER (9 Cr Hrs)

Term	Course #	Course Title	Cr Hrs
Fall	DENG XXX	Core Required Course III	3
	CHME XXX	Concentration Elective Course III	3
	CHME XXX	Concentration Elective Course IV	3
Total			9

FOURTH SEMESTER (9 Cr Hrs)

Term	Course #	Course Title	Cr Hrs
Spring	DENG 899	PhD Thesis	9
Total			9

FIFTH SEMESTER (12 Cr Hrs)

Term	Course #	Course Title	Cr Hrs
Fall	DENG 899	PhD Thesis	12
Total			12

SIXTH SEMESTER (12 Cr Hrs)

Term	Course #	Course Title	Cr Hrs
Fall	DENG 899	PhD Thesis	12
Total			12