AP-800 SENATE 563 MEETING

PhD Exit Options as per the PGARC Report V 2.2

Recommended by the PGARC Implementation Committee

R.8.12. Exit options for PhD.

The current exit options are to be modified as follows for all PhD programmes (including Sciences, Engineering, and Humanities and Social Sciences):

- i. MTech/MAR/MDes/MSR/MBA/PG Diploma degree is proposed as the exit degree for PhD in all the disciplines.
- ii. The candidates should fulfill the MTech/MAR/MDes/MSR/MBA/PG Diploma degree requirements.
- iii. Departments which are not having an MAR/MSR/PG Diploma program have proposed an MAR/MSR/PG Diploma exit-degree program and its requirements.
- A PhD student can opt for the Diploma or Master's exit option at any point of time in his/her
 PhD tenure. However, the minimum residency period for Diploma and Master's exit degrees are
 3 and 5 regular semesters, respectively. Degree will be awarded onlyafter completing the credit requirements for the exit degree.
- v. MTech/MAR/MDes/MSR/PG Diploma thesis/project guide will be assigned by the DPGC Convener.
- vi. A student failing in the comprehensive examination for two consecutive times may, on the recommendation of DPGC, be shifted to the exit track of PG Diploma/M.Tech./MAR/MDes/MS-R programme.
- vii. The decisions on shifts to the exit degree programs will be taken by the SPGC and placed as a noting item in the Senate.
- viii. Once a student moves to the exit degree program, his stipend would be the same as the stipend for that exit degree in the corresponding department. The change in the stipend will start from the month in which the SPGC approves he shift to the exit degree program.
- ix. With the introduction of the PG Diploma by multiple departments, and because of its similarity with the existing DIIT program in terms of credit requirements, it is recommended that the existing DIIT program may be re-named as PG Diploma.

AP-801 SENATE 563 MEETING

Annexure 3:

Sr.	Dept	Exit	Minimum	New	New	Offered	Anne	Remarks
No.		Degree(s)	Total Credits	Degree	degree	only as	xure	
			(Minimum	offered	offered	an exit		
			Course +	within	within	degree		
			Minimum	the	the	(Y/N)		
			Thesis credits)	depart	institut			
				ment	e (Y/N)			
		n 477 1	444 (70, 70)	(Y/N)				
1.	AE	Milech	144 (72+72)	N	N	N	4.1	
		MSR	144 (36+108)	N	N	N		
2.	BSBE	MTech	180	N	N	N	4.2	
			(54+126)					
3.	CHE	MTech	144 (54+72)	N	N	N	4.3	MTech: Min 2.5y
		MSR	144	N	N	N		MSR: Min 2y
	#		(36+90)					1
4.	CE"	MTech	144 (72+72)	N	N	N	4.4	
		MSR	144 (36-45 +	N	N	N		
	#		99-108)					
5.	CSE"	MTech	144	N	N	N	4.5	
			(63 +72)					
		MSR	144 (36 +72)	N	N	N		
6.	DES	MDes	144 (72+72)	N	N	N	4.6	
		MSR	144 (72+ 72)	N	N	N		
7.	EE	MTech**	144 (72+72)	N	N	N	4.7	
		MSR	144 (36+72)	N	N	N		
8.	IME	MTech	144 (72+63)	N	N	N	4.8	
		MBA	216 (216+0)	N	N	N		
9.	MSE	MSR	150 (36+72)	Y	N	Y	4.9	
10.	ME	MSR	144 (45+72)	N	N	N	4.10	
11.	SEE	MTech	144 (72+72)	N	N	N	4.11	Only during or
								after 7 th semester
								– So minimum 3.5
								years
12.	HSS	MA by	144 (54+90)	Y	Y	Y	4.12	Min CPI of 6.5
		Research						required
		(MAR)						
13,	CHM	MSR	150 (42+108)	Y	N	Y	4.13	
14.	CGS	MSR	144(54+72)	N	N	N	4.14	
		MTech**	144(54+72)	N	N	N		

AP-802 SENATE 563 MEETING

15.	ES	MTech	144	N	N	N	4.15	
16.	ECO	MSR	144 (72+72)	Y	N	Y	4.16	For students who passes the comprehensive exam
		PG Diploma	108 (72 + 36)	Y	Y	Ŷ		For students who fail the comprehensive exam twice
17.	MTH	MSR (Mathema tics)	144 (42+72)	Y	N	Y	4.17	MSR: completion of five regular semesters and
		MSR (Statistics)	144 (42+72)	Y	N	Y		passing comprehensive
		PG Diploma (Mathema tics)	72 (36+18)	Y	Y	Y		exam are compulsory PGD: completion of three regular
		PG Diploma (Statistics)	72 (36+18)	Y	Y	Y		semesters is compulsory
18.	РНҮ	MSR	144 (36+108)	Y	N	Y	4.18	
19.	SSA	MTech	144 (72+ 72)	N	N	N	4.19	
20.	MSP	MTech**	217 (55+162)	N	N	N	4.20	MTech: Min 2.5y
		MTech+	271(73+198)	N	N	N		MTech: Min 3y
		MSR ^{&}	180 (36+144)	N	Y	N		MSR: Min 2y
21.	NET	-	-	-	247	(w)	-	
22.	PSE	MTech	144 (72+72)	N	N	Ν		
		MSR	144 (36+108)	N	N	N		

**only for students with Bachelors as the qualifying degree.

+MSc qualifying degree

[&] Only for students with M.Tech. as qualifying degree.

[#] Students with M.Tech. (from same Dept.) from IIT Kanpur, can only choose MSR as the exit degree. Students with MSR (from same Dept.) from IIT Kanpur, can only choose M.Tech. as the exit degree. For all other students, they may choose either M.Tech. or MSR as the exit degree.



4.1

Proposal for the PhD Exit Degree

- 1. Department/Program: Aerospace Engineering
- 2. Exit Degree: MTech
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

Courses

Minimum number of course credits:

72

Courses in the basket:

Please refer to the attached Annexure-1

Compulsory courses (if any, along with credits):

Please refer to the attached Annexure-1

<u>Thesis</u>

Thesis credits:



6. Remarks:

07/06/2023 Signature **DPGC** Convener Signature

Head of the Department

AP-804 SENATE 563 MEETING

Annexure-1

Course Structure for M. Tech in Aerodynamics

	Non Aero non IIT Students	Non IIT Aero Students	IIT non-Aero Students	IIT Aero Students
Semester I	 AE-601A (C) AE-602A (C) AE-610A (C) E 	 AE-602A (C) AE-610A (C) E E 	 AE-601A (C) AE-610A (C) E E 	• E • E • E
Semester II	 AE-612A (C) E E E E 	 AE-612A (C) E E E E 	 AE-612A (C) E E E E 	• E • E • E

C: Compulsory course; E: Elective Course

*The electives can be from AE department or other depts.

**It is suggested that the students should do few courses (at least 2, if possible) from AE department.

Course Structure for M. Tech in Flight Mechanics

	Non Aero non IIT Students	Non IIT Aero Students	IIT non-Aero Students	IIT Aero Students
Semester I	 AE-601A (C) AE-602A (C) AE-647A (C) E 	 AE-602A (C) AE-647A (C) E E 	 AE-601A (C) AE-647A (C) E E 	• E • E • E
Semester II	 AE-648A (C) E E E E 	 AE-648A (C) E E E E 	 AE-648A (C) E E E E 	• E • E • E

C: Compulsory course; E: Elective Course

*The electives can be from AE department or other depts.

**It is suggested that the students should do few courses (at least 2, if possible) from AE department.

AP-805 SENATE 563 MEETING

	Non Aero non IIT Students	Non IIT Aero Students	IIT non-Aero Students	IIT Aero Students
Semester I	 AE-601A (C) AE-602A (C) AE-663A (C) AE-664A (C) 	 AE-602A (C) AE-610A (C) AE-663A (C) AE-664A (C) 	 AE-601A (C) AE-610A (C) AE-663A (C) AE-664A (C) 	 AE-663A *(C) AE-664A *(C) E E
Semester II	• E • E • E • E	• E • E • E • E	• E • E • E	• E • E • E

Course Structure for M. Tech in Propulsion

C: Compulsory course; E: Elective Course

*The electives can be from AE department or other depts.

**It is suggested that the students should do few courses (at least 2, if possible) from AE department.

<u>Course Structure for M. Tech in **Structure**</u>

	Non Aero non IIT Students	Non IIT Aero Students	IIT non-Aero Students	IIT Aero Students
Semester I	 AE-601A (C) AE-602A (C) AE-670A (C) AE-688A (C) 	 AE-602A (C) AE-670A (C) AE-688A (C) E 	 AE-601A (C) AE-670A (C) AE-688A (C) E 	• E • E • E
Semester II	 AE-687A (C) E E E E 	 AE-687A (C) E E E E 	 AE-687A (C) E E E E 	• E • E • E

C: Compulsory course; E: Elective Course

*The electives can be from AE department or other depts.

**It is suggested that the students should do few courses (at least 2, if possible) from AE department.

AP-806 SENATE 563 MEETING

Course Structure for M. Tech in Aero-Thermal

	Non Aero non IIT Students	Non IIT Aero Students	IIT non-Aero Students	IIT Aero Students
Semester I	 AE-601A (C) AE-602A (C) AE-664A (C) E 	 AE-602A (C) AE-664A (C) E E 	 AE-601A (C) AE-664A (C) E E 	 AE-664A (C) E E E E
Semester II	 AE-608A (C) E E E E 	 AE-608A (C) E E E E 	 AE-608A (C) E E E E 	 AE-608A (C) E E E E

C: Compulsory course; E: Elective Course

* The electives must be chosen from the given Aero-Thermal basket.

<u>Course Structure for M. Tech in Computational</u> <u>Mechanics</u>

	Non Aero non IIT Students	Non IIT Aero Students	IIT non-Aero Students	IIT Aero Students
Semester I	 AE-601A (C) AE-602A (C) AE-702A (C) AE-703A (C) 	 AE-602A (C) AE-702A (C) AE-703A (C) E 	 AE-601A (C) AE-702A (C) AE-703A (C) E 	 AE-702A (C) AE-703A (C) E E
Semester II	 E E E E 	 E E E E 	 E E E E 	 E E E E

C: Compulsory course; E: Elective Courses

- For Aero + IIT students: 2 from Mechanics basket, 1 from Computations basket, rest from elsewhere
- For others: 1 from Mechanics basket, 1 from Computations basket, rest from elsewhere

AP-807 SENATE 563 MEETING

Elective Course Basket for MTech in Aero-Thermal

- 1. Aerodynamics I : AE610A
- 2. Measurements in Fluid Mechanics: AE611A
- 3. Aerodynamics II: AE612A
- 4. Viscous Flows: AE614A
- 5. Boundary layer Instability and Transition: AE617A
- 6. Turbulence: AE612A
- 7. Advanced Computational Method in CFD: AE615A
- 8. Finite Element Methods for Fluid Dynamics: AE618A
- 9. Computational Fluid Dynamics : AE622A
- 10. Hypersonic Flow: AE720A
- 11. Explosion and Detonation Physics: AE755A
- 12. Nanoparticle Aerosol Dynamics: AE667A
- 13. High temperature gas dynamics: AE690A
- 14. Aircraft Propulsion: AE652A
- 15. Thermal Turbomachinery: AE653A
- 16. Air Breathing Missile Propulsion: AE657A
- 17. Numerical Modelling of Chemically Reacting Flows: AE658A
- 18. Fundamentals of Combustion: AE663A
- 19. Acoustics in Fluids: AE694A
- 20. Intro to Virtual Instrumentation: AE698A
- 21. Molecular Gas Dynamics: AE747A
- 22. Fundamentals of Liquid Atomization: AE751A

Elective Course Basket for MTech in Computational Mechanics

MECHANICS Basket

- 1. AE610A AERODYNAMICS-I
- 2. AE612A AERODYNAMICS II OR ME 666A Inviscid Flows
- 3. AE614A VISCOUS FLOWS OR ME 631A: Viscous Flow Theory
- 4. AE621A TURBULENCE OR ME647A Introduction to Turbulent Flows
- 5. AE670A AEROSPACE STRUCTURAL ANALYSIS I
- 6. AE671A Aeroacoustics
- 7. AE672A SOLID MECHANICS OR ME621A: Introduction to Solid Mechanics

8. AE674 – Advanced Hydrodynamic Stability **OR** CHE 614A - Introduction to Hydrodynamic Instability

- 9. AE687A AEROSPACE STRUCTURAL ANALYSIS II
- 10. AE688A DYNAMICS AND VIBRATION
- 11. AE606A Unsteady Gas Dynamics
- 12. AE720A Hypersonic Flow
- 13. AE664A Applied Compressible Flows
- 14. ME625A Applied Dynamics and Vibrations

AP-808 SENATE 563 MEETING

- 15. ME627A Non-linear Vibration
- 16. ME721A Theory of Plasticity
- 17. ME679A Damage Mechanics of Composite Materials
- 18. AE681A Composite materials
- 19. AE682A Composite structures
- 20. CE622A Stability of structures
- 21. ME 723A Wave propagation in solids
- 22. ME728A Fracture and fatigue **OR** AE 704 Deformation and Fracture
- 23. MME658 DISLOCATIONS AND PLASTICITY
- 24. MS603 MECHANICAL PROPERTIES OF MATERIALS

COMPUTATIONS Basket

1. AE604/AE604A – COMPUTATIONAL FLUID MECHANICS **OR** ME630/ME630A–Computational

Fluid Dynamics and Heat Transfer

2. AE605/AE605A– ADVANCED COMPUTATIONAL FLUID MECHANICS **OR** ME634/ME634A: Advanced Computational Fluid Dynamics

3. AE618/AE618A - FINITE ELEMENT METHODS FOR FLUID DYNAMICS

4. AE675/AE675A- INTRODUCTION TO FINITE ELEMENT METHODS

5. AE701/AE701A- NONLINEAR FINITE ELEMENT METHOD **OR** ME676/676A — Non-linear Finite Element Method in Solid Mechanics

6. AE665/AE665A - Finite Volume Methods in Heat, Mass and Momentum Transfer

7. MSE682 - COMPUTER SIMULATIONS IN MATERIALS SCIENCE

8. CHE622 - INTRODUCTION TO MOLECULAR SIMULATIONS

9. CE 615 - INTRODUCTION AI TECHNIQUES

10. ME 752 - OPTIMIZATION METHODS IN ENGINEERING DESIGN

AP-809 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: Aerospace Engineering
- 2. Exit Degree: MSR
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

<u>Courses</u>

Minimum number of course credits:

36

Courses in the basket:

NA

Compulsory courses (if any, along with credits):

NA

<u>Thesis</u>

Thesis credits:

108

6. Remarks:

7/06/2023

non

Signature Head of the Department

AP-810 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: Biological Sciences and Bioengineering
- 2. Exit Degree: MTech
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

Courses

Minimum number of course credits:

54

Courses in the basket:

	BSE602A- Laboratory Methods BSE612A- Biochemical Engineering BSE614A- Tissue Engineering BSE616- Biopharmaceuticals
	BSE644A- Optical Microscopy and Bioimaging
	BSE652A- Developmental Biology
	BSE653A- Functional Genomics
	BSE654A- Human Molecular Genetics
	BSE655A- Physiology
	BSE662A- Decision Making and Brain
	BSE701-PG Seminar
	BSE/02- PG Seminar
	BSE411- Biomaterials
	DSE492- Methods in Biotechnology
	DSEOUI-Scientific & Professional Communications
	BSE011A- Instrumental Methods
	BSE631A Picebomietry Comme Churchen LD'
	BSE642A- Microbiology and Immunology
	BSE651A- Cell & Molecular Piology
	BSE655A- Physiology
	BSE656A- Neurobiology
	BSE658A- Statistics for Modern Biology
	BSE661A- Biological Membranes
1	g. Ser moniplanoo

AP-811 SENATE 563 MEETING

Compulsory courses (if any, along with credits):

BSE701- PG Seminar - ZERO Credit BSE702- PG Seminar - ZERO Credit

Thesis

Thesis credits:



6. Remarks:

Those who convert from PhD to MTech need to stay an additional semester as compared to a regular MTech student.

Signature DPGC Convener

16.5.23

Signature 16-5-23 Head of the Department

AP-812 SENATE 563 MEETING

4.3

Proposal for the PhD Exit Degree

- 1. Department/Program: Chemical Engineering
- 2. Exit Degree: MTech
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

Courses

Minimum number of course credits:

54

Courses in the basket:

ChE631, ChE641, ChE631, ChE621, ChE611

Compulsory courses (if any, along with credits):

ChE631 (9), ChE611(9), ChE621(9)

<u>Thesis</u>

Minimum Thesis Research credits:

72

<u>Total</u>

Minimum Total credits:

144

AP-813 SENATE 563 MEETING

6. Remarks:

The student should be able to request for the exit program after completing all the coursework (4 core + 2 electives) and thesis credit requirements and must have spent at least 2.5 years in the department. Total 6 minimum courses need to be done. There are 3 compulsory courses and 1 course from ChE641/ChE642. Remaining 2 courses can be taken from available electives.

Signature DPGC Convener

Signature Head of the Department

AP-814 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: Chemical Engineering
- 2. Exit Degree: MSR
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

Courses

Minimum number of course credits:

36

Courses in the basket:

ChE641, ChE642, ChE611, ChE621, ChE631

Compulsory courses (if any, along with credits):

Any two of ChE611, ChE621, ChE631, (ChE641 OR ChE642)

Minimum Thesis credits:

90

Minimum Total credits:

<u>Total</u>

Thesis

144

AP-815 SENATE 563 MEETING

6. Remarks:

A student who entered in the PhD program with an MTech degree can avail this exit option. The student can request for the exit program after completing all the coursework (2 core + 2 electives) and thesis credit requirements for MSR and must have spent at least 2 years in the department. 2 courses to be done from the core basket and 2 from available electives.

VIL

Signature DPGC Convener

High

Signature Head of the Department

AP-816 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: Civil/ PhD
- 2. Exit Degree: MTech/MSR
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

For MTech as an exit degree

Courses

Minimum number of course credits:

72

Courses in the basket:

Please see attachment 1

Compulsory courses (if any, along with credits):

Please see attachment 1

Thesis

Thesis credits:

72

For MSR as an exit degree

Courses

Minimum number of course credits:

AP-817 SENATE 563 MEETING

36-45

Courses in the basket:

Students can choose any of the PG courses in consultation with their thesis supervisor.

Compulsory courses (if any, along with credits):

None

Thesis

Thesis credits:

99-108

6. Remarks:

None	
R. M. S. L.	1915/23

Signature DPGC Convener

Signature Head of the Department

AP-818 SENATE 563 MEETING

Attachment 1

COMPULSORY COURSES IN M.TECH.

Specialization	Semester I	Semester II
EE	CE664A, CE665A, CE666A Any TWO from: CE603A, CE604A, CE605A	CE668A*
GI	CE770A, CE772A, CE773B CE671A OR CE678A Any TWO from: CE603A, CE604A, CE605A	CE673A*, CE674A, CE771A CE675B OR CE677B Any ONE from: CE432A, CE670A, CE672A, CE676A, CE679A
GTE	CE631A, CE638A* Any TWO from: CE603A, CE604A, CE605A	CE632A
HWRE	CE610A, CE611A Any TWO from: CE603A, CE604A, CE605A	CE612A*, CE613A
IEM	CE605A, CE640A, CE641A, CE770A CE603A OR CE604A	CE643B, CE663A CE642A* OR [CE642A(P-II) +CE642B(P-I)]
STR	CE603A, CE620A, CE621A, and (CE654A+CE653B)/CE628A CE604A OR CE605A	CE622A, CE623A*, CE723A
TE	CE683A, CE786A, CE787A Any TWO from: CE603A, CE604A, CE605A	CE780A*

Notes:

- [1] Courses marked with * are laboratory courses.
- [2] It is mandatory for every M.Tech. student in CE to pass at least TWO of the three math courses (CE603A, CE604A, CE605A). For different specializations, one or both of the math courses can be specified as compulsory.
- [3] All compulsory courses must be cleared with minimum D grade for graduation. Compulsory courses can be repeated, if the grade obtained is lower than D. However, they cannot be substituted by some other courses.
- [4] Each student shall consult the academic faculty advisor of the respective specialization, or their thesis supervisor (once assigned), for advice on registration in compulsory and elective courses.
- [5] For GI, in addition to the above, CE678A is compulsory in Semester I for students supported by the CoE.
- [6] The names of the different courses are given on the following pages.

AP-819 SENATE 563 MEETING

Course No.	Course Name
CE432A	Geographical Information System (GIS)
CE603A	Mathematics for Civil Engineers
CE604A	Numerical Methods for Civil Engineers
CE605A	Probability and Statistics for Civil Engineers
CE610A	Advanced Hydrology
CE611A	Advanced Hydraulics
CE612A	Fluid Mechanics Laboratory
CE613A	Computational Methods in Hydraulics and Hydrology
CE620A	Structural Dynamics
CE621A	Engineering Mechanics
CE622A	Stability of Structures
CE623A	Experimental Methods in Structural Engineering
CE628A	Durability of Concrete Structures
CE631A	Advanced Geotechnical Engineering
CE632A	Foundation Analysis and Design
CE638A	Geotechnical Measurements and Explorations
CE640A	Infrastructure Asset Management
CE641A	Project Management
CE642A (P-II)	Construction Engineering and Management Laboratory
CE642A	Construction Engineering and Management Laboratory
CE642B (P-I)	Laboratory Course in Infrastructure Engineering and Management
CE643B	Infrastructure Financing
CE653B	Advancements in Concrete
CE654A	Concrete Science and Engineering Properties
CE663A	Humans, Environment, and Sustainable Development
CE664A	Physico-Chemical Principles and Processes
CE665A	Ecological and Biological Principles and Processes
CE666A	Air Pollution and its Control
CE668A	Environmental Quality and Pollution Monitoring Techniques
CE670A	Environmental Geodesy
CE671A	Introduction to Remote Sensing
CE672A	Machine Processing of Remotely Sensed Data

AP-820 SENATE 563 MEETING

CE673A	Instrumentation, Laboratory and Field Practices in Geoinformatics
CE674A	Global Navigation Satellite System
CE675B	Global Navigation Satellite Systems (GNSS) For Surveying & Mapping
CE676A	Laser Scanning and Photogrammerty
CE677B	Introduction to Inertial and Multi-Sensor Navigation
CE678A	Introduction to Geodesy
CE679A	Signal Processing on The Sphere
CE683A	Traffic Engineering
CE723A	Finite Element Methods for Civil Engineering Applications
CE770A	Adjustment Computations for Geoinformatics-I
CE771A	Adjustment Computations for Geoinformatics-II
CE772A	Reference Frames, Coordinate Systems and Map Projections
CE773B	Geodetic Astronomy and Introduction to Satellite Geodesy
CE780A	Laboratory Course in Transportation Engineering
CE786A	Analysis and Design of Bituminous Pavements
CE787A	Computational Tools for Transportation Engineering

AP-821 SENATE 563 MEETING

Re: Regarding MSR Credit Requirement

dpgcce@iitk.ac.in Sat 6/24/2023 7:38 PM To:Nisanth N. Nair <nnair@iitk.ac.in> Cc:head_ce@iitk.ac.in <head_ce@iitk.ac.in>

Dear Prof. Nisanth,

Yes, MSR as the PhD exit option should also have the minimum total credit requirement of 144, with min course credit of 36.

Regards, Richa

- > Hi Richa,
- > I have one question about your proposal for MSR as the Ph.D. exit degree.
- > Do you want to keep any minimum total credits for MSR? Usually, 144
- > credits are the minimum credit requirement for any Masters's program.
- > Please confirm.
- > Sincerely,
- > Nisanth
- > ---
- > Convenor, PGARC Implementation Committee
- >

AP-822 SENATE 563 MEETING Proposal for the PhD Exit Degree

- 1. Department/Program: CSE
- 2. Exit Degree: MS(R) (Please also see the MTech Exit degree option)
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

<u>Courses</u>

Minimum number of course credits:



Courses in the basket:

36

Compulsory courses (if any, along with credits):

0

Thesis credits:



6. Remarks:

36 credits may be taken as course credits or thesis credits. In total, the student should have 144 credits.

Thesis



Signature DPGC Convener

Amey Karkare

Signature Head of the Department

4.5

AP-823 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: CSE
- 2. Exit Degree: MTech (Please also see the MSR Exit degree option)
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

<u>Courses</u>

Minimum number of course credits:

63

Courses in the basket:

63

Compulsory courses (if any, along with credits):

0			
-			

Thesis credits:

72

6. Remarks:

9 credits may be taken as course credits or thesis credits. In total, the student should have 144 credits. The student should take one theory course, one systems course, and one course in data science

Signature DPGC Convener

Amey Karkare

Thesis

Signature Head of the Department

SENATE 563 MEETING

Re: PGARC 20-21: PhD Exit

Annex. 4.5

Satyadev Nandakumar <satyadev@cse.iitk.ac.in>

Thu 6/22/2023 6:43 AM

To:Nisanth N. Nair <nnair@iitk.ac.in> Cc:Head @ CSE <head@cse.iitk.ac.in>

Dear Nisanth,

Yes, the total credits is 144. According to the CS template, there is a option of taking the remaining credits as either course credits or thesis credits. But the total credits must be 144.

Thanks,

Satya.

Nisanth N. Nair wrote:

> Dear Amey, Dear Satyadev,

> In the proposal for PhD exit from CSE, you have put minimum course credits

> as 63 (32) and minimum thesis credits as 72 (72) for MTech(MSR). Do you

> put any condition on the minimum total credits? Usually, for these Masters

> programs, the total credit requirement is 144. Please clarify.

> Nisanth

> _____ > From: Head @ CSE <head@cse.iitk.ac.in>

> Sent: Wednesday, June 7, 2023 3:21 PM

> To: Nisanth N. Nair <nnair@iitk.ac.in>

> Cc: satyadev <satyadev@cse.iitk.ac.in>

> Subject: Re: PGARC 20-21: PhD Exit

>

>

> Nisanth,

>

> There is NO change in PhD exit option for CSE department. It will continue > as it is currently.

>

> >

> Regards,

>

> Amey

- >
- > >
- >

>

> From: Nisanth N. Nair <nnair@iitk.ac.in>

> Date: Wednesday, 7 June 2023 at 9:41 AM

> To: Head_aero <head_aero@iitk.ac.in>, Head_chm <head_chm@iitk.ac.in>, Head

> <head@cse.iitk.ac.in>, Dr. Phani <head_ime@iitk.ac.in>, Head_math

> <head_math@iitk.ac.in>, panig@iitk.ac.in <panig@iitk.ac.in>

> Subject: Re: PGARC 20-21: PhD Exit

>

> Dear Colleagues,

AP-825 SENATE 563 MEETING

4.6

Proposal for the PhD Exit Degree

- 1. Department/Program: Design. 2. Exit Degree: MTech/MSR/MAR M. Des/M.SCR)
- 3. Is this a new degree? Yes/No
- 4. Is this degree offered only as an exit degree? Yes/No

5. Template:

Courses

Minimum number of course credits:



Courses in the basket:

NA/Any PG, Course

Compulsory courses (if any, along with credits):

Thesis credits:

Thesis

72

6. Remarks:

Signature Head of th Department fr

AP-826 SENATE 563 MEETING

Re: PhD exit proposal from Design Department

Ramkumar

Fri 6/23/2023 11:47 AM

To: Nisanth N. Nair <nnair@iitk.ac.in>;ntiwari@iitk.ac.in <ntiwari@iitk.ac.in>;Satyaki@iitk.ac.in <satyaki@iitk.ac.in>

Dear prof. Nair,

Sorry fr the late reply. My apologies.

Fr the exit program fr a des phd student, he has to complete 8 courses which equals to 72 credits which the same fr mdes student.

Minimum thesis credits are 144 like all other depts.

Feel free to call me fr any more clarification. Get <u>Outlook for Android</u>

From: Nisanth N. Nair <nnair@iitk.ac.in>
Sent: Wednesday, June 21, 2023 11:31:11 PM
To: Ramkumar <jrkumar@iitk.ac.in>
Subject: PhD exit proposal from Design Department

Dear Ramkumar, DES department's proposal for PhD exit says 8/4 courses, without specifying credits. Also, no minimum for total credit is mentioned. Can you please mention course credits (or a range of course credits) instead of the number of courses? Also, do you want to put any condition on the minimum total credits? Usually, 144 is the minimum total credit for most of the master programs. NN

AP-827 SENATE 563 MEETING

4.7

Proposal for the PhD Exit Degree

- 1. Department/Program: EE
- 2. Exit Degree: M.Tech (Qualifying degree at time of admission: Bachelors)
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

<u>Courses</u>

Minimum number of course credits:

72

Courses in the basket:

Compulsory courses (if any, along with credits):

Stream	Courses
SPCOM	EE605 (9), EE621 (9) in Sem I
PE	Any two courses out of EE630 (12), EE660 (12), EE634 (9) in Sem I
RF	EE647 (9), EE641 (9) in Sem I
CA	EE650 (9), EE653 (9), EE617 (9) in Sem I
	EE610 (9), EE614 (9), EE616 (9), EE618 (9) in Sem I and EE619 (9),
IVIVL3I	EE681 (9) in Sem II (these are suggested and not compulsory courses)
рц	EE683 (9), EE684 (9), EE685 (9) in Sem I and EE620 (9), EE646 (9) in
FI	Sem II (these are strongly suggested but not compulsory courses)

<u>Thesis</u>

Minimum number of thesis credits:



6. Remarks:

Minimum total credits (including course and thesis): 144. This is as per the table in Section 7.1 of PG manual.

Signature DPGC Convener

aibhou Sijvartan

Signature Head of the Department

AP-828 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: EE
- 2. Exit Degree: MSR (Qualifying degree at time of admission: **Bachelors**)
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

<u>Courses</u>

Minimum number of course credits:

36

Courses in the basket:

PG electives offered as per stream			
Compulsory	Compulsory courses (if any, along with credits):		
Stream	Courses		
SDCOM	EE605 (9), EE621 (9) in Sem I (these are highly recommended but not		
SECON	mandatory courses)		

<u>Thesis</u>

Minimum number of thesis credits:



6. Remarks:

Minimum total credits (including course and thesis): 144. This and the above minimum credits are as per the table in Section 7.1 of PG manual. Please refer this table for more details.

The student is supposed to do 4 courses (all electives) on the advice of the thesis supervisor/ program coordinator. The remaining credits are earned through thesis work that culminates in a research dissertation.

Signature

DPGC Convener

sibher Snivertan

Signature Head of the Department

AP-829 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: EE
- 2. Exit Degree: MSR (Qualifying degree at time of admission: Masters)
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

Courses

Minimum number of course credits:

36

Courses in the basket:

PG electives offered as per stream			
Compulsory	Compulsory courses (if any, along with credits):		
Stream	Courses		
SDCOM	EE605 (9), EE621 (9) in Sem I (these are highly recommended but not		
SPCOW	mandatory courses)		

Thesis

Minimum number of thesis credits:



6. Remarks:

Minimum total credits (including course and thesis): 144. This and the above minimum credits are as per the table in Section 7.1 of PG manual. Please refer this table for more details.

The student is supposed to do 4 courses (all electives) on the advice of the thesis supervisor/ program coordinator. The remaining credits are earned through thesis work that culminates in a research dissertation.

Signature

DPGC Convener

ibha Sivartan

Signature Head of the Department

AP-830 SENATE 563 MEETING

4.8

Proposal for the PhD Exit Degree

- 1. Department/Program: IME
- 2. Exit Degree: MTech
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

<u>Courses</u>

Minimum number of course credits:

72

Courses in the basket:

All the courses for which an IME PhD student is eligible.

Compulsory courses (if any, along with credits):

Two courses from a basket of MBA/M.Tech. core courses. Current M. Tech. core courses: IME602A, IME603A, IME605A (all are of 9 credits) Current MBA core courses: MBA601A, MBA606A, MBA611A, MBA631A,

MBA651A, MBA617A (all are of 10 credits)

<u>Thesis</u>

Thesis credits:



6. Remarks:

Signature Head of the Department

AP-831 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: IME
- 2. Exit Degree: MBA
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

Courses

Minimum number of course credits:

216

Courses in the basket:

All the courses for which an IME PhD student is eligible.

Compulsory courses (if any, along with credits):

Four courses from a basket of MBA/M. Tech. core courses. Current M. Tech. core courses: IME602A, IME603A, IME605A (all are of 9 credits) Current MBA core courses: MBA601A, MBA606A, MBA611A, MBA631A, MBA651A, MBA617A (all are of 10 credits)

<u>Thesis</u>

Thesis credits:



6. Remarks:

Capstone and summer internship credits of MBA may be replaced with thesis credits on a case-by-case basis by DPGC.

Signature DPGC Convener

Head of the Department

AP-832 SENATE 563 MEETING2023 at 19:56:43 India Standard Time

Subject: Re: [Hods] PGARC 2020-21 Implementation

Date: Wednesday, 8 March 2023 at 11:35:43 PM India Standard Time

From: DPGC_IME To: Nisanth

CC: Dr. Phani

Thanks for your insightful comments Prof. Nisanth.

A clarification: Our proposal is to to make the student go through 216 credits courses for MBA (by spending equivalent time and full MBA fee) in any case of conversion to MBA as an exit option (even after failing comprehensive viva two times).

Hope this addresses the concern.

Sure, we will take it forward to SPGC with this clarification.

Regards, Vipin

On 08-Mar-2023, at 11:22 PM, Nisanth <nnair@iitk.ac.in> wrote:

Dear Vipin, looking good to me.

Note that a student can go to the exit track even after failing the comprehensive examinations (two times). Also, a student need not complete 216 credits to move to the exit track. That is, the student can complete the requirements (Credits, thesis etc.) being in the exit track ; in most cases, this would be the situation. If these are taken care of, then please go ahead and get the approvals from SPGC. Thanks,

Nisanth

From: dpgc_ime <dpgc_ime@iitk.ac.in> Sent: Wednesday, March 8, 2023 5:53 PM To: Nisanth <nnair@iitk.ac.in> Cc: Dr. Phani <head_ime@iitk.ac.in> Subject: Re: [Hods] PGARC 2020-21 Implementation

Dear Prof. Nisanth,

Thank you for your detailed comments.

DPGC had discussions on justifying MBA as an exit option and we have formed guidelines on executing the exit options for Ph.D. candidates at IME. Please find point no. 2 in the attachment for the same.

Parallelly, we had requested SPGC to include MBA in the list of eligible programs for migration to PhD, and SPGC, after discussion in the meeting, has sought the guidelines for the migration policy from MBA to PhD. To support our request for R8.12, we have provided those guidelines here (point no. 1 in the attachment).

Finally, we have also requested SPGC (yet to be discussed in the meeting) to include MBA as an additional degree (similar to existing M. Tech. etc.) for direct PhD candidates if they satisfy the course requirements for MBA (point no. 3 in the attachment).

AP-833 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: Materials Science and Engineering (MSE)
- 2. Exit Degree: MTech/MSR/MAR
- 3. Is this a new degree? Yes/No
- 4. Is this degree offered only as an exit degree? Yes/No

5. Template:

<u>Courses</u>

Minimum number of course credits:

36

Courses in the basket:

M. Tech. compulsory: MSE615A, MSE626, MSE616, and MSE617 MSE PG electives: All DEs and OEs from MSE that is MSE6xx Other departments: All DEs and OEs of 6xx and above courses from other departments

Compulsory courses (if any, along with credits):

MSE690, MSE691, MSE6XX (Compulsory Communication course of MSE)

Thesis

Thesis credits:

72

6. Remarks:

Direct Ph. D. students from B. Tech or B. Sc.- M. Sc. background can choose between regular M. Tech. or MSR while students joining after M. Tech. can opt for MSR only.

N. P. Gurao

Signature 16 May 2023 DPGC Convener

Kallohlandel

Signature Head of the Department

AP-834 SENATE 563 MEETING

Re: PhD Exit

dpgc_mse@iitk.ac.in Mon 6/26/2023 1:42 PM To:Nisanth N. Nair <nnair@iitk.ac.in> Cc:head_mse@iitk.ac.in <head_mse@iitk.ac.in>

Dear Prof. Nair, Here are the requirements for the exit option with an MSR degree in MSE

"Minimum 150 credits, which includes at least 42 course credits [including "Introduction to Professional and Communication Skills (6 credits)]"and at least 72 thesis credits. Rest of the 36 credits can be either course/thesis with the consent of the supervisor." In addition, the student has to complete MSE 690 + MSE 691.

Thanks Nilesh

- > Can you please confirm if I can go ahead with 144 as min total credit
- > requirement for Exit-MSR? I need your inputs urgently.

> NN> _

```
> From: dpgc_mse@iitk.ac.in <dpgc_mse@iitk.ac.in>
```

- > To: Nisanth N. Nair <nnair@iitk.ac.in>
- > Cc: head_mse@iitk.ac.in <head_mse@iitk.ac.in>; Dpgc_mse
- > <dpgc_mse@iitk.ac.in>
- > Subject: Re: PhD Exit

>

- >
- > Dear Prof. Nair,

> I would like to inform you that Prof. Mondal is on leave so I would

- > request you to wait till tomorrow. I see the point you are making and
- > in the spirit, it should be additional 36 thesis credits to make total

> credits 144. But let us wait for comments from Prof. Mondal.

- >
- > Thanks
- > Nilesh
- >
- >> Dear Kallol,

>> In your proposal for MSR as PhD exit, you want to keep any minimum total >> credit requirements? You have specified minimum course credits = 36 and >> thesis credits = 72, which is fine. But the total = 36+72=108 credits >> only. Usually, Masters program has a minimum total credit requirement of >> 144.

>>

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>> Let me know if I should proceed with your proposal or not.
```

- >> Nisanth
- >>
- > >

> Sent: Thursday, June 22, 2023 3:50 PM

AP-835 SENATE 563 MEETING

4.10

Proposal for the PhD Exit Degree

- 1. Department/Program: ME
- 2. Exit Degree: MTech/MSR/MAR
- 3. Is this a new degree? Yes/No
- 4. Is this degree offered only as an exit degree? Yes/No

5. Template:

Courses

Minimum number of course credits:



Courses in the basket:

N.A.

Thesis credits:

Compulsory courses (if any, along with credits):

MEG81 (ENGINEERING MATHEMATICS) and one stram-specific compulsiony counse (as per MTech template) template

<u>Thesis</u>

(Minimum) 72

6. Remarks:



SENATE 563 MEETING

Re: PhD Exit

DPGC Convener, ME-IITK <Dpgcme@iitk.ac.in> Thu 6/22/2023 10:33 AM To:Nisanth N. Nair <nnair@iitk.ac.in> Cc:Dpgcme@iitk.ac.in <dpgcme@iitk.ac.in>;head_me@iitk.ac.in <head_me@iitk.ac.in> Dear Nishanth, Yes, the minimum credit requirement should be 144 from course and thesis, where a minimum of 45 credits should come from coursework and a minimum of 72 credits should come from thesis. Best regards,

Santanu

> Dear Santanu,

In your proposal for MSR as PhD exit degree, do you want to also keep any
 minimum total credit requirements? You have specified minimum course
 credits = 45 and thesis credits = 72, which is fine.

>

> Usually, Masters program has a minimum total credit requirement of 144.

> Let me know if I should proceed with your proposal or not.

> Nisanth

>

AP-837 SENATE 563 MEETING

4.11

Proposal for the PhD Exit Degree

- 1. Department/Program: Sustainable Energy Engineering
- 2. Exit Degree: MTech
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No
- 5. Template:

Courses

Minimum number of course credits:

72	
----	--

Courses in the basket:

Core Basket (Minimum 2 for Ch.D. Scholors) with MS(R) M Tech Background)	
SEE-601: Thermo-Fluid Engineering [Semester I] [3-0-0-9] SEE-602: Physics of Energy Materials [Semester I] [3-0-0-9] SEE-603: Electrical Power Engineering [Semester I] [3-0-0-9] SEE-609: Computational Methods in Engineering* [Semester I] [3-0-0-9] SEE-612: Manufacturing of energy systems [Semester II] [3-0-0-9] SEE-604: Thermodynamics of Energy Systems [Semester II] [3-0-0-9] Department Electives (Man 2 for Abudark with MS/MTurk Back ground)	
SEE-606: Electrochemical Energy Systems [3-0-0-9] SEE-607: Hydrogen Energy: Production, Storage and Utilization [3-0-0-9] SEE-608: Introduction to Bioenergy and Biofuels [3-0-0-9] SEE-610: Introduction to Materials Modelling and Simulations ^s [3-0-0-9] SEE-611: Energy Systems: Modelling and Analysis [3-0-0-9] SEE-611: Energy Systems: Modelling and Analysis [3-0-0-9] SEE-613: Solar Photovoltaics [3-0-0-9] SEE-614: Wind Energy [3-0-0-9] SEE-615: Solar Thermal Engineering [3-0-0-9] SEE-616: Renewables Integrated Smart Power Systems [#] [3-0-0-9] SEE-617: Introduction to sustainable energy policy [3-0-0-9] SEE-618: Energy Efficient Building Design [3-0-0-9] SEE-619: Finite Volume Methods for Engineers [3-0-0-9] SEE-620: Heat Driven Cooling Systems [3-0-0-0] SEE-621: Biomass Conversion and Biorefineries [3-0-0-0] SEE-622: Sustainable Energy- Enabling Net Zero Emissions [3-0-0-9] SEE-623: Fuel Cell Electrical Energy Systems [3-0-0-9] SEE-624: Design Strategies for Net-Zero Energy Buildings [3-0-0-9]	
Open Electives EE698D: Smart Grid Technology [3-0-0-9] EE630A: Simulations of Power Systems [3-0-0-9] EE660A: Basics of Power Electronic Converters [3-0-0-9] EE631A: Advanced Power System Stability [3-0-0-9]	

AP-838 SENATE 563 MEETING

MSE673: Fundamentals and Applications of Electrochemistry **[3-0-0-9]** ME743: Fuel Cells **[3-0-0-9]** ME685A: Applied Numerical Methods* **[3-0-0-9]** AE603: Introduction to Scientific Computing* **[3-0-0-9]** CHE622A: Molecular Simulations^{\$} **[3-0-0-9]** ChE626A: Practical Introduction to Quantum Mechanical Methods for Scientists and

Engineers^{\$} [3-0-0-9] Any other suitable elective in the Institute [3-0-0-9]

*Designated as an elective only for the students admitted in May-July 2023 and onwards.

"This is designated as a core course only for the students' of 2022 batch.

*,^sStudents should take only one of these courses (i.e. Students can take ONLY one of the following set: CHE642A, ME685A, AE603, SEE-609 and ONLY one of the following two: CHE622A, ChE626A).

Students can chose choose other electives from across the institute in consultation with their guide (supervisor).

Compulsory courses (if any, along with credits):

SEE-605: An Introduction to Sustainable Energy Technologies (with Lab) [Semester II] [2-0-3-9]
SEE-690: Seminar Course I [both semesters] [0-0-0-0]
SEE-691: Seminar Course II [both semesters] [0-0-0-0]
SEE-692: Introduction to profession and communication [Semester I] [1-0-0-3] (in process for approval)

Thesis

Thesis credits:

72

6. Remarks:

- a. A candidate with M. Tech./M.S.(R) may exit the Ph.D. with M. Tech. degree after completing the required course and thesis credits.
- b. The option can be exercised on or after 7th Semester and defending the thesis.

Xalro CC Signature

DPGC Convener

Signature

Head of the Department

AP-839 SENATE 563 MEETING

4.12

Proposal for the PhD Exit Degree

- 1. Department: Humanities & Social Sciences
- 2. Exit Degree: MAR
- 3. Is this a new degree? Yes
- 4. Is this degree offered only as an exit degree? Yes

5. Template:

Courses

Minimum number of course credits:

54

Courses in the basket:

All the PG courses offered by English, Fine Arts, Philosophy, Psychology and Sociology in the department.

Compulsory courses (if any, along with credits):

Nil

<u>Thesis</u>

Thesis credits:

90

6. Remarks:

The student can choose the exit option at any point in their program, provided they have completed the course work with minimum course credits and a CPI of 6.5.

AP-840 SENATE 563 MEETING

C.S.

Hi Ch -

Signature DPGC Convenor Signature Head of the Department

AP-841 SENATE 563 MEETING

4.13

Proposal for the PhD Exit Degree - Chemistry

1.	Department/ Program :	Chemistry
2.	Exit Degree:	MSR
3.	Is this a new degree?	Yes
4.	Is this degree offered only as an exit degree?	Yes

5. Template:

<u>Courses</u>

Minimum number of course credits:

36+6

Courses in the basket:

All CHM6xx (any 4)

Compulsory courses (if any, along with credits):

Chemistry Communication Skills (6) CHM800- General Seminar (0) for 2 semesters CHM801A- Graduate Seminar (0) for 2 semesters

<u>Thesis</u>

Thesis credits:



6. Remarks:



Signature DPGC Convener

John Ar. Bure

Signature Head of the Department

AP-842 SENATE 563 MEETING

1. The student can initiate the exit option after one semester in their PhD program through an application sent to the DPGC.

2. The student must complete the thesis requirements of the MSR program.

3. Ph.D. Communication course (one semester), Ph.D. Seminar courses (two

semesters) are compulsory over and above the requirements mentioned above.

4. The exit option for the Ph.D. student will have to be recommended by

DPGC after a discussion in the committee.

*

AP-843 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: Cognitive Science
- 2. Exit Degree: Mtech (in case student is coming with BTech degree and dosen't have Mtech Degree)/MSR (Other cases)
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

Courses

Minimum number of course credits:

54	

Courses in the basket:

 COMPUTATIONAL TOOLS FOR COGNITIVE SCIENCE CGS600A FOUNDATIONS OF COGNITIVE SCIENCE CGS601A
BASIC STATISTICS DATA ANALYSIS & INFERENCE CGS602A
METHODS AND TOOLS IN COGNITIVE SCIENCECGS603A
COGNITIVE NEUROSCIENCE CGS609A
 EXPERIMENT DESIGN AND ANALYSIS CGS610A
BASICS OF PSYCHOPHYSICS CGS611A
 EYE-TRACKING AND VR AS TOOLS IN COGNITIVE SCIENCE
CGS612A
BASICS OF EEG CGS613A
INTRODUCTION TO PSYCHOLINGUISTICS CGS621A
COGNITIVE SCIENCE OF MULTILINGUALISM CGS622A
TOPICS IN TRANSLATIONAL NEUROSCIENCE CGS641A
 TOPICS IN AGENT BASED MODELS IN COGNITIVE AND
BEHAVIOURAL SCIENCE CGS646A
 LOGIC AND COGNITIVE SCIENCE CGS651A
 NEURAL BASIS OF LEARNING AND MEMORY CGS671A
 SOCIAL BEHAVIOR AND THE BRAIN: AN INTRODUCTION TO
SOCIAL NEUROSCIENCE CGS690A
 PHILOSOPHICAL INVESTIGATIONS CGS691A
MIND: PHILOSOPHICAL INVESTIGATIONS CGS698A
 TOPICS IN COGNITIVE NEUROSCIENCE CGS698B
 BAYESIAN MODELS & DATA ANALYSIS CGS698C
 NEUROBIOLOGY OF AFFECT & MOTIVATION CGS698D
 TOPICS IN VISUAL PERCEPTION CGS698F

Compulsory courses (if any, along with credits):

AP-844 SENATE 563 MEETING

Course Numb	er Name
CGS600A	Computational tools for Cognitive Science (11)
CGS601A	Foundations of Cognitive Science (9)
CGS602A	Basic statistics data analysis & inference (11)
CGS610A (m	odular- 1st half) Experiment design and analysis (5)
CGS611A (m	odular- 2nd half) Basics of psychophysics (5)
CGS698A	Mind: philosophical investigations (9)
CGS612A (m	odular- 1st half) Eye-tracking and vr as tools in Cognitive Science
(5)	
CGS613A (m	odular- 2nd half) Basics of EEG (5)

Thesis

Thesis credits:



6. Remarks:

Deupriyakomor

Signature (DPGC Convener

Marayon.

Signature () Head of the Department

AP-845 ttps://outlook.office.com/mail/inbox/id/AAMkADY0YTIIZGJhLT.. SENATE 563 MEETING

Re: PhD Exit

Devpriya Kumar <devpriya@iitk.ac.in> Thu 6/22/2023 9:19 AM To:Nisanth N. Nair <nnair@iitk.ac.in> Cc:Narayanan Srinivasan <nsrini@iitk.ac.in> Dear Nishant,

A minimum total credit of 144 should be fine with us.

Regards Dev

On Wed, Jun 21, 2023, 23:50 Nisanth N. Nair <<u>nnair@iitk.ac.in</u>> wrote: Dear Devpriya,

In your proposal for MSR/MTech as PhD exit degree, do you want to also keep any minimum total credit requirements? You have specified minimum course credits = 54 and thesis credits = 72.

Usually, master's programs have a minimum total credit requirement of 144.

Let me know if you wish to make any changes in your proposal. Nisanth

AP-846 SENATE 563 MEETING

4.15

Proposal for the PhD Exit Degree

- 1. Department/Program: Earth Sciences
- 2. Exit Degree: MTech/MSR/MAR
- 3. Is this a new degree? Yes/No
- 4. Is this degree offered only as an exit degree? Yes/No
- 5. Template:

Courses

Minimum number of course credits:

72

Courses in the basket:

Compulsory courses (if any, along with credits):

- 1. Mathematics for Earth Sciences (ES651A)
- 2. Remote Sensing & GIS for Geo-resource evaluation (ES644A)
- 3. Communication skills in Earth Sciences (ES650A)/Introduction to profession and communications skills in Earth Sciences
- 4. Geophysical methods (ES656A)

Thesis



6. Remarks:

The department is of the opinion that a MTech in Geological Technology may be offered as an exit option for Ph.D. students, provided they fulfil all the requirements for the MTech degree offered by the department.

Syed Tajdan Hanan 26/5/23

DPGC Convener

Signature

Head of the Department

AP-847 SENATE 563 MEETING

4.16

Proposal for the PhD Exit Degree

- 1. Department/Program: Economic Sciences
- 2. Exit Degree: MSR
- 3. Is this a new degree? Yes
- 4. Is this degree offered only as an exit degree? Yes

5. Template:

Courses

Minimum number of course credits:

72		

Courses in the basket:

ECO711A, ECO724A, ECO731A, ECO732A, ECO733A, ECO734A, ECO735A, ECO737A, ECO738A, ECO741A, ECO742A, ECO745A, ECO747A, ECO750A, ECO751A, ECO752A, ECO753A, ECO754A, ECO755A, ECO756A, ECO757A, ECO758A, ECO760A, ECO761A, ECO762A, ECO763A, ECO764A, ECO765A.

Compulsory courses (if any, along with credits):

ECO701A – 9 credits ECO702A – 9 credits ECO703A – 9 credits ECO704A – 9 credits

<u>Thesis</u>

Thesis credits:



6. Remarks:

PhD Exit Plan:

a) A PhD student, having completed a minimum of 72 credits from courses, is supposed to take

the first comprehensive examination at the end of second semester. If s/he passes, then s/he

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has the option to continue to the PhD program. If s/he wants to exit before completing the Ph.D., s/he is eligible for a "MS by Research*" degree provided s/he has completed 144 credits (out of which minimum of 72 credits will come from first year coursework) and a minimum of 36 credits from research work.

b) In case, a student fails in the first comprehensive examination, s/he can take a second comprehensive examination after a minimum of 15 days. If s/he passes the second comprehensive examination, s/he has the option to continue in the PhD program or exit early with a "MS by Research" degree provided s/he meets the credit requirements as stated in Point (a). In case the student fails the second comprehensive examination, the student will be terminated and discontinued from the PhD program**.

Note: * "MS by Research" degree needs to be approved by the senate.

** In the Department of Economic Sciences at IIT Kanpur, advisors to PhD students are assigned only after s/he has cleared the comprehensive examination.

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Proposal for the PhD Exit Degree

- 1. Department/Program: Department of Economic Sciences
- 2. Exit Degree: PG Diploma (Economics) Note: A student can request for only one of the two proposed exit options of MSR and PG Diploma in Economics
- 3. Is this a new degree? Yes
- 4. Is this degree offered only as an exit degree? Yes

5. Template:

Courses

Minimum number of course credits:



Courses in the basket:

ECO711A, ECO724A, ECO731A, ECO732A, ECO733A, ECO734A, ECO735A, ECO737A, ECO738A, ECO741A, ECO742A, ECO745A, ECO747A, ECO750A, ECO751A, ECO752A, ECO753A, ECO754A, ECO755A, ECO756A, ECO757A, ECO758A, ECO760A, ECO761A, ECO762A, ECO763A, ECO764A, ECO765A.

Compulsory courses (if any, along with credits):

ECO701A – 9 credits ECO702A – 9 credits ECO703A – 9 credits ECO704A – 9 credits

<u>Thesis</u>

Thesis credits:



6. Remarks:

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The request for this option can only be made if the student fails the comprehensive exam twice,

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AP-851 SENATE 563 MEETING

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Proposal for the PhD Exit Degree

- 1. Department/Program: Department of Mathematics & Statistics
- 2. Exit Degree: MSR(Mathematics) Note: A student can request for only one of the two proposed exit options
- 3. Is this a new degree? **Yes** of MSR and PG Diploma in Mathematics.
- 4. Is this degree offered only as an exit degree? Yes

5. Template:

<u>Courses</u>

Minimum number of course credits:



Courses in the basket:

Compulsory courses (if any, along with credits):

Algebra, Mathematical Methods, Analysis

<u>Thesis</u>

Thesis credits:



- 6. Remarks: The student shall complete at least 144 credits out of which at least 42 credits shall be earned through the course work and another at least 72 credits shall be earned through research work.
 - (a) A request to the exit shall be made only after the student has completed five regular semesters (excluding summer terms and periods of sanctioned leaves, if any) in the PhD program and has passed the Comprehensive examination. The request for the exit is to be normally made before the end of the eighth semester (excluding periods of sanctioned leaves, if any) in the PhD program.
 - (b) The student shall prepare an MS by Research thesis based on the work

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carried out under research credits. The procedure for evaluation for MS by Research theses shall be the same as for an MTech thesis. So the theses are to be evaluated internally.

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Proposal for the PhD Exit Degree

- 1. Department/Program: Department of Mathematics & Statistics
- 2. Exit Degree: MSR(Statistics) Note: A student can request for only one of the two proposed exit options
- 3. Is this a new degree? **No** of MSR and PG Diploma in Statistics.
- 4. Is this degree offered only as an exit degree? Yes

5. Template:

<u>Courses</u>

Minimum number of course credits:



Courses in the basket:

Compulsory courses (if any, along with credits):

Analysis, Probability Theory, Statistical Inference

<u>Thesis</u>

Thesis credits:



- 6. Remarks: The student shall complete at least 144 credits out of which at least 42 credits shall be earned through the course work and another at least 72 credits shall be earned through research work.
 - (a) A request to the exit shall be made only after the student has completed five regular semesters (excluding summer terms and periods of sanctioned leaves, if any) in the PhD program and has passed the Comprehensive examination. The request for the exit is to be normally made before the end of the eighth semester (excluding periods of sanctioned leaves, if any) in the PhD program.
 - (b) The student shall prepare an MS by Research thesis based on the work

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carried out under research credits. The procedure for evaluation for MS by Research theses shall be the same as for an MTech thesis. So the theses are to be evaluated internally.

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AP-855 SENATE 563 MEETING

Proposal for the PhD Exit Degree

- 1. Department/Program: Department of Mathematics & Statistics
- 2. Exit Degree: **PG Diploma (Mathematics)** Note: A student can request for only one of the two proposed exit options of MSR and PG Diploma in Mathematics.
- 3. Is this a new degree? Yes
- 4. Is this degree offered only as an exit degree? Yes

5. Template:

<u>Courses</u>

Minimum number of course credits:

36

Courses in the basket:

Compulsory courses (if any, along with credits):

Algebra, Mathematical Methods, Analysis

<u>Thesis</u>

Thesis credits:



6. Remarks: The student shall complete at least 72 credits out of which at least 36 credits shall be earned through course work and another at least 18 credits shall be earned through research/project work.

(a) A request to the exit shall be made only after the student has completed three regular semesters (excluding summer terms and periods of sanctioned leaves, if any) in the PhD program. The request for the exit is to be normally made before the end of the fifth semester (excluding

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periods of sanctioned leaves, if any) in the PhD program.

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Signature Head of the Department

AP-857 SENATE 563 MEETING

Proposal for the PhD Exit degree

- 1. Department/Program: Department of Mathematics & Statistics
- 2. Exit Degree: PG Diploma (Statistics) Note: A student can request for only one of the two proposed exit options of MSR and PG Diploma in Statistics.
- 3. Is this a new degree? Yes
- 4. Is this degree offered only as an exit degree? Yes

5. Template:

Courses

Minimum number of course credits:

36

Courses in the basket:

Compulsory courses (if any, along with credits):

Analysis, Probability Theory, Statistical Inference

Thesis

Thesis credits:

18

6. Remarks: The student shall complete at least 72 credits out of which at least 36 credits shall be earned through course work and another at least 18 credits shall be earned through research/project work.

A request to the exit shall be made only after the student has completed three regular semesters (excluding summer terms and periods of sanctioned leaves, if any) in the PhD program. The request for the exit is to be normally made

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before the end of the fifth semester (excluding periods of sanctioned leaves, if any) in the PhD program.

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4.18

Proposal for the PhD Exit Degree

- 1. Department/Program: PHYSICS / Ph.D.
- 2. Exit Degree: MTech/MSR/MAR (THESIS)
- 3. Is this a new degree? Yes/No. V
- 4. Is this degree offered only as an exit degree? Yes/No.

5. Template:

Courses

Minimum number of course credits:

36

Courses in the basket:

Arry GXX level course. Two DE and Two DE

Compulsory courses (if any, along with credits):

PHY600 - 3 credits PHY701/PHY702 - O credit

Thesis

108

Thesis credits:

6. Remarks:

apply the exit option to existing rudents (Y22 and earlier) Kindley h.D. Student Signature Signature Kan DPGC Convener Head of the Department

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4.19

Proposal for the PhD Exit Degree for Department of SPASE (Space Science and Engineering)

- 1. Department/Program: Space Science and Engineering, PhD
- 2. Exit Degree: MTech in Radio Astronomy (RA)or Planetary Science and Technology (PST)
- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No
- 5. Template:

Minimum Number of Credits for the programme: 144.

Coursework (total 72 credits broken up as follows)

Year 1 Semester 1

Compulsory Courses: (36 credits) SPA601: Introduction to space & astronomical instrumentation (9 credits) SPA602: Mathematical methods in space sciences & engineering (9credits) SPA603: Solar system processes and space missions (9credits) SPA610: Fundamentals of Astronomy and Astrophysics (9credits, RA stream) OR SPA620: Solar system mechanics (9credits, PST stream)

Year 1 Semester 2

Compulsory Courses: (18 credits)

SPA611: Radio astronomy (9 Credits RA stream) OR

SPA621: Planetary Surface Processes (9credits, PST stream)

SPA612: Radio astronomy laboratory (9credits, RA stream) OR

SPA625: Space data acquisition & analysis (9credits, PST stream)

Two Open Electives: (18 credits)

This can also include the compulsory courses from other streams. Some additional suggestions are given below.

SPA604: Numerical methods in space sciences & engineering

PHY667: High energy astrophysics of binary star systems

Year 2 Thesis: 72 credits

6. Remarks: None.

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AP-861 P**:SENATE (568) IN EETING**ee

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- 1. Department/Program:
- 2. Exit Degree:
- 3. Is this a new degree?
- 4. Is this degree offered only as an exit degree?

Materials Science Programme M. Tech/MSR/MAR Yes/No Yes/No

The Incoming Ph.D students with B. Tech. qualifying degree

5. Template:

<u>Courses</u>

Minimum number of course credits:

55

Courses in the basket:

5 Core MSP Courses + 01 elective course

Compulsory courses (if any, along with credits):

MS601A:	Structural & Magnetic Properties of Materials	09 credits
MS602A:	Electrical & Dielectric Properties of Materials	09 credits
MS603A:	Mechanical Properties of Materials	09 credits
MS604A:	Characterization of Materials	10 credits
MS605A:	Materials Engineering	09 credits
MS698	Graduate Seminar (in every semester)	00 credits

<u>Thesis</u>

Thesis credits:



6. Remarks:

Minimum duration in the programme at the time of exit is 2.5 years

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AP-862 P**:SENATE (568) IN EETING**ee

- 1. Department/Program:
- 2. Exit Degree:
- 3. Is this a new degree?
- 4. Is this degree offered only as an exit degree?

Materials Science Programme M. Tech/MSR/MAR Yes/No Yes/No

The Incoming Ph.D students with M. Sc. qualifying degree

5. Template:

<u>Courses</u>

Minimum number of course credits:

73

Courses in the basket:

5 Core MSP Courses + 03 elective course

Compulsory courses (if any, along with credits):

MS601A:	Structural & Magnetic Properties of Materials	09 credits
MS602A:	Electrical & Dielectric Properties of Materials	09 credits
MS603A:	Mechanical Properties of Materials	09 credits
MS604A:	Characterization of Materials	10 credits
MS605A:	Materials Engineering	09 credits
MS698	Graduate Seminar (in every semester)	00 credits

<u>Thesis</u>

Thesis credits:



6. Remarks:

Minimum duration in the programme at the time of exit is 3 years

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AP-863 P**:SENATE (568) IN EETING**ee

- 1. Department/Program:
- 2. Exit Degree:
- 3. Is this a new degree?

4. Is this degree offered only as an exit degree?

Materials Science Programme M. Tech/MSR/MAR Yes/No Yes/No

The Incoming Ph.D students with M. Tech. qualifying degree

5. Template:

<u>Courses</u>

Minimum number of course credits:

36

Courses in the basket:

3 Core MSP Courses + 01 elective course *

* If M. Tech. is from MSP, IIT Kanpur, the student needs to complete 4 elective courses

Compulsory courses (if any, along with credits):

Any 03 courses from below mentioned list along with MS698

MS601A:	Structural & Magnetic Properties of Materials	09 credits
MS602A:	Electrical & Dielectric Properties of Materials	09 credits
MS603A:	Mechanical Properties of Materials	09 credits
MS604A:	Characterization of Materials	10 credits
MS605A:	Materials Engineering	09 credits
MS698	Graduate Seminar (in every semester)	00 credits

<u>Thesis</u>

Thesis credits:

144

6. Remarks:

Minimum duration in the programme at the time of exit is 2 years

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Proposal for the PhD Exit Degree

1. Program: PSE

2. Exit Degree:

Qualifying Degree at the time of admission	Exit Degree
Bachelors	MTech or MSR
Masters	MTech or MSR

- 3. Is this a new degree? No
- 4. Is this degree offered only as an exit degree? No

5. Template:

Courses for Exit Degree: MTech

Minimum number of course credits:



Courses in the basket:

PSE 601A, PSE 602A, PSE 604A, PSE 605A, PSE 606A, Elective-1, Elective-2, Elective-3, PSE 608A

Compulsory courses (if any, along with credits):

PSE 601A (3-0-0-0-9) PSE 602A (3-0-0-9) PSE 604A (3-0-0-0-9) PSE 605A (1-0-6-0-9) PSE 606A (1-0-0-0-3) [course awaiting approval] PSE 608A (0-0-0-0) [course awaiting approval]

<u>Thesis</u>

Thesis credits:

72

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Courses for Exit Degree: MSR

Minimum number of course credits:

36

Courses in the basket:

PSE 601A, Elective-1, Elective-2, Elective-3, PSE 606A, PSE 608A

Compulsory courses (if any, along with credits):

PSE 601A (3-0-0-0-9) PSE 606A (1-0-0-0-3) [course awaiting approval] PSE 608A (0-0-0-0-0) [course awaiting approval]

<u>Thesis</u>

108

Thesis credits:

6. Remarks:

None

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