ज्ञान-विज्ञान विमुक्तये

Curriculum & Credit Framework
for Postgraduate Programmes

सत्यमेव जयते | ज्ञान-विज्ञान विमुक्तये

University Grants Commission
Ministry of Education
Government of India, New Delhi

TABLE OF CONTENTS

FOREWORD

प्रो. म. जगदीश कुमार
अध्यक्ष
Prof. M. Jagadesh Kumar
Chairman

विश्वविद्यालय अनुदान आयोग
शिक्षा मंत्रालय, भारत सरकार
University Grants Commission
Ministry of Education, Govt. of India

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FOREWORD

Education's primary stakeholders are its students. However, the rigid disciplinary boundaries in the higher educational system tied them to subjects at a very early stage rather than assisting them in discovering their true interests. Consequently, the National Education Policy 2020 strongly emphasises multidisciplinary and holistic education.

UGC has developed the Curriculum and Credit Framework for Postgraduate Programmes while considering the restructured degree programmes, entry and exit procedures, etc. The framework is a testament to student empowerment, giving them freedom, flexibility and choices. The framework, which has no discipline-specific entry requirements and shows the credit structure and curriculum contents for both one- and two-year PG programmes, also offers an exit option at the end of the first year in two-year PG programmes.

I am delighted to share the Curriculum and Credit Framework for Postgraduate Programmes prepared by UGC. I express my gratitude to the Expert Committee led by Prof. K. K. Pant and UGC officials for their invaluable assistance in drafting the Curriculum and Credit Framework for Postgraduate Programmes.

Since this framework will significantly impact students' careers, I urge all higher education institutions to implement it and ensure the advantages reach the students rapidly.

(Prof. M. Jagadesh Kumar)

बहादुरशाह ज़फ़र मार्ग, नई दिल्ली-110002 Bahadur Shah Zafar Marg, New Delhi-110002
दूरभाष Phone : कार्यालय Off : 011-23234019, 23236350, e-mail : cm.ugc@nic.in | web: www.ugc.ac.in

1

Curriculum and Credit Framework for Postgraduate Programmes

1.0 Introduction

India is among the fastest-growing economies in the world. Knowledge creation and research are critical in sustaining economic growth. A robust ecosystem of research, with a vast talent pool, is perhaps more important than ever if India is to become a leading knowledge society and one of the largest economies in the world in the coming years and decades. For that to happen, the nation needs a significant expansion of its research capabilities and output across disciplines.

The higher education sector is likely to expand significantly with the possible addition of more and more young Indians into higher education as India moves towards becoming a knowledge economy and society. A major thrust, therefore, is given in NEP 2020 with initiatives such as multidisciplinary education with multiple entry and exit options, research at the undergraduate level, learning outcomes-based curriculum approach, etc.

The postgraduate (PG) programmes help students to extend their knowledge of their chosen subject and prepare them for higher research studies. The advanced knowledge and specialized skills they gain in the PG programme are crucial to sustaining the journey of a student from the acquirer of knowledge to the creator of knowledge.

The re-structured degree programmes are promoted in both undergraduate and postgraduate education. The NEP 2020 states that "the undergraduate degree will be of either 3 or 4-year duration with appropriate certifications, e.g., a UG certificate after completing 1 year in a discipline or field including vocational and professional areas, or a UG diploma after 2 years of study, or a Bachelor's degree after a 3-year programme. The 4-year multidisciplinary Bachelor's programme, however, shall be the preferred option since it allows the opportunity to experience the full range of holistic and multidisciplinary education in addition to a focus on the chosen major and minors as per the choices of the student".

In conformity with the restructured undergraduate programmes mentioned above, the policy says HEIs will have the flexibility to offer different designs of PG programmes also.

2.0 Recommendations of NEP 2020 Relevant to Postgraduate Education

- There may be a 2-year programme with the second year devoted entirely to research for those who have completed the 3-year Bachelor's programme;
- For students completing a 4-year Bachelor's programme with Honours/Honours with Research, there could be a 1-year PG programme;
- There may be an integrated 5-year Bachelor's/Master's programme;

- Universities will aim to offer PG programmes in core areas such as Machine Learning as well as multidisciplinary fields "AI + X" and professional areas like health care, agriculture, and law;
- There shall be a National Higher Education Qualifications Framework (NHEQF). Higher education qualifications leading to a degree/diploma/certificate shall be described by the NHEQF in terms of such learning outcomes. Accordingly, the levels prescribed for the PG programme are levels 6, 6.5, and 7;
- PG framework should be in sync with National Credit Framework (NCrF) for the creditization of all learning and assignment, accumulation, storage, transfer & redemption of credits, subject to assessment.

3.0 Main Features of the PG curriculum framework

- Flexibility to move from one discipline of study to another;
- Flexibility for students who qualify UG with a major and minor (s) to opt for either major or minor(s) subject or any other subject if they are able to prove their competence in PG programme;
- Opportunity for learners to choose the courses of their interest;
- Flexibility to switch to alternative modes of learning (offline, ODL, Online learning, and hybrid modes of learning);
- Mobility and flexibility as per the UGC (Establishment and Operation of Academic Bank of Credits in Higher Education) Regulations, 2021, and UGC Guidelines for Multiple Entry and Exit in Academic Programmes offered in Higher Education Institutions. These documents are to facilitate the implementation of the proposed "Curriculum and Credit Framework for Postgraduate Programmes".

4.0 Credit Requirement and Eligibility for the PG Programme

- A bachelor's degree with Honours/ Honours with Research with a minimum of 160 credits for a 1-year/2-semester PG programme at level 6.5 on the NHEQF.
- A 3-year/6-semester bachelor's degree with a minimum of 120 credits for a 2-year/4-semester PG programme at level 6.5 on the NHEQF.
- A 4-year Bachelor's degree (e.g. B.E., B.Tech. etc.) with a minimum of 160 credits for a 2-year/4-semester PG programme (e.g. M.E., M. Tech. etc.) at level 7 of NHEQF.
- A student is eligible for a PG programme in a discipline corresponding to either major or minor(s) discipline in UG programme. In this case, the University can admit the students in the PG programme based on the student's performance in the UG programme or through an entrance examination. However, irrespective of the major or minor disciplines chosen by a student in a UG programme, a student is eligible for admission in any discipline of PG programmes if the student qualifies the National level or University level entrance examination in the discipline of the PG programme.

5.0 Statement of the Generic Outcomes of Learning at a Postgraduate level

Under the National Higher Education Qualifications Framework (NHEQF), higher education qualifications are classified along a continuum of levels from level 4.5 to level 8. The NHEQF levels represent a series of sequential stages expressed in terms of a range of learning outcomes against which typical qualifications are positioned/located. Learning outcomes, are statements of what the learner is expected to know, understand, and/or be able to do on the successful completion of an approved programme of study/learning at a specified level. Students on completion of the chosen programme(s) of study under the NHEQF must possess and demonstrate the graduate attributes defined in terms of the expected learning outcomes.

NHEQF level 4.5 represents learning outcomes appropriate to the first year (first two semesters) of the undergraduate programme of study, while Level 8 represents learning outcomes appropriate to the doctoral-level programme of study. Detailed learning outcomes for the PG programme are given in the National Higher Education Qualifications Framework.

https://www.ugc.gov.in/pdfnews/2990035_Final-NHEQF.pdf

In accordance with the NHEQF, the levels for the PG programme are given in the Table.1

S.No.	Qualifications	Level	Credits	Credit Points
1.	P.G. Diploma	6	40	240
2.	1-Year PG after a 4-year UG	6.5	40	260
3.	2-Year PG after a 3-year UG	6.5	40 + 40	260
4.	2-Year PG after a 4-year UG such as B.E., B. Tech. etc.	7	40 + 40	280

6.0 Graduate Attributes of PG Programmes

Qualifications that signify completion of the postgraduate degree are awarded to students who: i) have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with the first cycle, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context; ii) can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study; iii) have the ability to integrate knowledge and handle complexity, and formulate judgments with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments; iv) can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously; v) have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.

Accordingly, the NHEQF outlines the statement of learning achievements at a particular level on the basis of the following elements of descriptors:

- Knowledge and understanding
- General, technical, and professional skills required to perform and accomplish tasks

- Application of knowledge and skills
- Generic learning outcomes
- Constitutional, humanistic, ethical, and moral values
- Employability and job-ready skills, and entrepreneurship skills and capabilities/ qualities and mindset.

7.0 Designs of Postgraduate Programme

According to the policy, HEIs will have the flexibility to have different designs of PG programme. Seemingly it appears there are three designs of PG such as 1-year PG, 2-year PG, and an integrated 5-year programme. However, given that in 4-year UG there are bachelor's (Hons.) and bachelor's (Hons. with Research), creditization of work experience, combinations of disciplines with emerging subjects such as AI, Machine Learning, etc. makes the number of curricular frameworks much higher. Accordingly, the higher education institutions prepare the curriculum as per the graduate attributes of the programme.

8.0 Curricular Components

For 2-year PG: Students entering 2-year PG after a 3-year UG programme can choose to do (i) only course work in the third and fourth semester or (ii) course work in the third semester and research in the fourth semester or (iii) only research in the third and fourth semester.

1-year PG: Students entering 1-year PG after a 4-year UG programme can choose to do (i) only coursework or (ii) research or (iii) coursework and research.

5-year Integrated Programme (UG+PG): At the PG level, the curricular component of 5-year integrated programme will be similar to that of 2-year PG mentioned above.

Programmes that are intended to sharpen the students' analytical abilities to optimally solve problems, the curriculum, in general, comprises advanced skills and real-world experience and less of a research component. Such programmes should have a curriculum that is different from other programmes.

9.0 Credit Distribution

a) **For 1-year PG**

Curricular Components	PG Programme (one year) for 4-yr UG (Hons./Hons. with Research) Minimum Credits			
	Course Level	Coursework	Research thesis/project/Patent	Total Credits
Coursework + Research	500	20	20	40
Coursework	500	40	--	40
Research	-	-	40	

b) **For 2-year PG**

Curricular Components		Two-Year PG Programme (Generic and Professional) Minimum Credits			
		Course Level	Coursework	Research thesis/project/Patent	Total Credits
PG Diploma		400	40	--	40
1st Year (1st & 2nd Semester)		400 500	24 16	--	40
Students who exit at the end of 1st year shall be awarded a Postgraduate Diploma					
2nd Year (3rd & 4th Semester)	Coursework & Research	500	20	20	40
	Coursework (or)	500	40	--	40
	Research	--	--	40	40

Exit Point:

For those who join 2 year PG programmes, there shall only be one exit point. Students who exit at the end of 1st year shall be awarded a Postgraduate Diploma.

The PG programme should include vocational courses relevant to the chosen discipline.

9.1 Course Levels

400-499: Advanced courses which would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship projects at the undergraduate level or First year Postgraduate theoretical and practical courses

500-599: For students who have graduated with a 4-year bachelor's degree. It provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis at the postgraduate level

10.0 Flexibility

Flexibility is the hallmark of NEP 2020. The benefit of PG degree is that they offer great flexibility viz. enrolling in online programmes, pursuing two postgraduate programmes simultaneously, creditizing work experience, etc.

Postgraduate programmes which are entirely online, allow students to participate in the programme along with their current responsibilities. This makes earning a postgraduate degree while continuing to work easier and more accessible to individuals.

Another opportunity for students is the facility to pursue two academic programmes simultaneously 1) in two full-time academic programmes in the physical mode provided that there is no overlap of class timings between the two programmes 2) two academic programmes, one in full-time physical mode and another in Open and Distance Learning (ODL)/Online

mode; or up to two ODL/Online programmes simultaneously. Degree or diploma programmes under ODL/Online mode shall be pursued with only such HEIs which are recognized by UGC/Statutory Council/Govt. of India for running such programmes.

Creditization of relevant work experience is another initiative to make education more holistic. The NCrF enables the assignment of credits for the experience attained by a person after undergoing a particular educational programme. In case a learner through employment gains experience relevant to the PG programme he/she wants to pursue, the work experience can be creditized after assessment. Accordingly, the duration can be adjusted by the HEIs. The maximum weightage provided for under this dimension is two (2) i.e. a candidate/ trained person can at best earn credits equal to the credits acquired for the base qualification/ skill, provided he has more than a certain number of years of work experience. The redemption of credits so earned, however, shall be based on the principle of assessment bands given in the NCrF. Link for NCrF is given:

(https://www.ugc.gov.in/pdfnews/9028476_Report-of-National-Credit-Framework.pdf)
The credit points may be redeemed as per Academic Bank of Credit (ABC) guidelines for entry or admission in higher education at multiple levels enabling horizontal and vertical mobility with various lateral entry options

The principle of calculating credits acquired by a candidate by virtue of relevant experiential learning including relevant experience and professional levels acquired and attaining proficiency levels (post-completion of an academic grade/ skill-based program) gained by the learner/student in the industry is given in the Table below:

Credit Assignment for relevant experience / proficiency

Experience cum Proficiency Levels	Description of the relevant Experiential learning including relevant experience and professional levels acquired and attaining proficiency levels	Weightage/ multiplication Factor	No. of years of experience (Only indicative)
Trained/ Qualification attained	Someone who has completed the coursework/ education/ training and has been taught the skills and knowledge needed for a particular job or activity	1	Less than or equal to 1 year
Proficient	Proficient would mean having the level of advancement in a particular profession, skillset, or knowledge	1.33	More than 1 less than or equal to 4
Expert	Expert means having high level of knowledge and experience in a trade or profession	1.67	More than 4 less than or equal to 7
Master	Master is someone having exceptional skill or knowledge of a subject/domain	2	More than 7

11.0 Switching Subjects in Postgraduate Programme

The first degree often makes students think of a different career path that requires a change of subject. Changing direction with a postgraduate degree has its challenges, but NEP gives enough freedom to make it a possibility. The postgraduate programmes provide an opportunity for students to change the field and realize their vision, as per the pathways given below:

a) A student is eligible for admission in a PG programme either in the major or minor discipline taken by the student in his/her UG programme.

b) Irrespective of the major or minor disciplines taken by a student in a UG programme, a student is eligible for admission in any discipline of PG programmes if the student qualifies the National level or University level entrance examination in the discipline of PG programme.

Candidates who have completed 4-year UG programme or a 3 year UG and 2 year PG programme or 5 year integrated programme (UG + PG) in STEM subjects will be eligible for admission in M.E., M. Tech. in allied areas.

12.0 Assessment Strategy

The NEP 2020 emphasizes upon formative and continuous assessment rather than summative assessment. Therefore, the scheme of assessment should have components of these two types of assessments. Assessment have to have correlations with the learning outcomes that are to be achieved by a student after completion of the course. Therefore, the mode and system of assessments have to be guided by the learning outcomes. For more details on assessment strategy, HEIs may refer to UGC Guidelines for Innovative Pedagogical Approaches & Evaluation Reforms.

13.0 Plagiarism Check

The Higher Education Institution concerned shall have a mechanism using well-developed software applications to detect plagiarism in research work and the research integrity shall be an integral part of all the research activities.

14.0 Letter Grades and Grade Points

The Semester Grade Point Average (SGPA) is computed from the grades as a measure of the student's performance in a given semester. The SGPA is based on the grades of the current term, while the Cumulative GPA (CGPA) is based on the grades in all courses taken after joining the programme of study. The HEIs may also mention marks obtained in each course and a weighted average of marks based on marks obtained in all the semesters taken together for the benefit of students.

Letter Grade	Grade Point
O (Outstanding)	10
A+ (Excellent)	9
A (Very Good)	8
B+ (Good)	7
B (Above Average)	6
C (Average)	5
P (Pass)	4
F (Fail)	0
Ab (Absent)	0

Computation of SGPA and CGPA

UGC recommends the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

i. The SGPA is the ratio of the sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e.

SGPA (Si) = $\sum$(Ci x Gi) / $\sum$Ci

Where Ci is the number of credits of the ith course and Gi is the grade point scored by the student in the ith course.

Example for Computation of SGPA

Semester	Course	Credit	Letter Grade	Grade point	(Credit x Grade)
1	Course 1	3	A	8	3 x 8 = 24
1	Course 1	4	B +	7	4 x 7 = 28
1	Course 1	3	B	6	3 x 6 = 18
1	Course 1	3	O	10	3 x 10 = 30
1	Course 1	3	C	5	3 x 5 = 15
1	Course 1	4	B	6	4 x 6 = 24
		20			139
SGPA					139/20=6.95

ii. The Cumulative Grade Point Average (CGPA) is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.

CGPA = $\sum$(Ci x Si) / $\sum$ Ci

where Si is the SGPA of the ith semester and Ci is the total number of credits in that semester.

Example for Computation of CGPA

Semester 1	Semester 2	Semester 3	Semester 4
Credit 20	Credit 20	Credit 20	Credit 20
SGPA 6.9	SGPA 7.8	SGPA 5.6	SGPA 6.0
CGPA= (20 x 6.9 + 20 x 7.8 + 20 x 5.6 + 20 x 6.0)/80 = 6.6			

The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

Transcript (Format): Based on the above recommendations on Letter grades, grade points and SGPA and CCPA, the HEIs may issue the transcript for each semester and a consolidated transcript indicating the performance in all semesters.

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आचार्य मनिष र. जोशी
सचिव

Prof. Manish R. Joshi
Secretary

सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
University Grants Commission
(शिक्षा मंत्रालय, भारत सरकार)
(Ministry of Education, Govt. of India)

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(मनिष जोशी)

New Delhi.
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बहादुरशाह जफ़र मार्ग, नई दिल्ली-110002 | Bahadur Shah Zafar Marg, New Delhi-110002
दूरभाष (Ph.): 011-23236288/23239337 | सम्पर्क सूत्र (ई-मेल) (E-mail) : secy.ugc@nic.in

11

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