

# COTTON COLLEGE STATE UNIVERSITY

Panbazar, Guwahati 781 001, Assam

## Choice-Based Credit System (CBCS) and Continuous Assessment and Grading Pattern (CAGP)

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### Introduction

Cotton College State University (CCSU) was created via an Act of the Government of Assam (Act XIX of 2011), with Cotton College, as a constituent College of this new University. This Act received the assent of the Honourable Governor of Assam on the 3rd of September 2011, and was notified via the Assam Gazette on 5th September 2011. Amendments were made in the subsequent session of the Assam Assembly largely to clarify that CCSU is not an affiliating University. Cotton College, established in 1901, has been and continues to be one of the premier educational institutions of the north-eastern part of our country.

As the new University takes shape, it is important to put structures in place that will enable it to strive towards being a world-class University, excelling in both teaching and research. Modern Universities must not merely be transmitters of knowledge but be active centres for the creation of knowledge, especially in this age of globalization and knowledge-based societies and economies. While administrative efficiency and transparency in functioning, and upholding the highest ethical standards must also be key elements of a modern University, this document focuses on learning methods, outcomes and assessments.

In order to develop broad-based students who could take up the challenges of tomorrow's world, it is important to be fairly liberal in the choice of courses. Subject to sorting out the logistics of the time tables, students must be able to take courses across disciplines and faculties, and also be encouraged towards self-learning or learner-centric approaches. Students must have opportunities to develop and nurture their creative abilities, and be exposed to the methodologies and rigour of academic work. This must be done at both the undergraduate level in the College and the postgraduate level in the University, although the depth and emphasis on different aspects will be different at the College and the University levels. Also learning and evaluation must be a continuous process, without putting undue stress on either the student or the teacher towards the end of the semester.

Another important aspect of higher education is the portability of what a student may have learnt from one Institution to another. While internationally this has been worked out in several places such as the US which was one of the first nations to work out a credit

system, Europe via the European Credit and Transfer System (ECTS) as outlined by the Bologna process, the Scottish and the Canadian systems. In the Canadian system, there have been detailed understandings or agreements between Colleges and centres of higher learning to facilitate transfer of students from these Colleges often located in smaller towns or semi-urban areas to the Universities or Institutes of higher education. In our system, in addition to a choice-based credit system (CBCS) and Continuous Assessment and Grading Pattern (CAGP), we need some uniformity of credit systems, definition of learning outcomes and grading patterns across Universities. The University Grants Commission has initiated moves towards this end via a Committee chaired by Prof Pandit Vidyasagar, University of Pune. Although at present there is little consistency of the credit system across different Universities in the country, we have attempted to be consistent with several of the leading Universities.

The basic ideas of a Semester System, Choice Based Credit System (CBCS), Continuous Assessment and Grading Pattern (CAGP), and curriculum development with a reasonable degree of flexibility have been promoted by the University Grants Commission (UGC) as well as the National Assessment and Accreditation Council (NAAC). We are also working towards the possibilities of transferring credits acquired by a student from one institution to another, thereby giving more flexibility to the students.

## Teaching and learning processes

In many of our Universities, teaching and learning processes are largely via regular lectures in the classroom, with some laboratory component for the science courses, and somewhat limited field work in social sciences which happens when either the Institution or some of the teachers take initiative. There is little reinforcement of classroom learning via problem solving, tutorial assignments, literature searches leading to a seminar or reviewing a paper, well-defined and systematic field work leading to a small report/paper, group discussions, designing experiments and projects in all fields including social sciences, to name a few. These would enrich their learning experience, help build analytical skills, expose them to the rigours and methods of academic work, and realise that self learning is also an important component of learning. In this process of trying to have a broad-based holistic learning experience, the learning objectives and outcomes also need to be carefully defined.

For CCSU it is proposed that a semester should consist of 16 weeks of teaching, which is consistent with several universities and UGC norms. The number of teaching days for different days of the week should be approximately similar. The number of holidays during the semester should be decreased to minimise disruption to the semester schedule. The number of hours specified for any part of the academic programme should not fall below 90 per cent of what has been specified.

Let's now try to list the different items of learning in categories. This document does not encompass fine arts, since this has not been envisaged in the first stage of Cotton College State University.

1. **Lectures L:** These are regular classes in the conventional sense, usually held in

the class room, and measured by the number of contact hours. We have to aim for classrooms with modern audio-visual tools and internet connectivity, but some classes could sometimes be also held in more informal settings to enhance the learning process (e.g. a taxonomy class in botany in the botanical garden). As the University gets going, we should also have virtual classrooms to enable students to attend a course of study in another institution.

2. **Tutorials T:** problem solving assignments, group discussions, quizzes, literature searches leading to written reports and/or seminars, studying a paper/report/book, where a book could be a work of fiction, for reviewing/discussing it in class, designing experiments and/or projects in the different fields, writing project proposals for scientific experiments or grant proposals which is an essential component of academic learning, creative writing. These are just some of the possibilities. The list could be expanded upon. Different departments at the different levels (undergraduate and postgraduate) can adapt what is likely to work best for that specific department.
3. **Practicals P:** Practicals in the University or College Laboratories in the sciences, field-work in the social sciences and humanities, minor research project at either Cotton College or CCSU, or any other institution, including both academic institutions and industry. Minor research projects or field work, which need to be planned properly, may be more appropriate at the Master's level, but again Departments at both the College and University level will have the freedom to adapt what might work best for a given Department given all the logistic constraints. Students at the undergraduate level should complete at least one year of course work (40 credits, see below) and be exposed to research methodology before undertaking a minor research project or field work. The corresponding minimum number of credits at the postgraduate level is 20 credits.

As per the UGC recommendation, and also what is followed in many of Universities, the hours spent in the learning processes will be related to the number of credits. Each lecture session is nominally for one hour, with the actual duration of a class being 55 min. Tutorials and Practicals will also be 5 min less than the stipulated time.

**Lectures L:** For a given paper, one lecture per week for the entire semester implies that the paper will have one credit. If it is two lectures per week, it will carry two credits and so on.

**Tutorials T:** For items in the tutorials list, two hours of work per week over the entire semester will translate to one credit. Therefore, four hours of work per week will be required to get two credits for this component.

**Practicals P:** For practicals too, two hours of work per week over the entire semester will translate to one credit. Therefore, four hours of work per week will be required to get two credits for this component.

### **How many credits should a paper have?**

Since we are beginning the process, and we do not have much experience on the ground, it is advisable to be conservative at this stage although our aim is towards a flexible credit system with courses having different credits. For regular courses one could have courses with 3 or 4 credits, and perhaps 5 for some courses; while for the courses which should be compulsory for all students and aim to train or sensitise students to different issues, one could have courses with credits ranging from 1 to 4. Examples of courses in the latter category, which in principle, could also sometimes be given by experts who are not regular faculty members of either the College or the University, are as follows.

1. **Ethics.**
2. **Environmental Science.**
3. **Indian Constitution and basic laws.**
4. **English.** Since many of our students have come from a vernacular background, a course on spoken and written English will help facilitate their transition to higher education.
5. **Computer literacy.**
6. **A major Indian language or Advanced/Alternative English.** At present an Indian language could be chosen from Assamese, Bengali, Bodo, Hindi.
7. **Economics and Global Polity.**
8. **History and Culture of the North-East.**
9. **History of Science.**

The list could be expanded upon depending on needs and available expertise, and the ones at the undergraduate and/or postgraduate levels will be identified at a later stage. Some of these could also be common to both levels. Students would be expected to choose a set of these 'compulsory courses' amounting to about 10 to 15 per cent of the total number of credits at the undergraduate and postgraduate levels. Foreign languages, especially with an eye on the north-east opening up to south-east Asia and China, should also be started within a few years.

Undergraduate students must also take part in at least one of the following activities: National Cadet Corps, National Social Service Scheme, Community Service Scheme, Sports (training in some game) and fine arts. Although these will not be counted for the evaluation of CGPA, it will be recorded in the final transcript (see below) with either a 'Good', 'Passed' or 'Not Passed' grade.

For most regular courses, a four-credit paper may be advisable at this stage. For a four-credit paper, the break up of L+T+P could be either 2+1+1 or 3+1+0 or 3+0+1. Flexibility of combining the T+P components into one unit is also possible, so that for a 4-credit paper the breakup could be 2+2 or 3+1. The basic objectives are to

give importance to both the Tutorial and Practical components, in addition to the traditional Lecture component. At this stage we are not diluting the Lecture component significantly. As we gain in experience, we may also be able to experiment with complete self-learning or reading courses at least at the Master's level or research level to start with, where the Lecture or L component could be zero. This is, however, for future consideration and will not be implemented now. At present, at least 25 per cent of the total credits for a paper must be from the T+P components.

There could also be a minor research project, which if it involves at least eight hours of work per week for the entire semester, could carry four credits. A major research project spread over two semesters could carry eight credits. The extent and rigour of 'minor' and 'major' research projects would be different at the undergraduate and postgraduate levels. It will be left to the individual Departments to decide what is likely to work best for the students at both the levels in their respective Departments. For the first few years, it would be advisable to have only 'minor' semester-long projects to give us time to gain experience. For students doing intense field work for a limited period of time in a semester, the course can have 4 credits if it involves between 130 and 160 hr of work, and 5 credits if it is at least 160 hr.

### **Kinds of papers and an estimate of the work-load**

1. **Compulsory Papers.** These are of the type mentioned in the earlier Section, and would be defined at both the undergraduate and postgraduate levels. A set of these would be compulsory for all students at each level.
2. **Core Papers.** For a Bachelor's/Master's student in any discipline, a core paper is one which must be done. A core paper need not be in the same Department. For example, a Mathematics course may be defined to be a core course for a Physics student. Some Universities, such as Mysore, have also defined 'Soft Core' papers, which are basically Core papers selected from a few possibilities.
3. **Elective Papers.** Elective Papers are those which enhance the scope of learning, and could be either from the discipline a student is studying, or could be completely unrelated to it. The latter would help a student to get a broader exposure to academics and help build more broad-based students. It is possible for a Core Paper in one discipline to be an elective for a student in another discipline.
4. **Research Projects.** As mentioned earlier these could be spread over either one or two semesters, but it is advisable to start with one-semester projects, and expand later as we gain in experience. This may be more suitable for the postgraduate departments, but again, it will be left to the individual Departments at the undergraduate and postgraduate levels to decide what might work best for the students in the particular department.

For a four-credit course, with an L+T+P break up 2+1+1, there will be two hours of lectures per week and four hours of tutorials, practicals etc., totalling six hours per week.

At present, the total number of credits suggested for a semester is 20. For an L+T+P break up 2+1+1, this would imply 30 contact hours per week. The number of contact hours will vary depending on the L+T+P break up.

For an undergraduate student, a total of 20 credits per semester would imply 120 credits in a minimum of six semesters. The maximum number of semesters in which a student must clear the prescribed academic programme is ten. For a postgraduate student, this would add up to 80 credits in a minimum of four semesters and the maximum of semesters suggested is eight. 120 and 80 credits are the minimum number of credits that a student must have to qualify for a Bachelor's and Master's degree respectively. Bright and motivated students may be allowed to take about 10 per cent more than the required minimum number of credits.

For a student at the undergraduate level, all the core courses of the major discipline must be taken, which should constitute approximately 50 per cent of all courses taken by the student. The remaining 50 per cent would be from elective papers from both within and outside the discipline, compulsory papers and project/field work. The number of credits from compulsory papers should be about 10 to 15 per cent. Students should have the option of changing the major subject within the first year of the undergraduate program, and could choose the electives accordingly.

For students at the Master's level, approximately 70 per cent of the courses should be from the discipline of study, and 30 per cent from elective papers from both within and outside the discipline and compulsory papers. Research including field work should be from the discipline of study. All the defined core courses of the discipline must be taken. The number of credits from compulsory papers should be about 10 per cent.

A student may take courses which add up to a minimum of 15 credits in a semester and a maximum of 25. A student must clear at least 12 credits per semester. A student who fails a core course will have to repeat it. Students will have the option of dropping a particular course which he/she has registered for within two weeks of the beginning of the course. Students will also have the option of improving their grade in a particular course by taking the course again.

Let us also look at the number of contact hours with the teacher for a course. This is merely an example. Depending on the student and staff strength, Tutorial and Practical components have to be designed or planned so that these are manageable and enhance the learning processes and outcomes of the students. Now, as an example, consider a class of 60 students, and for tutorials and practicals these are split into groups of 15 students each so that there are 4 batches. For an L+T+P break up 2+1+1, this would imply 18 contact hours per week. At the postgraduate level, bright PhD students may be allowed to conduct tutorials and practicals, while at the undergraduate level this could be done by bright MSc students. Only bright students vetted by a Departmental Committee and approved by the Dean of the faculty may be allowed to do so. These students will also gain experience in teaching younger students, which would also be beneficial on the long run.

## Assessment and grading

Assessment of the performance of a student will be based on both continuous assessment throughout the semester in a transparent and objective manner, and an end-semester examination. The Tutorial and Practical components (T and P) which include a wide range of academic activities as discussed earlier could form the basis for continuous assessment. For a 16-week semester, 20 per cent of the marks will be based on continuous assessments during the first 8 weeks, 20 per cent in the second 8 weeks, and the remaining 60 per cent in the end-semester examination. The end-semester examination may also have a practical component. Students must obtain at least 40 per cent marks in both the continuous assessment (16/40) and end-semester examination (24/60) to pass a course. End-semester examination should be held by the 18th week, and final grades should be announced by the 20th week.

If a student does not clear only the end-semester examination, he/she may appear for the end-semester examination again without attending the classes. If a student does not clear the internal evaluation, he/she will be required to repeat the course. Evaluated answer sheets of assignments for Tutorials and Practicals should be returned to the students soon after recording the grades, while xerox copies of answer sheets of end-semester examination will be available to students for a nominal fee. A provisional grade card will be given at the end of each semester, while a final grade card will be given at the end of the course of study. The Semester Grade Point Average (SGPA) will be estimated for each semester. The final grade card will contain the performance in each semester, but the final Cumulative Grade Point Average (CGPA) will be based on the best performance in each paper.

Evaluation of a research-oriented project including field work, which has at least 4 credits in a semester (for an estimated amount of at least 8 hrs of work per week), will be based on evaluation of the content and quality of work (40 per cent), a written project report (30 per cent) and an open seminar on the piece of work (30 per cent). A major project can also be spread over two semesters and carry 8 credits. However, in the initial stages it is advisable to confine oneself to a 4- or 5-credit, project or field work within the semester. Evaluation of these projects will be done by a committee of three persons appointed by the Dean of the faculty; one of these members will be the guide, and one from within the discipline of study, and the third from outside the discipline of study.

### Letter grades

Each student is awarded a final letter grade and a grade point at the end of the semester for each paper. The letter grades and the corresponding grade points are given in Table 1. The distribution of grade points for a class should be such that only exceptional and very few of the students should be in the excellent category, and a student should be placed in this category if and only if the teacher is convinced that a student belongs to this category. The teacher should decide on the letter grades or the grade points that would be most appropriate for the best students, and scale the others accordingly. For all purposes where a minimum of 55 per cent is specified, a letter grade of B would be equivalent to 55 per cent.

For each semester, the Semester Grade Point Average (*SGPA*) is estimated as follows,

Table 1: Letter grades and grade points

Letter grade	Grade points	
Ex	10	
A	9	
A-	8	
B+	7	
B	6	
B-	5	
C	4	
F	0	Failed in the course
W	0	Insufficient attendance
I	0	Incomplete
G	-	Good (for NSS, NCC etc.)
P	-	Passed (for NSS, NCC etc.)
NP	-	Not Passed (for NSS, NCC etc.)

Exceptional students only should be in the excellent (Ex) category. The teacher should decide on the letter grades or the grade points that would be most appropriate for the best students, and scale the others accordingly.

Table 2: Attendance

Attendance	Remarks	Code
90–100 %	Very Good	VG
80–89 %	Good	G
75–79 %	Marginal	M
<75 %	Poor	P

where  $C_i$  is the Credit for the  $i^{th}$  course and  $G_i$  is the Grade obtained for that course. The summation is over the total number of courses.

$$SGPA = \frac{\sum_{i=1}^p C_i G_i}{\sum_{i=1}^p C_i} \quad (1)$$

The Cumulative Grade Point Average ( $CGPA$ ) is estimated in a similar way as for the ( $SGPA$ ), except that the summation is over all the courses done for qualification for the degree, taking the best grade for each paper in case of failures or repetitions.

$$CGPA = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i} \quad (2)$$

Each examination paper could have a total of 100 marks for convenience, but this is not critical as both  $SGPA$  and  $CGPA$  will be estimated from the grade points equivalent to the corresponding letter grades.

## Attendance

For each course, an attendance of 75 per cent is compulsory, except in the case of illness. In the latter case, a medical certificate from one of the University approved doctors must be obtained. However, even in the case of illness, attendance of at least 50 per cent is required to earn any credits for the course. The grades for attendance (Table 2) for each course will also be recorded in the grade sheet.

## Curriculum or syllabus

“A curriculum is an artefact, constructed within a frame. It has form and structure. It has dimensions of time and space. It is experienced. The framing is important . . . what to place inside the frame and what to exclude. The critical decision then concerns how the contents within the frame are composed in relation to each other in order to create an integral and harmonious entity” (Paul Kleiman, 2002).

Each course of study must have a well-designed curriculum or syllabus, which is not crammed, leaving room for reflection by the students and a bit of space for the teachers to include something new and exciting. Concepts of a *spiral curriculum* where a topic may be revisited with increasing complexity at different levels, either from an earlier semester to a later one, or from undergraduate to postgraduate levels, and a *hidden curriculum* where values, attitudes, norms and/or principles may be implicitly conveyed to students, should also be kept in mind while designing a curriculum.

For any specific paper in a course of study, the pre-requisites for the particular course and a broad description of the ‘learning objectives’ or expected ‘learning outcomes’ should accompany the curriculum or syllabus for that particular paper.

While designing the curriculum or syllabus, the level of a course also needs to be mentioned: e.g. level 1 for an introductory or foundation-level course, level 2 for a mid-level course or level 3 for an advanced-level course. This broad categorisation should help students identify the courses they wish to take. For example, a foundation-level course in statistics or mathematics may be of interest to a number of disciplines, while an advanced-level course is likely to be of interest only to students specialising in that discipline.

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an extra passed grade at the lower end of the scale introduced