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CURRICULUM AND CREDIT FRAMEWORK FOR UNDERGRADUATE PROGRAMMES



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Contents

S. No.	Particulars	Page No.
	Forward	4
1	Introduction	5
2	Anchors to the National Education Policy 2020	5
3.	Curriculum Framework	8
4.	Outcomes-based approach to higher education	14
5.	Structure of the Undergraduate Programme	19
6.	Pedagogical approaches	28
7.	Learning assessment	29
	Acknowledgements	32



सत्यमेव जयते



ज्ञान-विज्ञान विस्तारणे

7th December, 2022

Foreword

National Education Policy (NEP) 2020 highlights that quality higher education must aim to develop good thoughtful, well-rounded, and creative individuals. The way to achieve such capabilities is only through holistic and multidisciplinary education with the freedom for students to shape their studies.

Keeping in view of NEP's recommendations, the UGC has revised the Choice Based Credit System and developed a new Curriculum and Credit Framework for Undergraduate Programmes. The framework reflects the NEP's recommendations such as restructured degree programmes, multiple entry and exit, flexible degree options with single major, double major, multi-/inter-disciplinary choices, and a curriculum built with employability skills in addition to academic subjects.

I am delighted to share the Curriculum and Credit Framework for Undergraduate Programmes for implementation in Higher Educational Institutions. I hope this framework will serve as a guiding document and help universities and colleges in undertaking the revision of the curriculum.

I take this opportunity to sincerely acknowledge the significant contribution of the expert committee under the Chairmanship of Prof. R. P. Tiwari and UGC officials in developing the Curriculum and Credit Framework for Undergraduate Programmes.

(Prof. M. Jagadesh Kumar)

Curriculum and Credit Framework for Undergraduate Programmes

1.0. Introduction

The National Education Policy (NEP) 2020 (hereafter referred to as NEP or Policy) recognizes that higher education plays an extremely important role in promoting human as well as societal well-being and in developing India as envisioned in its Constitution - a democratic, just, socially conscious, cultured, and humane nation upholding liberty, equality, fraternity, and justice for all. It notes that "given the 21st-century requirements, quality higher education must aim to develop good, thoughtful, well-rounded, and creative individuals".

The NEP 2020 states, "Assessments of educational approaches in undergraduate education that integrate the humanities and arts with Science, Technology, Engineering and Mathematics (STEM) have consistently shown positive learning outcomes, including increased creativity and innovation, critical thinking and higher-order thinking capacities, problem-solving abilities, teamwork, communication skills, more in-depth learning and mastery of curricula across fields, increases in social and moral awareness, etc., besides general engagement and enjoyment of learning"

Further, it also recommends that "the undergraduate degree will be of either 3 or 4-year duration, with multiple exit options within this period, 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 accordance with the NEP 2020, the UGC has formulated a new student-centric "Curriculum and Credit Framework for Undergraduate Programmes (CCFUP)" incorporating a flexible choice-based credit system, multidisciplinary approach, and multiple entry and exit options. This will facilitate students to pursue their career path by choosing the subject/field of their interest.

2.0. Anchors to the National Education Policy 2020

2.1. NEP principles that have a bearing on the curricular thrusts at different stages of higher education

The NEP highlights certain fundamental principles that would guide both the education system at large, as well as individual educational institutions. The principles that have a direct bearing on the curricula for different levels of higher education include:

- i. Recognizing, identifying, and fostering the unique capabilities of each student to promote her/his holistic development;
- ii. Flexibility, so that learners can select their learning trajectories and programmes, and thereby choose their own paths in life according to their talents and interests;
- iii. Flexibility, so that learners can select their learning trajectories and programmes, and thereby choose their own paths in life according to their talents and interests;
- iv. Multidisciplinary and holistic education across the sciences, social sciences, arts, humanities, and sports for a multidisciplinary world;
- v. Emphasis on conceptual understanding rather than rote learning, critical thinking to encourage logical decision-making and innovation; ethics and human & constitutional values, and life skills such as communication, teamwork, leadership, and resilience;
- vi. Extensive use of technology in teaching and learning, removing language barriers, increasing access for *Divyang* students, and educational planning and management;
- vii. Respect for diversity and respect for the local context in all curricula, pedagogy, and policy;
- viii. Equity and inclusion as the cornerstone of all educational decisions to ensure that all students are able to thrive in the education system and the institutional environment are responsive to differences to ensure that high-quality education is available for all.
- ix. Rootedness and pride in India, and its rich, diverse, ancient, and modern culture, languages, knowledge systems, and traditions.

2.2. Transformative initiatives that have a bearing on the undergraduate education

The NEP envisages several transformative initiatives in higher education. These include:

- Introducing holistic and multidisciplinary undergraduate education that would help develop all capacities of human beings - intellectual, aesthetic, social, physical, emotional, ethical, and moral - in an integrated manner; soft skills, such as complex problem solving, critical thinking, creative thinking, communication skills; and rigorous specialization in a chosen field (s) of learning.

- Adoption of flexible curricular structures in order to enable creative combinations of disciplinary areas for study in multidisciplinary contexts that would also allow flexibility in course options that would be on offer to students, in addition to rigorous specialization in a subject or subjects.
- Undergraduate degree programmes of either 3 or 4-year duration, with multiple entry and exit points and re-entry options, with appropriate certifications such as:
 - a UG certificate after completing 1 year (2 semesters) of study in the chosen fields of study,
 - a UG diploma after 2 years (4 semesters) of study,
 - a bachelor's degree after a 3-year (6 semesters) programme of study,
 - a 4-year bachelor's degree (honours) after eight semesters programme of study. If the student completes a rigorous research project in their major area(s) of study in the 4th year of a bachelor's degree (honours with research).
- The 4-year bachelor's degree programme is considered a preferred option since it would provide 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.
- Inclusion of credit-based courses and projects in the areas of community engagement and service, environmental education, and value-based education.
- Environment education to include areas such as climate change, pollution, waste management, sanitation, conservation of biological diversity, management of biological resources and biodiversity, forest and wildlife conservation, and sustainable development and living.
- Value-based education to include the development of humanistic, ethical, Constitutional, and universal human values of truth, righteous conduct, peace, love, nonviolence, scientific temper, citizenship values, and life skills.
- Lessons in service and participation in community service programmes to be an integral part of holistic education.

- Global Citizenship Education and education for sustainable development to form an integral part of the curriculum to empower learners to become aware of and understand global and sustainable development issues and to become active promoters of more peaceful, tolerant, inclusive, secure, and sustainable societies.
- Students to be provided with opportunities for internships with local industry, businesses, artists, crafts persons, etc., as well as research internships with faculty and researchers at their own or other HEIs/research institutions, so that students may actively engage with the practical side of their learning and, as a by-product, further improve their employability.
- Reorienting teaching programmes to ensure the development of capabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as vocational subjects. This would involve offering programmes/courses of study relating to Languages, Literature, Music, Philosophy, Art, Dance, Theatre, Statistics, Pure and Applied Sciences, Sports, etc., and other such subjects needed for a multidisciplinary and stimulating learning environment.

Preparing professionals in cutting-edge areas that are fast gaining prominence, such as Artificial Intelligence (AI), 3-D machining, big data analysis, and machine learning, in addition to genomic studies, biotechnology, nanotechnology, neuroscience, with important applications to health, environment, and sustainable living that will be woven into undergraduate education for enhancing the employability of the youth.

3.0. Curriculum Framework

3.1. Main features of the New Curriculum Framework

The new curriculum framework will have the following features:

- Flexibility to move from one discipline of study to another;
- Opportunity for learners to choose the courses of their interest in all disciplines;
- Facilitating multiple entry and exit options with UG certificate/ UG diploma/ or degree depending upon the number of credits secured;
- Flexibility for learners to move from one institution to another to enable them to have multi and/or interdisciplinary learning;
- Flexibility to switch to alternative modes of learning (offline, ODL, and Online learning, and hybrid modes of learning).

Regulations for Academic Bank of Credit (ABC) and guidelines for Multiple Entry and Exit are already in place to facilitate the implementation of the proposed "Curriculum and Credit Framework for Undergraduate Programmes".

3.2 Definitions, Eligibility, and Duration of the Programme

3.2.1 Semester/Credits:

- A semester comprises 90 working days and an academic year is divided into two semesters.
- A summer term is for eight weeks during summer vacation. Internship/apprenticeship/work-based vocational education and training can be carried out during the summer term, especially by students who wish to exit after two semesters or four semesters of study. Regular courses may also be offered during the summer on a fast-track mode to enable students to do additional courses or complete backlogs in coursework. The HEIs can decide on the courses to be offered in the summer term depending on the availability of faculty and the number of students.

3.2.2 Major and Minor disciplines

Major discipline is the discipline or subject of main focus and the degree will be awarded in that discipline. Students should secure the prescribed number of credits (about 50% of total credits) through core courses in the major discipline.

Minor discipline helps a student to gain a broader understanding beyond the major discipline. For example, if a student pursuing an Economics major obtains a minimum of 12 credits from a bunch of courses in Statistics, then the student will be awarded B.A. degree in Economics with a Minor in Statistics.

3.2.3 Awarding UG Certificate, UG Diploma, and Degrees

UG Certificate: Students who opt to exit after completion of the first year and have secured 40 credits will be awarded a UG certificate if, in addition, they complete one vocational course of 4 credits during the summer vacation of the first year. These students are allowed to re-enter the degree programme within three years and complete the degree programme within the stipulated maximum period of seven years.

UG Diploma: Students who opt to exit after completion of the second year and have secured 80 credits will be awarded the UG diploma if, in addition, they complete one vocational course of 4 credits during the summer vacation of the second year. These

students are allowed to re-enter within a period of three years and complete the degree programme within the maximum period of seven years.

3-year UG Degree: Students who wish to undergo a 3-year UG programme will be awarded UG Degree in the Major discipline after successful completion of three years, securing 120 credits and satisfying the minimum credit requirement as given in table 2 (Section 5).

4-year UG Degree (Honours): A four-year UG Honours degree in the major discipline will be awarded to those who complete a four-year degree programme with 160 credits and have satisfied the credit requirements as given in table 2 in Section 5.

4-year UG Degree (Honours with Research): Students who secure 75% marks and above in the first six semesters and wish to undertake research at the undergraduate level can choose a research stream in the fourth year. They should do a research project or dissertation under the guidance of a faculty member of the University/College. The research project/dissertation will be in the major discipline. The students who secure 160 credits, including 12 credits from a research project/dissertation, are awarded UG Degree (Honours with Research).

Infrastructure Requirement: The Departments offering a 4-year UG Degree (Honours with Research) must have the required infrastructure such as the library, access to journals, computer lab and software, laboratory facilities to carry out experimental research work, and at least two permanent faculty members who are recognized as Ph.D. supervisors. The Departments already recognized for conducting the Ph.D. programme may conduct a 4-year UG Degree (Honours with Research) without obtaining any approval from the affiliating University.

UG Degree Programmes with Single Major: A student has to secure a minimum of 50% credits from the major discipline for the 3-year/4-year UG degree to be awarded a single major. For example, in a 3-year UG programme, if the total number of credits to be earned is 120, a student of Physics with a minimum of 60 credits will be awarded a B.Sc. in Physics with a single major. Similarly, in a 4-year UG programme, if the total number of credits to be earned is 160, a student of Physics with a minimum of 80 credits will be awarded a B.Sc. (Hons./Hon. With Research) in Physics in a 4-year UG programme with single major.

UG Degree Programmes with Double Major: A student has to secure a minimum of 40% credits from the second major discipline for the 3-year/4-year UG degree to be awarded a double major. For example, in a 3-year UG programme, if the total number of credits to be earned is 120, a student of Physics with a minimum of 48 credits will be

awarded a B.Sc. in Physics with a double major. Similarly, in a 4-year UG programme, if the total number of credits to be earned is 160, a student of Physics with a minimum of 64 credits will be awarded a B.Sc. (Hons./Hon. With Research) in Physics in a 4-year UG programme with double major.

Interdisciplinary UG Programmes: The credits for core courses shall be distributed among the constituent disciplines/subjects so as to get core competence in the interdisciplinary programme. For example, a degree in Econometrics requires courses in economics, statistics, and mathematics. The total credits to core courses shall be distributed so that the student gets full competence in Econometrics upon completion of the programme. The degree for such students will be awarded as B.Sc. in Econometrics for a 3-year UG programme or B.Sc. (Honours) / B.Sc. (Honours with Research) in Econometrics for a 4-year UG programme.

Multidisciplinary UG Programmes: In the case of students pursuing a multidisciplinary programme of study, the credits to core courses will be distributed among the broad disciplines such as Life sciences, Physical Sciences, Mathematical and Computer Sciences, Data Analysis, Social Sciences, Humanities, etc., For example, a student who opts for a UG program in Life sciences will have the total credits to core courses distributed across Botany, Zoology and Human biology disciplines. The degree will be awarded as B.Sc. in Life Sciences for a 3-year programme and B.Sc. (Honours) in Life Sciences or B.Sc. (Honours with Research) for a 4-year programme without or with a research component respectively.

The statutory bodies of the Universities and Colleges such as the Board of Studies and Academic Council will decide on the list of courses under major category and credit distribution for double major, interdisciplinary and multidisciplinary programmes.

3.2.4 Credit hours for different types of courses

The workload relating to a course is measured in terms of credit hours. A credit is a unit by which the coursework is measured. It determines the number of hours of instruction required per week over the duration of a semester (minimum 15 weeks).

Each course may have only a lecture component or a lecture and tutorial component or a lecture and practicum component or a lecture, tutorial, and practicum component, or only practicum component. For example, a three-credit lecture course in a semester means three one-hour lectures per week with each one-hour lecture counted as one credit. In a semester of 15 weeks duration, a three-credit lecture course is equivalent to 45 hours of teaching.