Central University of Gujarat

Gandhinagar- 382030

Curriculum and Credit Framework for Four-Year Undergraduate Program (FYUGP) Ordinance No. 65

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 humans 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 Programs (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.

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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 programs 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 programs 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:

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

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 n coursework. The Central University of Gujarat shall 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 program 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 lan and software, laboratory facilities to carry out experimental research work, and at least two permanent faculty members

who are recognizrd as Ph.D supervisors. The Departments already recognized for conducting the Ph.D program may conduct a 4-year UG degree (Honours with Research).

UG Degree Programs 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 German Studies with a minimum of 60 credits will be awarded a B.A. in German Studies 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 German Studies with a minimum of 80 credits will be awarded a B.A. (Hons./Hon. With Research) in German Studies in a 4-year UG programme with single major.

UG Degree Programs 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 Social Management requires courses in Social Work, Management, Sociology and Public Administration. The total credits to core courses shall be distributed so that the student gets full competence in Social Management upon completion of the programme. The degree for such students will be awarded as B.A. in Social Management for a 3-year UG programme or B.A. (Honours) / B.A. (Honours with Research) in Social Management 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 Central University of Gujarat such as the Centre/School 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 programs.

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.

One credit for tutorial work means one hour of engagement per week. In a semester of 15 weeks duration, a one-credit tutorial in a course is equivalent to 15 hours of engagement.

A one-credit course in practicum or lab work, community engagement and services, and fieldwork in a semester mean two-hour engagement per week. In a semester of 15 weeks duration, a one-credit practicum in a course is equivalent to 30 hours of engagement.

A one-credit of Seminar or Internship or Studio activities or Field practice/projects or Community engagement and service means two-hour engagements per week. Accordingly, in a semester of 15 weeks duration, one credit in these courses is equivalent to 30 hours of engagement.

A course can have a combination of lecture credits, tutorial credits, and practicum credits. For example, a 4–credit course with three credits assigned for lectures and one credit for practicum shall have three 1-hour lectures per week and one 2-hour duration field-based learning/project or lab work, or workshop activities per week. In a semester of 15 weeks duration, a 4-credit course is equivalent to 45 hours of lectures and 30 hours of practicum. Similarly, a 4 –credit course with 3- credits assigned for lectures and one credit for tutorial shall have three 1-hour lectures per week and one 1-hour tutorial per week. In a semester of 15 weeks duration, a four-credit course is equivalent to 45 hours of lectures and 15 hours of tutorials.

The following types of courses/activities constitute the programmes of study. Each of them will require a specific number of hours of teaching/guidance and laboratory/studio/workshop activities, field-based learning/projects, internships, and community engagement and service

- **Lecture courses:** Courses involving lectures relating to a field or discipline by an expert or qualified personnel in a field of learning, work/vocation, or professional practice.
- **Tutorial courses:** Courses involving problem-solving and discussions relating to a field or discipline under the guidance of qualified personnel in a field of learning, work/vocation, or professional practice.
- **Practical or Laboratory work:** A course requiring students to participate in a project or practical or lab activity that applies previously learned/studied principles/theory related to the chosen field of learning, work/vocation, or professional practice under the supervision of an expert or qualified individual in the field of learning, work/vocation or professional practice.
- **Seminar:** A course requiring students to participate in structured discussion/conversation or debate focused on assigned tasks/readings, current or historical events, or shared experiences guided or led by an expert or qualified personnel in a field of learning, work/vocation, or professional practice.
- **Internship:** A course requiring students to participate in a professional activity or work experience, or cooperative education activity with an entity external to the education institution, normally under the supervision of an expert of the given external entity. A key aspect of the internship is induction into actual work situations. Internships involve working with local industry, government or private organizations, business organizations, artists, crafts persons, and similar entities to provide opportunities for students to actively engage in on-site experiential learning.
- **Studio activities:** Studio activities involve the engagement of students in creative or artistic activities. Every student is engaged in performing a creative activity to obtain a specific outcome. Studio-based activities involve visual- or aesthetic- focused experiential work.
- **Field Practice/projects:** Courses requiring students to participate in field-based learning/projects generally under the supervision of an expert of the given external entity.

- **Community engagement and service:** Courses requiring students to participate in field-based learning/projects generally under the supervision of an expert of the given external entity. The curricular component of 'community engagement and service' will involve activities that would expose students to the socio-economic issues in society so that the theoretical learnings can be supplemented by actual life experiences to generate solutions to real-life problems.

3.2.5 Number of Credits by Type of Course

The hallmark of the new curriculum framework is the flexibility for the students to learn courses of their choice across various branches of undergraduate programs. This requires that all departments prescribe a certain specified number of credits for each course and common instruction hours (slot time). The proposed number of credits per course and the credit distribution is suggestive and the HEIs may decide on course credits and distribution over 6/8 semesters in a manner that will facilitate the students to meet the minimum credit requirements as given in Table 2 (Section 5).

a) **Major and Minor Courses:** All discipline-specific courses (major or minor) may be 4 credits or as appropriate. An additional one to two credits may be allotted for tutorials or practical.
b) **Other Courses:** All courses under the Multi-disciplinary, Ability Enhancement (language), and Skill Enhancement categories may be of 3-credits or as appropriate;
c) **Common Value-Added Courses:** Courses under Value Added, Summer Internship/ Apprenticeship/ Community outreach activities, etc., for all majors, may be of 2-credits or as appropriate;
d) Final year Research project / Dissertation etc., may be of 12 credits.

Tables 2 and 3 in the following sections provide the minimum credit requirements under each category and the distribution of course levels across 6/8 semesters.

3.3 Eligibility for the UG Programs

Senior Secondary School Leaving Certificate or Higher Secondary (12th Grade) Certificate obtained after successful completion of Grade 12 or equivalent stage of education corresponding to Level-4.

3.4 Duration of the Program

i. The duration of the UG programme is 4 years or 8 semesters. Students who desire to undergo a 3-year UG Programme will be allowed to exit after completion of the3rd year. If a student wants to leave after the completion of the first or second year, the student will be given a UG Certificate or UG Diploma, respectively, provided they secure the prescribed number of credits (as given in table 3). Students who exit with a UG certificate or UG diploma are permitted to re-enter within three years and complete the degree program.
ii. Students may be permitted to take a break from the study during the period of study but the total duration for completing the programme shall not exceed 7 years.

4.0 Outcomes-based approach to higher education

The National Higher Education Qualifications Framework (NHEQF) envisages that students must possess the quality and characteristics of the graduate of a program of study, including learning outcomes relating to the disciplinary area(s) in the chosen field(s) of learning and generic learning outcomes that are expected to be acquired by a graduate on completion of the programme(s) of study.

The graduate attributes include capabilities that help broaden the current knowledge base and skills, gain and apply new knowledge and skills, undertake future studies independently, perform well in a chosen career, and play a constructive role as a responsible citizen in society. Graduate attributes are fostered through meaningful learning experiences made available through the curriculum and learning experience, the total college/university experience, and a process of critical and reflective thinking.

Graduate attributes include learning outcomes that are specific to disciplinary areas relating to the chosen field(s) of learning within broad multidisciplinary /interdisciplinary / transdisciplinary contexts and generic learning outcomes that graduates of all programmes of study should acquire and demonstrate, as given in Table 1.

Table 1 : Graduate Attributes

Type of Learning Outcomes	**The Learning outcomes descriptors**
Learning Outcome that is specific to disciplinary / interdisciplinary areas of learning	Graduates should be able to demonstrate the acquisition of:
	Comprehensive knowledge and coherent understanding of the chosen disciplinary/interdisciplinary areas of study in a broad multidisciplinary context, their different learning areas, their linkages with related fields of study, and current and emerging developments associated with the chosen disciplinary/interdisciplinary areas of learning.
	Practical, professional, and procedural knowledge required for carrying out professional or highly skilled work/tasks related to the chosen field(s) of learning, including knowledge required for undertaking self-employment initiatives, and knowledge and mindset required for entrepreneurship involving enterprise creation, improved product development, or a new mode of organization.
	skills in areas related to specialization in the chosen disciplinary/interdisciplinary area(s) of learning in a broad multidisciplinary context, including wide-ranging practical skills, involving variable routine and non-routine contexts relating to the chosen field(s) of learning.
	capacity to extrapolate from what has been learned, translate concepts to real-life situations and apply acquired competencies in new/unfamiliar contexts, rather than merely replicate curriculum content knowledge, to generate solutions to specific problems.
Generic Learning Outcome	Complex problem-solving: The graduates should be able to demonstrate the capability to: • solve different kinds of problems in familiar and non-familiar contexts and apply the learning to real-life situations. Critical thinking: The graduates should be able to demonstrate the capability to: • apply analytic thought to a body of knowledge, including the analysis and evaluation of policies, and practices, as well as evidence, arguments, claims, beliefs and the reliability and relevance of evidence, • identify relevant assumptions or implications; and formulate coherent arguments, • identify logical flaws and holes in the arguments of others, • analyze and synthesize data from a variety of sources and draw valid conclusions and support them with evidence and examples. Creativity: The graduates should be able to demonstrate the ability to: • create, perform, or think in different and diverse ways about the same objects or scenarios,

	• deal with problems and situations that do not have simple solutions, • innovate and perform tasks in a better manner, • view a problem or a situation from multiple perspectives, • think 'out of the box' and generate solutions to complex problems in unfamiliar contexts, • adopt innovative, imaginative, lateral thinking, interpersonal skills and emotional intelligence. Communication Skills: The graduates should be able to demonstrate the skills that enable them to: • listen carefully, read texts and research papers analytically and present complex information in a clear and concise manner to different groups/audiences, • express thoughts and ideas effectively in writing and orally and communicate with others using appropriate media, • confidently share views and express herself/himself, • construct logical arguments using correct technical language related to a field of learning, work/vocation, or an area of professional practice, and convey ideas, thoughts, and arguments using language that is respectful and sensitive to gender and other minority groups. Analytical reasoning/thinking: The graduates should be able to demonstrate the capability to: • evaluate the reliability and relevance of evidence; • identify logical flaws in the arguments of others; • analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and address opposing viewpoints. Research-related skills: The graduates should be able to demonstrate. • a keen sense of observation, inquiry, and capability for asking relevant/ appropriate questions, • the ability to problematize, synthesize, and articulate issues and design research proposals, • the ability to define problems, formulate appropriate and relevant research questions, formulate hypotheses, test hypotheses using quantitative and qualitative data, establish hypotheses, make inferences based on the analysis and interpretation of data, and predict cause-and-effect relationships, • the capacity to develop appropriate methodology and tools for data collection, • the appropriate use of statistical and other analytical tools and techniques, • the ability to plan, execute and report the results of an experiment or investigation, the ability to acquire the understanding of basic research ethics and skills in practicing/doing ethics in the field/ in personal research work, regardless of the funding authority or field of study.
	Coordinating/collaborating with others: The graduates should be able to demonstrate the ability to: • work effectively and respectfully with diverse teams, • facilitate cooperative or coordinated effort on the part of a group, • act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.

	Leadership readiness/qualities: The graduates should be able to demonstrate the capability for: • mapping out the tasks of a team or an organization and setting direction. • formulating an inspiring vision and building a team that can help achieve the vision, motivating and inspiring team members to engage with that vision. • using management skills to guide people to the right destination.
	Learning how to learn skills: The graduates should be able to demonstrate the ability to: • acquire new knowledge and skills, including 'learning how to learn skills, that are necessary for pursuing learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social, and cultural objectives, and adapting to changing trades and demands of the workplace, including adapting to the changes in work processes in the context of the fourth industrial revolution, through knowledge/ skill development/reskilling, • work independently, identify appropriate resources required for further learning, acquire organizational skills and time management to set self-defined goals and targets with timelines. • acquire organizational skills and time management to set self-defined goals and targets with timelines. • inculcate a healthy attitude to be a lifelong learner.
	Digital and technological skills: The graduates should be able to demonstrate the capability to: • use ICT in a variety of learning and work situations, • access, evaluate, and use a variety of relevant information sources, and use appropriate software for analysis of data.
	Multicultural competence and inclusive spirit: The graduates should be able to demonstrate: • the acquisition of knowledge of the values and beliefs of multiple cultures and a global perspective to honour diversity, • capability to effectively engage in a multicultural group/society and interact respectfully with diverse groups, • capability to lead a diverse team to accomplish common group tasks and goals. • gender sensitivity and adopting a gender-neutral approach, as also empathy for the less advantaged and the differently-abled including those with learning disabilities.
	Value inculcation: The graduates should be able to demonstrate the acquisition of knowledge and attitude that are required to: • embrace and practice constitutional, humanistic, ethical, and moral values in life, including universal human values of truth, righteous conduct, peace, love, nonviolence, scientific temper, citizenship values, • practice responsible global citizenship required for responding to contemporary global challenges, enabling learners to become aware of and understand global issues and to become active promoters of more peaceful, tolerant, inclusive, secure, and sustainable societies, • formulate a position/argument about an ethical issue from multiple perspectives

	• identify ethical issues related to work, and follow ethical practices, including avoiding unethical behaviour such as fabrication, falsification or misrepresentation of data, or committing plagiarism, and adhering to intellectual property rights, • recognize environmental and sustainability issues, and participate in actions to promote sustainable development. • adopt an objective, unbiased, and truthful actions in all aspects of work, • instill integrity and identify ethical issues related to work, and follow ethical practices.
	Autonomy, responsibility, and accountability: The graduates should be able to demonstrate the ability to: • apply knowledge, understanding, and/or skills with an appropriate degree of independence relevant to the level of the qualification, • work independently, identify appropriate resources required for a project, and manage a project through to completion, • exercise responsibility and demonstrate accountability in applying knowledge and/or skills in work and/or learning contexts appropriate for the level of the qualification, including ensuring safety and security at workplaces.
	Environmental awareness and action: The graduates should be able to demonstrate the acquisition of and ability to apply the knowledge, skills, attitudes, and values required to take appropriate actions for: • mitigating the effects of environmental degradation, climate change, and pollution, • effective waste management, conservation of biological diversity, management of biological resources and biodiversity, forest and wildlife conservation, and sustainable development and living.
	Community engagement and service: The graduates should be able to demonstrate the capability to participate in community-engaged services/ activities for promoting the well-being of society.
	Empathy: The graduates should be able to demonstrate the ability to identify with or understand the perspective, experiences, or points of view of another individual or group, and to identify and understand other people's emotions.

5.0 Structure of the Undergraduate Programme

The UG program will consist of the following categories of courses and the minimum credit requirements for 3-yearUG and 4-year UG (Honours) or UG (Honours with Research) programs are given below:

Table 2 : Minimum Requirements to Award Degree under Each Category

Sr. No.	Broad Category of Course	Minimum Credit Requirement	
		3 Yr UG	4 Yr UG
1	Major (Core)	60	80
2	Minor Stream	24	32

3	Multidisciplinary	09	09
4	Ability Enhancement Courses (AEC)	08	08
5	Skill Enhancement Courses (SEC)	09	09
6	Value Added Courses common for all UG	06-08	06-08
7	Summer Internship	02-04	02-04
8	Research Project / Dissertation	-	12
	Total	**120**	**160**

Note:* Honours students not undertaking research will do 3 courses for 12 credits in lieu of a research project / Dissertation.

5.1 Curricular components of the undergraduate programme

The curriculum consists of major stream courses, minor stream courses and courses other disciplines, language courses, skill courses, and a set of courses on Environmental education, understanding India, Digital and technological solutions, Health & Wellness, Yoga education, and sports and fitness. At the end of the second semester, students can decide either to continue with the chosen major or request a change of major. The minor stream courses include vocational courses which will help the students to equip with job-oriented skills.

5.1.1 Disciplinary/interdisciplinary major:
The major would provide the opportunity for a student to pursue in-depth study of a particular subject or discipline. Students may be allowed to change major within the broad discipline at the end of the second semester by giving her/him sufficient time to explore interdisciplinary courses during the first year. Advanced-level disciplinary/interdisciplinary courses, a course in research methodology, and a project/dissertation will be conducted in the seventh semester. The final semester will be devoted to seminar presentation, preparation, and submission of project report/dissertation. The project work/dissertation will be on a topic in the disciplinary programme of study or an interdisciplinary topic.

5.1.2 Disciplinary/interdisciplinary minors:
Students will have the option to choose courses from disciplinary/interdisciplinary minors and skill-based courses relating to a chosen vocational education programme. Students who take a sufficient number of courses in a discipline or an interdisciplinary area of study other than the chosen major will qualify for a in that discipline or in the chosen interdisciplinary area of study. A student may declare the choice of the minor and vocational stream at the end of the second semester, after exploring various courses.

Vocational Education and Training: Vocational Education and Training will form an integral part of the undergraduate program to impart skills along with theory and practical. A minimum of 12 credits will be allotted to the 'Minor' stream relating to Vocational Education and Training and these can be related to the major or minor discipline or choice of the student. These courses will be useful to find a job for those students who exit before completing the programme.

5.1.3 Courses from Other Disciplines (Multidisciplinary) (9 credits):

All UG students are required to undergo 3 introductory-level courses relating to any of the broad disciplines given below. These courses are intended to broaden the intellectual experience and form part of liberal arts and science education. Students are not allowed o choose or repeat courses already undergone at the higher secondary level (12th class) n the proposed major and minor stream under this category.

i. **Natural and Physical Sciences**: Students can choose basic courses from disciplines such as Natural Science, for example, Biology, Botany, Zoology, iotechnology, Biochemistry, Chemistry, Physics, Biophysics, Astronomy and Astrophysics, Earth and Environmental Sciences, etc.

ii. **Mathematics, Statistics, and Computer Applications**: Courses under this category will facilitate the students to use and apply tools and techniques in their major and minor disciplines. The course may include training in programming software like Python among others and applications software like STATA, SPSS, Tally, etc. Basic courses under this category will be helpful for science and social science in data analysis and the application of quantitative tools.

iii. **Library, Information, and Media Sciences**: Courses from this category will help the students to understand the recent developments in information and media journalism, mass media, and communication)

iv. **Commerce and Management**: Courses include business management, accountancy, finance, financial institutions, fintech, etc.,

v. **Humanities and Social Sciences**: The courses relating to Social Sciences, for example, Anthropology, Communication and Media, Economics, History, Linguistics, Political Science, Psychology, Social Work, Sociology, etc. will enable students to understand the individuals and their social behaviour, society, and nation. Students be introduced to survey methodology and available large-scale databases for India. The courses under humanities include, for example, Archaeology, History, Comparative Literature, Arts & Creative expressions, Creative Writing and Literature, language(s), Philosophy, etc., and interdisciplinary courses relating to humanities. The list of Courses that can include interdisciplinary subjects such as Cognitive Science, Environmental Science, Gender Studies, Global Environment & Health, International Relations, Political Economy and Development, Sustainable Development, Women's and Gender Studies, etc. will be useful to understand society.

5.1.4 Ability Enhancement Courses (AEC) (08 credits): Modern Indian Language (MIL) & English language focused on language and communication skills.

Students are required to achieve competency in a Modern Indian Language (MIL) and in the English language with special emphasis on language and communication skills. The courses aim at enabling the students to acquire and demonstrate the core linguistic skills, including critical reading and expository and academic writing skills, that help students articulate their arguments and present their thinking clearly and coherently and recognize the importance of language as a mediator of knowledge and identity. They would also enable students to acquaint themselves with the cultural and intellectual heritage of the chosen MIL and English language, as well as to provide a reflective understanding of the structure and complexity of the language/literature related to both the MIL and English language. The courses will also emphasize the development and enhancement of skills such as communication, and the ability to participate/conduct discussion and debate.

5.1.5 Skills Enhancement Courses (SEC):

These courses are aimed at imparting practical skills, hands-on training, soft skills, etc., to enhance the employability of students. The institution may design courses as per the students' needs and available institutional resources.

5.1.6 Value-Added Courses (VAC) Common to All UG Students (6-8 credits)

i. **Understanding India**: The course aims at enabling the students to acquire and demonstrate the knowledge and understanding of contemporary India with its historical perspective, the basic framework of the goals and policies of national development, and the constitutional obligations with special emphasis on constitutional values and fundamental rights and duties. The course would also focus on developing an understanding among student-teachers of the Indian knowledge systems, the Indian education system, and the roles and obligations of teachers to the nation in general and to the school/community/society. The course will attempt to deepen knowledge about and understanding of India's struggle and of the values and ideals that it represented to develop an appreciation of the contributions made by people of all sections and regions of the country, and help learners understand and cherish the values enshrined in the Indian Constitution and to prepare them for their roles and responsibilities as effective citizens of a democratic society.

ii. **Environmental science/education**: The course seeks to equip students with the ability to apply the acquired knowledge, skills, attitudes, and values required to take appropriate actions for mitigating the effects of environmental degradation, climate change, and pollution, effective waste management, conservation of biological diversity, management of biological resources, forest and wildlife conservation, and sustainable development and living. The course will also deepen the knowledge and understanding of India's environment in its totality, its interactive processes, and its effects on the future quality of people's lives.

iii. **Digital and technological solutions**: Courses in cutting-edge areas that are fast gaining prominences, such as Artificial Intelligence (AI), 3-D machining, big data analysis, machine learning, drone technologies, and Deep learning with important applications to health, environment, and sustainable living that will be woven into undergraduate education for enhancing the employability of the youth.

iv. Health & Wellness, Yoga education, sports, and fitness: Course components relating to health and wellness seek to promote an optimal state of physical, emotional, intellectual, social, spiritual, and environmental well-being of a person. Sports and fitness activities will be organized outside the regular working hours. Yoga education would focus on preparing the students physically and mentally for the integration of their physical, mental, and spiritual faculties, and equipping them with basic knowledge about one's personality, maintaining self-discipline and self-control, to learn to handle oneself well in all life situations. The focus of sports and fitness components of the courses will be on the improvement of physical fitness including the improvement of various components of physical and skills-related fitness like strength, speed, coordination, endurance, and flexibility; acquisition of sports skills including motor skills as well as basic movement skills relevant to a particular sport; improvement of tactical abilities; and improvement of mental abilities.

The HEIs may introduce other innovative value-added courses relevant to the discipline or common to all UG programs.

5.1.7 Summer Internship /Apprenticeship (2 – 4 credits)

A key aspect of the new UG programme is induction into actual work situations. All students will also undergo internships / Apprenticeships in a firm, industry, or organization or Training in labs with faculty and researchers in their own or other HEIs/research institutions during the summer term. Students will be provided with opportunities for internships with local industry, business organizations, health and allied areas, local governments (such as panchayats, municipalities), Parliament or elected representatives, media organizations, artists, crafts persons, and a wide variety of organizations so that students may actively engage with the practical side of their learning and, as a by-product, further

improve their employability. Students who wish to exit after the first two semesters will undergo a 4-credit work-based learning/internship during the summer term in order to get a UG Certificate.

Community engagement and service: The curricular component of 'community engagement and service' seeks to expose students to the socio-economic issues in society so that the theoretical learnings can be supplemented by actual life experiences to generate solutions to real-life problems. This can be part of summer term activity or part of a major or minor course depending upon the major discipline

Field-based learning/minor project: The field-based learning/minor project will attempt to provide opportunities for students to understand the different socio-economic contexts. It will aim at giving students exposure to development-related issues in rural and urban settings. It will provide opportunities for students to observe situations in rural and urban contexts, and to observe and study actual field situations regarding issues related to socioeconomic development. Students will be given opportunities to gain a first-hand understanding of the policies regulations, organizational structures, processes, and programmes that guide the development process. They would have the opportunity to gain an understanding of the complex socio-economic problems in the community, and innovative practices required to generate solutions to the identified problems. This may be a summer term project or part of a major or minor course depending on the subject of study.

5.1.8 Research Project / Dissertation

Students choosing a 4-Year Bachelor's degree (Honours with Research) are required to take up research projects under the guidance of a faculty member. The students are expected to complete the Research Project in the eighth semester. The research outcomes of their project work may be published in peer-reviewed journals or may be presented in conferences /seminars or may be patented.

5.1.9 Other Activities:

This component will include participation in activities related to National Service Scheme (NCC), National Cadet Corps (NCC), adult education/literacy initiatives, mentoring school students, and other similar activities.

5.2 Levels of Courses:

Courses shall be coded based on the learning outcomes, level of difficulty, and academic rigor. The coding structure is as follows:

i. **0-99: Pre-requisite courses** required to undertake an introductory course which will be a pass or fail course with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

ii. **100-199: Foundation or introductory courses** that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be prerequisites for courses in the major subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide a broad basis for taking up more advanced courses. These courses seek to equip students with the general education needed for advanced study, expose students to the breadth of different fields of study; provide a foundation for specialized higher-level coursework; acquaint students with the breadth of (inter) disciplinary fields in the arts, humanities, social sciences, and natural sciences, and to the historical and contemporary assumptions and practices of vocational or professional fields; and to lay the foundation for higher- level coursework.

iii. **200-299: Intermediate-level courses** including subject-specific courses intended to meet the credit requirements for minor or major areas of learning. These courses can be part of a major and can be pre-requisite courses for advanced-level major courses.

iv. **300-399: Higher-level courses** which are required for majoring in a disciplinary / interdisciplinary area of study for the award of a degree.

v. **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 Post-graduate theoretical and practical courses.

vi. **500-599:** Courses at first year Master's degree level for a 2-year Master's degree programme

vii. **600-699:** Courses for second-year of 2-year Master's or 1-year Master's degree programme

viii. **700 -799 & above**: Courses limited to doctoral students.

5.3 Programme/ Curricular components

The undergraduate programme seeks to equip students with the capacities in fields across arts, humanities, languages, natural sciences, and social sciences; an ethic of social engagement; soft skills such as complex problem solving, critical thinking, creative thinking, and communication skills, along with rigorous specialization in a chosen or interdisciplinary major and minor(s).

Semesters 1 & 2: The students will undergo courses in 4 broad disciplines (major stream, minor stream, 2 broad disciplines (multidisciplinary category) to have basic knowledge not only in major areas but also in two other disciplines broadly grouped under Natural and Physical Sciences, Mathematics, Statistics and Computer Applications, Library, Information and Media Sciences, Commerce and Management, and Social Sciences. With exposure to basic courses in four disciplines, a student can decide to continue the chosen major or change the major and minor areas of interest at the end of the second semester. Additionally, these students will also take up courses of their interest from Ability Enhancement (language), Skill Enhancement, and Value-Added categories.

Change of Major: Students can opt for a change of major within the broad discipline (Natural and Physical Sciences, Mathematical, Statistics, and Computational Sciences Library, Information and Media Sciences, Commerce and Management, and Humanities and Social Sciences) at the end of the first year.

Additional Seats: The HEIs may create 10% additional seats over and above the sanctioned strength to accommodate the request for a change of major. Any unfilled or vacant seats may be filled with those seeking a change of Major. Preference will be given to those who have got highest CGPA with no arrears in the first year.

Semesters 3 & 4: Students will choose courses of their interest in major and minor to build a career of their interest. They also pursue courses to strengthen their language skills and other skill-augmenting courses and vocational training.

Semesters 5 & 6: Students will undergo higher level courses and related courses during the 5th and 6th semesters in order to gain in-depth knowledge in the major and also in the related disciplines through the minor stream. Students will also gain work-related skills through courses in vocational education. The programme structure will enable the students to gain sufficient knowledge and skills to meet the industry/society requirements.

Semesters 7 & 8: During the 4th and final year, students will undertake advanced level courses in both major and minor streams to get a UG Degree (Honours). Students choose a research component with courses relating to research methodology, advanced courses in theory and

applied areas, and seminar presentations. Students may be permitted to carry out a research project or dissertation in another department of the same institution or another institution provided the required facilities are available.

5.4 Structure of the UG Program

Table 3: The Semester-wise and Course Category-wise Distribution of Credits of the UG Program

Semester	Discipline Specific Core	Minor	Interdisciplinary Courses	Ability Enhancement Courses (Language)	Skill Enhancement courses	Dissertation	Value-Added Courses	Summer Internship	Total Credits
I	05 CR each – **10 CR** 2 courses (100 level)	04 CR each 1 course (100 level)	--	04 CR course	03 CR course	--	--	**04 CR**	21
II	05 CR each – **10 CR** 2 courses (100 level)	04 CR each 1 course (100 level)	--	04 CR course	03 CR course		--		21
	Students exiting the programme after securing 42 credits will be awarded UG Certificate in the relevant Discipline/Subject provided they secure 4 credits in work based vocational courses offered during summer term or internship / Apprenticeship in addition to 6 credits from skill-based courses earned during first and second semester								**42+04**
III	05 CR each – **10 CR** 2 courses (200 level)	04 CR each 1 course 200 & above	3 CR each		03 CR course		02 CR course		22
IV	05 CR each – **10 CR** 2 courses (200 level)	04 CR each 1 course 200 & above	3 CR each		-		02 CR course		19
	Students exiting the programme after securing 83 credits will be awarded UG Diploma in the relevant Discipline/Subject provided they secure additional 4 credit in skill based vocational courses offered during first year or second year summer term.								**87**
V	05 CR each – **15 CR** 3 courses (300 level)	04 CR 1 course (200 & above)	3 CR 01 course	-	-	--	-		22
VI	05 CR each – **15 CR** 3 courses (300 level)	04 CR 1 course (200 & above)	-	-	-		02 CR 01 course		21
	Students who want to undertake 3-year UG programme will be awarded UG Degree in the relevant Discipline/Subject upon securing 130 credits.								**130**
VII	05 CR each – **15**	04 CR each	-	-	-		02 CR		21

	CR 3 courses (400 level)	1 course (300 & above)					course		
VII I	05 CR each– **05 CR** 1 course (400 level)	04 CR each 1 course (300 & above)	-	-		Research Project / Dissertation **12CR**			21
	Total - 90 CR	**Total - 32 CR**	**Total - 09 CR**	**Total - 08 CR**	**Total - 09 CR**	**Total – 12 CR**	**Total - 08 CR**	**Total – 04 CR**	**172**
Students will be awarded UG Degree (Honours with Research) in the relevant Discipline /Subject provided they secure 172 credits									

Note: *The above structure is to be followed at all FYUGP, offered at the university. However, Schools/Centres will have the freedom to prepare rules under this Ordinance, specifying the breakup of the prescribed credits for core/minor courses as per their requirements. Such rules will come into force after their approval from the authorities of the university.*

6.0 Pedagogical approaches

The Learning Outcomes-Based Approach to curriculum planning and transaction requires that the pedagogical approaches are oriented towards enabling students to attain the defined learning outcomes relating to the courses within a programme. The outcome-based approach, particularly in the context of undergraduate studies, requires a significant shift from teacher-centric to learner-centric pedagogies, and from passive to active/participatory pedagogies. Every program of study lends itself to the well-structured and sequenced acquisition of knowledge and skills. Practical skills, including an appreciation of the link between theory and practice, will constitute an important aspect of the teaching-learning process. Teaching methods, guided by such a framework, may include lectures supported by tutorial work; practicum and field-based learning; the use of prescribed textbooks and e-learning resources and other self-study materials; field-based learning/project, open-ended project work, some of which may be team-based; activities designed to promote the development of generic/transferable and subject- specific skills; and internship and visits to field sites, and industrial or other research facilities etc.

7.0 Learning assessment

A variety of assessment methods that are appropriate to a given disciplinary/subject area and a programme of study will be used to assess progress toward the course/program learning outcomes. Priority will be accorded to formative assessment. Evaluation will be based on continuous assessment, in which sessional work and the terminal examination will contribute to the final grade. Sessional work will consist of class tests, mid-semester examination(s), homework assignments, etc. as determined by the faculty in charge of the courses of study. Progress towards achievement of learning outcomes will be assessed using the following: time-constrained examinations; closed-book and open-book tests; problem-based assignments; practical assignment laboratory reports; observation of practical skills; individual project reports (case-study reports); team project reports; oral presentations, including

seminar presentation; viva voce interviews; computerized adaptive assessment, examination on demand, modular certifications, etc.

7.1 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	Percentage Range
O (outstanding)	10	≥80.00
A+ (Excellent)	9	70.00-79.99
A (Very good)	8	60 00-69.99
B+ (Good)	7	55.00-59.99
B (Above average)	6	50.00-54.99
C (Average)	5	45.00-49.99
P (Pass)	4	40.00-44.99
D (Promoted)	3	30.00-39.99
F (Fail)	0	<30.00
Ab (Absent)	-	-

Note : 1. There shall be no rounding off of SGPA/CGPA/FGPA.
2. The SGPA/CGPA/FGPA obtained by a student is out of a maximum possible 10 points.

7.2 Computation of SGPA and CGPA

The 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.

$SGPA\ (Si) = \Sigma(Ci \times Gi) / \Sigma Ci$

Where Ci is the number of credits of the ith course and Gi is the grade point scored by the student in the i^{th} course.

Example for Computation of SGPA

Semester	Course	Credit	Letter Grade	Grade point	Credit Point (Credit x Grade)
I	Course 1	3	A	8	3 X 8 = 24
I	Course 2	4	B+	7	4 X 7 = 28
I	Course 3	3	B	6	3 X 6 = 18
I	Course 4	3	O	10	3 X 10 = 30
I	Course 5	3	C	5	3 X 5 = 15
I	Course 6	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 = $\Sigma(Ci \times Si) / \Sigma Ci$

where Si is the SGPA of the i^{th} 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	Semester 5	Semester 6
Credit: 21 SGPA:6.9	Credit: 22 SGPA:7.8	Credit:25 SGPA:5.6	Credit: 26 SGPA:6.0	Credit: 26 SGPA: 6.3	Credit 25 SGPA 8.0
CGPA= **6.73** (21 x 6.9 + 22 x 7.8 + 25 x 5.6 + 26 x 6.0 + 26 x 6.3 + 25 x 8.0)/145					

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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Chairman

Prof. Tapas Kumar Dalapati
Member

Prof. Sony Kunjappan
Member

Prof. Vinai Kumar Donthula
Member

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Dr. Hemang Desai
Member Secretary