

**Course Templates
for
M.Sc. 2 Year and
M.Sc.-Ph.D (Physics)
Programs**

Proposed template for the 2 year MSc programme in Chemistry

YEAR I				YEAR II			
Semester I		Semester II		Semester III		Semester IV	
Course	L-T-P-D[C]	Course	L-T-P-D[C]	Course	L-T-P-D[C]	Course	L-T-P-D[C]
CHM401A	3-0-0-0[9]	CHM402A	3-0-0-0[9]	CHM503A	0-0-6-0[6]	CHM700A	0-0-0-27[27]
CHM421A	3-0-0-0[9]	CHM422A	3-0-0-0[9]	CHM611A	3-0-0-0[9]	DE-2	3-0-0-0[9]
CHM423A	0-0-6-0[6]	CHM442A	3-0-0-0[9]	CHM621A	3-0-0-0[9]	DE-3	3-0-0-0[9]
CHM441A	3-0-0-0[9]	CHM443A	0-0-6-0[6]	CHM664A	3-0-0-0[9]		
CHM521A	3-0-0-0[9]	CHM481A	3-0-0-0[9]	OE-2	3-0-0-0[9]		
		OE-1	3-0-0-0[9]	DE-1	3-0-0-0[9]		
Total credits: 42		Total credits: 51		Total credits: 51		Total credits: 45	

TEMPLATE FOR 2YR M.SC. PROGRAMME IN MATHEMATICS-OLD TEMPLATE

1st Sem	2nd Sem	3rd Sem	4th Sem
MTH201A [11]	MTH308A [11]	MTH305A [11]	OE-2 [09/11]
MTH204A [11]	MTH421A [11]	MTH403A [11]	OE-3 [09/11]
MTH301A [11]	DE-1 [09/11]	OE-1 [09/11]	OE-4 [09/11]
MTH409A [09]	DE-2 [09/11]	DE-4 [09/11]	DE-6 [09/11]
MTH428A [11]	DE-3 [09/11]	DE-5/MTH598A [09/11]	DE-7/MTH599A [09/11]

TEMPLATE FOR 2YR M.SC. PROGRAMME IN MATHEMATICS-NEW TEMPLATE

1st Sem	2nd Sem	3rd Sem	4th Sem
MTH201A [11]	MTH204A [11]	MTH305A [11]	OE-2 [09/11]
MTH301A [11]	MTH421A [11]	MTH403A [11]	OE-3 [09/11]
MTH202A [11]	MTH SCI COMP-1 [11]	OE-1 [09/11]	OE-4 [09/11]
MTH409A [09]	DE-1 [09/11]	DE-3 [09/11]	DE-5 [09/11]
MTH428A [11]	DE-2 [09/11]	DE-4/MTH598A [09/11]	DE-6/MTH599A [09/11]

OLD TEMPLATE

BS-MS (PG Part – Category – A) (from the same department)		Template No. BS-MTH-2	
1 st to 8 th		9 th	10 th
C O U R S E S	COURSES AS DETAILED IN THE BS TEMPLATE	MS THESIS (MTH598A) [09]/ DE PG-1 [09]	MS THESIS (MTH599A) [09]/ DE PG-6 [09]
		DE PG-2 [09]	OE PG-1 [09]
		DE PG-3 [09]	OE PG-2 [09]
		DE PG-4 [09]	OE PG-3 [09]
		DE PG-5 [09]	OE PG-4 [09]
		45	45

MINIMUM CREDIT REQUIREMENT IN MS PART FOR GRADUATION:

PG Component : 90 Credits

REMARKS:

- 1) All courses to be taken with the permission of Supervisor/ DUGC Convener.
- 2) Minimum credit requirement mentioned under the dual degree template is only for the MS part of the programme. In addition to these credits, students are required to follow and complete all their graduation requirements for their UG programme.
- 3) Upto 36 OE credits may be used from the BS minimum requirements to fulfil requirements for the BS-MS dual degree programme. These will be waived from the BS programme and counted towards PG requirements.

NEW TEMPLATE

BS-MS (PG Part – Category – A) (from the same department)		Template No. BS-MTH-2	
1 st to 8 th		9 th	10 th
C O U R S E S	COURSES AS DETAILED IN THE BS TEMPLATE	MS THESIS-1 [9+9]	MS THESIS-2 [9+9]
		DE PG-1 [09]	DE PG-3 [09]
		DE PG-2 [09]	DE PG-4 [09]
		OE PG-1/DE PG-5 [09]	OE PG-2/DE PG-6 [09]
		45	45

MINIMUM CREDIT REQUIREMENT IN MS PART FOR GRADUATION:

PG Component : 90 Credits

OLD TEMPLATE

BT/BS-MS (PG Part – Category – B) (from other departments)			Template No. BS-MTH-3	
C O U R S E S	UG Pre-Requisites		PG Requirements	
	Odd Semester	Even Semester	Odd Semester	Even Semester
	MTH204A [11]	MTH302A [09]	MS THESIS (MTH598A) [09]/ DE PG-1 [09]	MS THESIS (MTH599A) [09]/ DE PG-5 [09]
	MTH301A [11]	MTH421A [11]	DE PG-2 [09]	DE PG-6 [09]
	MTH305A [11]	MTH308A [11]	DE PG-3 [09]	
	MTH403A [11]	MTH424A [11]	DE PG-4 [09]	
	MTH401A [09]			
	MTH423A [11]			
64	42	36	18	

MINIMUM CREDIT REQUIREMENT IN MS PART FOR GRADUATION:

PG Component : 54 Credits

REMARKS:

- 1) All courses to be taken with the permission of Supervisor/ DUGC Convener.
- 2) Minimum credit requirement mentioned under the dual degree template is only for the MS part of the programme. In addition to these credits, students are required to follow and complete all their graduation requirements for their UG programme.
- 3) Upto 36 OE credits may be used from the parent department's BT/BS minimum requirements to fulfil requirements for the dual degree programme. These will be waived from the parent department's BT/BS programme requirements and counted towards PG requirements.

NEW TEMPLATE

BT/BS-MS (PG Part – Category – B) (from other departments)			Template No. BS-MTH-3	
C O U R S E S	UG Pre-Requisites		PG Requirements	
	Odd Semester	Even Semester	Odd Semester	Even Semester
	MTH201A [11]	MTH204A [11]	MS THESIS-1 [9+9]	MS THESIS-2 [9+9]
	MTH302A [09]	MTH301A [11]	DE PG-1 [09]	DE PG-3 [09]
	MTH305A [11]	MTH SCI COMP-1 [10]	DE PG-2 [09]	DE PG-4 [09]
	MTH403A [11]	MTH421A [11]		
	MTH424A [11]			
	MTH SCI COMP-2 [10]			
63	43	36	36	

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Department of Mathematics and Statistics
Template for the 2 year Msc programme in Statistics (Y13 batch)

YEAR I				YEAR II			
Semester I		Semester II		Semester III		Semester IV	
Course	L-T-P-D[Unit]	Course	L-T-P-D[Unit]	Course	L-T-P-D[Unit]	Course	L-T-P-D[Unit]
MSO202	3-1-0-0[2]	MTH309	3-1-0-0[4]	MTH412	3-1-0-0[4]	MTH511	3-1-0-0[4]
MTH425	3-1-0-0[2]	MTH416	3-1-0-0[4]	MTH515	3-1-0-0[4]	MTH514	3-1-0-0[4]
MTH301	3-1-0-0[4]	MTH418	3-1-0-0[4]	MTH517	3-1-0-0[4]	MTH516	3-1-0-0[4]
MTH409	2-1-1-0[4]	MTH513	3-1-0-0[4]	DE/OE	3-0-0-0[4]/ 3-1-0-0[4]	DE/OE	3-0-0-0[4]/ 3-1-0-0[4]
MTH415	3-1-0-0[4]	DE/OE	3-0-0-0[4]/ 3-1-0-0[4]	DE/OE/ MTH598	3-0-0-0[4]/ 3-1-0-0[4]	DE/OE/ MTH599	3-0-0-0[4]/ 3-1-0-0[4]
MTH417	3-1-0-0[4]						

List of courses

- MSO202 Complex analysis (module)
- MTH301 Analysis I
- MTH309 Probability theory
- MTH409 Computer programing and data structures
- MTH412 Stochastic processes
- MTH415 Matrix theory and linear estimation
- MTH416 Regression analysis
- MTH417 Sampling theory
- MTH418 Inference I
- MTH425 Distributions in Statistics (module)
- MTH511 Statistical simulation and data analysis
- MTH513 Analysis of variance
- MTH514 Multivariate analysis
- MTH515 Inference II
- MTH516 Non-parametric inference
- MTH517 Time series analysis

Department of Mathematics and Statistics
Template for the 2 year Msc programme in Statistics (Y14 & onwards)

YEAR I				YEAR II			
Semester I		Semester II		Semester III		Semester IV	
Course	L-T-P-SS[C]	Course	L-T-P-SS[C]	Course	L-T-P-SS[C]	Course	L-T-P-SS[C]
MSO202A	3-1-0-0[06]	MTH309A	3-1-0-0[11]	MTH412A	3-1-0-0[11]	MTH511A	3-1-0-0[11]
MTH425A	3-1-0-0[06]	MTH416A	3-1-0-0[11]	MTH515A	3-1-0-0[11]	MTH514A	3-1-0-0[11]
MTH301A	3-1-0-0[11]	MTH418A	3-1-0-0[11]	MTH517A	3-1-0-0[11]	MTH516A	3-1-0-0[11]
MTH409A	2-1-1-0[09]	MTH513A	3-1-0-0[11]	DE/OE	3-0-0-0[09]/ 3-1-0-0[11]	DE/OE	3-0-0-0[09]/ 3-1-0-0[11]
MTH415A	3-1-0-0[11]	DE/OE	3-0-0-0[09]/ 3-1-0-0[11]	DE/OE/ MTH598A	3-0-0-0[09]/ 3-1-0-0[11]	DE/OE/ MTH599A	3-0-0-0[09]/ 3-1-0-0[11]
MTH417A	3-1-0-0[11]						

List of courses

- MSO202A Complex analysis (module)
- MTH301A Analysis I
- MTH309A Probability theory
- MTH409A Computer programing and data structures
- MTH412A Stochastic processes
- MTH415A Matrix theory and linear estimation
- MTH416A Regression analysis
- MTH417A Sampling theory
- MTH418A Inference I
- MTH425A Distributions in Statistics (module)
- MTH511A Statistical simulation and data analysis
- MTH513A Analysis of variance
- MTH514A Multivariate analysis
- MTH515A Inference II
- MTH516A Non-parametric inference
- MTH517A Time series analysis

Proposed template for the 2 year MSc programme in Physics

YEAR I				YEAR II			
Semester I		Semester II		Semester III		Semester IV	
Course	L-T-P-D[C]	Course	L-T-P-A[C]	Course	L-T-P-A[C]	Course	L-T-P-A[C]
PHY401A	3-1-0-0[11]	PHY412A	3-1-0-0[11]	PHY552A	3-1-0-0[11]	PHY566A	0-0-0-11[11]
PHY421A	3-1-0-0[11]	OE-1	3-1-0-0[11] or 3-0-0-0[9]	PHY563A	0-0-0-11[11]	PHY568A	0-0-0-11[11]
PHY431A	3-1-0-0[11]	PHY432A	3-1-0-0[11]	PHY565A	0-0-0-11[11]	DE-3	3-1-0-0[11] or 3-0-0-0[9]
PHT441A	2-1-3-0[11]	PHY462A	0-0-8-0[8]	DE-1	3-1-0-0[11] or 3-0-0-0[9]	DE-4	3-1-0-0[11] or 3-0-0-0[9]
PHY461A	0-0-8-0[8]	PHY473A	2-0-2-0[8]	DE-2	3-1-0-0[11] or 3-0-0-0[9]	DE-5	3-1-0-0[11] or 3-0-0-0[9]
Total credits: 52		Total credits: 47-49		Total credits: 51-55		Total credits: 49-55	

Important note:

- Out of the 5 DEs, at least 2 DEs should be from following lists: PHY543A, PHY524A, PHY526A.
- Following DE courses will be compulsorily floated:
 - Even Semester: PHY422A, PHY692A, PHY553A
 - Odd Semester: PHY407A
- Minimum Credit requirement for graduation: 200

Proposed template for the MSc-PhD Dual Degree (MPDD) programme in Physics

YEAR I				YEAR II							
Semester I		Semester II		Semester III		Semester IV		Semester V		Semester VI	
Course	L-T-P-D[C]	Course	L-T-P-D[C]	Course	L-T-P-D[C]	Course	L-T-P-D[C]	Course	L-T-P-D[C]	Course	L-T-P-D[C]
PHY400A	1-0-0-2[5]	PHY412A	3-1-0-0[11]	PHY552A	3-1-0-0[11]	PHY502A	0-0-0-9[9]	PHY598A Or PHY698A	0-0-0-27[27]	PHY422A Or PHY692A	3-1-0-0[11] Or 3-0-3-0[12]
PHY401A	3-1-0-0[11]	PHY432A	3-1-0-0[11]	PHY462A	0-0-8-0[8]	DE-2	3-1-0-0[11] or 3-0-0-0[9]	DE-4	3-1-0-0[11] or 3-0-0-0[9]	PHY599A Or PHY699A	0-0-0-27[27]
PHY421A	3-1-0-0[11]	PHY461A	0-0-8-0[8]	PHY501A	0-0-0-9[9]	DE-3	3-1-0-0[11] or 3-0-0-0[9]	OE-2	3-1-0-0[11] or 3-0-0-0[9]	DE-5	3-1-0-0[11] or 3-0-0-0[9]
PHT431A	3-1-0-0[11]	PHY473A	2-0-2-0[8]	DE-1	3-1-0-0[11] or 3-0-0-0[9]	OE-1	3-1-0-0[11] or 3-0-0-0[9]				
PHY441A	2-1-3-0[11]	PHY500A	0-0-0-9[9]								
Total credits: 49		Total credits: 47		Total credits: 37-39		Total credits: 36-42		Total credits: 45-49		Total credits: 47-50	

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Important note:

- Out of the 5 DEs, at least 2 DEs should be from following lists: PHY543A, PHY524A, PHY526A.
- Following DE courses will be compulsorily floated:
 - Even Semester: PHY422A, PHY692A, PHY553A

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- Odd Semester: PHY407A
- PHY400A is a seminar course with a weekly seminar given by a Faculty member and 2 hours are devoted for self study and writing a mandatory 1-page report on the weekly seminar.
- In 5th and 6th semester, the students will be doing MSc Research Project I and II respectively. The course numbers for MSc Research Project I and II are PHY598A and PHY599A if they have not migrated to the PG part of the program, and PHY698A and PHY699A if they have migrated to the PG part of the program.
- Criteria for migration to the PG part of the program is that a student should complete all the compulsory courses till 4th semester including two out of PHY543A, PHY524A, PHY526A and have minimum of 6.0 CPI.