

## **B.Tech. Degree Program (CBCS) Regulations-2018**

**(To come into effect from the batch admitted in the academic year 2018-2019)**

### **CHOICE-BASED CREDIT SYSTEM**

#### **1. Preamble**

B.Tech Degree Program is of four academic years with each academic year being divided into two consecutive (one odd + one even) semesters.

Choice-Based Credit System (CBCS) is a flexible system of learning and provides choice for students to select from the prescribed elective courses. A course defines learning objectives and learning outcomes and comprises of lectures/tutorials/laboratory work/field work/project work/viva/seminars/assignments/presentations/self-study etc. or a combination of some of these.

Under the CBCS, the requirement for awarding a degree is prescribed in terms of number of credits to be completed by the students.

The CBCS permits students to:

- i. choose electives from a wide range of elective courses offered by the Departments of the Institute.
- ii. undergo additional courses of interest
- iii. adopt an inter-disciplinary approach in learning
- iv. make the best use of expertise of the available faculty

#### **2. Minimum Qualification**

A pass in Intermediate Examination conducted by the Board of Intermediate Education of Andhra Pradesh with Mathematics, Physics and Chemistry as optional subjects or any equivalent examination recognized by Sri Venkateswara University.

#### **3. Branches of Study**

The branches of study in B.Tech Degree Program are:

- i) Chemical Engineering
- ii) Civil Engineering
- iii) Computer Science and Engineering
- iv) Electrical and Electronics Engineering
- v) Electronics and Communication Engineering
- vi) Mechanical Engineering

4. **Semester**

Each semester shall consist of 18 weeks with a typical academic work of 30 hours/week equivalent to 90 instruction days. However, number of instruction days may be reduced to 72, when necessary, with an increased number of instruction hours per course per week.

5. **Credit**

A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture/tutorial) or two hours of practical work/field work per week.

6. **Classification of Courses**

Courses in the program comprise of Basic, Core, Elective and Audit courses.

**Basic Courses**

Basic Courses may be of two types; Basic Sciences and Basic Engineering Sciences. These are intended to consolidate the basic concepts.

**Core Courses**

These are the courses intended to knowledge development and enhancement in the chosen branch of study.

**Elective Courses**

Elective courses are to be chosen from pool of courses. These courses

- ✓ Are supportive to the discipline of study
- ✓ provide an expanded scope
- ✓ enable an exposure to some other branch/domain
- ✓ nurture student's proficiency/skill.

**Audit Courses**

Courses outside the prescribed range of credits for students interested to supplement their knowledge/skills.

7. **Course Registration**

Every student has to register for the set of Courses offered by the Department in that Semester including those of Open Elective courses of the other Departments, Audit and MOOCS with the total number of Credits being limited by considering the permissible weekly contact hours (30/Week).

## 8. MOOCS, e-Learning and Internship

Massive Open Online Courses (MOOCs) and e-learning platforms can be utilized for learning the courses with the permission of the Head of the Department concerned. Students can take any one open elective during 5<sup>th</sup> – 7<sup>th</sup> semesters from the list of courses suggested by the department concerned by registering it as a MOOC of a minimum duration of 8 weeks in SWAYAM(UGC)/Spoken-Tutorials(IIT-Mumbai)/NPTEL(AICTE). The certificate issued by the above platform(s) shall be submitted at the end of seventh semester in order to include it with an appropriate grade in accordance with the Grading Pattern as specified in the Clause 15 as decided by the department in the eighth semester marks statement.

Students who undergo summer internship of a duration of 8 weeks after 4<sup>th</sup> or 6<sup>th</sup> semester shall submit a certificate from the organization concerned and present a seminar on the internship in the beginning of seventh semester for its assessment and inclusion in the 7<sup>th</sup> semester Marks Statement.

## 9. Credits required for the Award of Degree

A student shall become eligible for the award of B.Tech degree, if he/she earns 160 credits by passing all the basic, core and elective courses along with practicals prescribed for the program.

## 10. Scheme of Instruction

10.1 The Joint-Boards of Studies (JBoS) shall formulate the scheme of instruction and examinations, and detailed syllabi for all the courses of the First and Second Semesters which shall be mostly common for all the branches of study.

10.2 The Pass Board of Studies (BoS) of each Department shall formulate the scheme of instruction and examination, and detailed syllabi for all the courses of the subsequent six semesters taking into account of the credits offered in the first and second semesters.

10.3 The detailed syllabus of each theory course shall be organized into five units of equal weight.

## 11. Course Numbering Scheme

Each course number is denoted by eight alpha-numerals, four alphabets followed by three numerals.

Code of the department	CO : Commerce
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offering the course	CE : Civil Engineering CH : Chemical Engineering CS : Computer Science and Engineering CY : Chemistry EC: Electronics and Communication Engineering EE : Electrical and Electronics Engineering EO : Economics EN : English MA : Mathematics ME : Mechanical Engineering PH : Physics PA : Public Administration HT : History PS : Psychology BO : Biology MG : Management
Type of the Course	HS : Human Sciences BS : Basic Sciences ES : Engineering Sciences PC : Program Core PE : Program Elective OE : Open Elective MC: Mandatory Course AC : Audit Course
Nature of course	T: Theory X : Project work I : Internship P: Practical

	D : Design and Drawing
Semester	1,2, ...
Course Number	01, 02, ...

## 12. Attendance Requirements

- 12.1 A student is required to complete the study of the Program satisfying the attendance requirements in all the Semesters within a maximum period of eight academic years from the year of admission to become eligible for the award B.Tech degree failing which he/she forfeits his/her admission.
- 12.2 A student shall be detained in a Semester if he/she fails to satisfy the attendance requirements given below:
- i. A student shall attend at least 50 percent of the hours of instruction taken by the teacher, in each course.
  - ii. A student shall attend at least 75 percent of the hours of instruction taken for all the courses put together in that Semester.
- 12.3 The principal shall condone the shortage of attendance of a student provided he/she satisfies the clause 12.2 (i) and obtains at least 65 percent of overall attendance.
- 12.4 A student who fails to satisfy the attendance requirements specified in clauses 12.2 and 12.3 shall repeat that Semester in the subsequent academic years with the written permission of the Principal subject to the clause 12.1.
- 12.5 A student shall not be permitted to study any semester more than three times during the entire Programme of study.
- 12.6 A student who satisfies the attendance requirements specified in either of the clauses 12.2 and 12.3 in any semester may be permitted to repeat that semester canceling the previous attendance and sessional marks of that semester with the written permission of the Principal. However, this facility shall not be extended to any student more than twice during the entire Programme of study as specified in clause 12.1.

- 12.7 Gap year(s) shall be availed by the student himself/herself who wants to pursue entrepreneurship by taking a break of one year at any time after completing II year of study. A committee shall be constituted to evaluate the proposal submitted by the student and decide on permitting the student to avail the Gap Year. Students shall be permitted to rejoin the succeeding year from the date of commencement of class work and shall be under the academic regulations in force at that time. Gap year may be extended by another year (i.e. a total of two years) and shall not be counted for the maximum period of eight academic years for the completion of the program.

### 13. Evaluation

- 13.1 Evaluation shall be done through Internal Tests and Semester End Examination. For each theory course, there shall be two sessional tests. Each test is of two hours duration carrying 40 marks. End-Semester Examination is of 3 hours duration carrying 60 marks. Sessional marks for a maximum of 40 shall be awarded based on the performance of the two sessional tests.
- 13.2 For each practical course except project work, the sessional marks for a maximum of 40 shall be awarded based on the continuous assessment of practical work by the teacher concerned. An End-Semester Examination of 3 hours duration carrying 60 marks shall be conducted by two examiners, one external and one internal appointed by the Principal. The Principal shall appoint the external examiner from among the panel of examiners recommended by the Chairman, BoS concerned. He shall appoint the internal examiner nominated by the Head of the Department concerned.
- 13.3 The guide shall assess the progress of project work continuously and award marks for a maximum of 40. A committee consisting of one external examiner and two internal examiners from the department shall value the project work and conduct viva-voce for a maximum of 60 marks. The Principal shall appoint the external examiner from among the panel of examiners recommended by the Chairman, BoS concerned. He shall appoint the internal examiner nominated by the Head of the Department concerned.
- 13.4 Sessional Test I shall be conducted in the middle of the semester i.e. after the completion of 50 % of instruction days covering 50% of the syllabus.
- 13.5 Sessional Test II shall be conducted immediately after the completion of

the last instruction day covering the remaining 50 % of the syllabus.

- 13.6 An End-Semester Examination in each theory course shall be conducted after the last working day of the semester covering the entire syllabus prescribed for that course.
- 13.7 It is mandatory for a student to attend both the sessional tests in each theory course. The weighted average of the marks secured in two tests is awarded as sessional marks. A weightage of 0.8 shall be assigned as for the better performance of the two tests whereas for the other test it shall be 0.2. If a student is absent for any of the internal tests for whatsoever reason, the marks awarded for that test shall be zero.
- 13.8 The students shall be permitted to verify the valuation of answer scripts of sessional tests.
- 13.9 The valuation and verification of answer scripts of Sessional Tests shall be completed within fifteen days after the conduct of the respective Sessional Tests.
- 13.10 The valuation of End-Semester Examination answer scripts shall be arranged by the Controller of Examinations as per the University procedures in vogue.

#### 14. **Question Paper Setting**

- 14.1 Model Question Paper for each theory course shall be prepared by the teacher within 30 days from the commencement of the Semester and the same shall be forwarded to the Controller of Examinations through the Chairman, BOS concerned. Two questions shall be set from each unit of the syllabus, out of which one question shall be answered by the student. Each question of the unit carries a maximum of 12 marks. However, the Chairman, BoS shall accord exception in question paper format, if necessary. The question papers shall assess the understanding of the concepts and their applications in solving problems and at least 50% of the questions shall be numerical. Further, the question papers of design-oriented courses shall assess the abilities of analyzing and evaluating design alternatives.
- 14.2 For each theory course, the question paper shall be set by an external paper setter. The Chairman, BoS shall recommend a panel comprising at least six external paper setters for each theory course to the University. The University shall arrange for setting the question paper by appointing one external paper setter from that panel.

15. **Grading and Grade Points**

**Grade Point:** It is a numerical weight allotted to each letter grade on a 10-point scale

**Letter Grade:**It is an index of the performance of students in a said course. Grades are denoted by letters O, A+, A, B+, B, C, P and F.

**Semester Grade Point Average (SGPA):** It is a measure of student's performance in a semester.

**Cumulative Grade Point Average (CGPA):** It is a measure of overall performance of a student over all semesters.

**Letter Grades and Grade Points:**

A 10-point grading system with the letter grades are as given below:

**Grades and Grade Points**



Letter Grade	Range of Marks	Grade Point
O (Outstanding)	91 - 100	10
A+(Excellent)	81 – 90	9
A(Very Good)	71 – 80	8
B+(Good)	61 - 70	7
B(Above Average)	51 - 60	6
C(Average)	41 - 50	5
P (Pass)	40	4
F(Fail)	<40	-
Ab (Absent)	-	-

A student obtaining Grade F shall be considered failed and shall be required to reappear in the Semester- end examination.

### Computation of SGPA and CGPA

SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses and the sum of the number of credits of all the courses in the semester.

$$\text{SGPA } (S_i) = \frac{\sum_{i=1}^N (C_i \times G_i)}{\sum_{i=1}^N C_i}$$

where  $C_i$  is the number of credits of the  $i^{\text{th}}$  course,  $G_i$  is the grade point scored in the  $i^{\text{th}}$  course and  $N$  is the number of courses in the semester

The CGPA is also calculated in the same manner taking into account all the courses taken over all the semesters of the program.

$$\text{CGPA} = \frac{\sum_{i=1}^M (C_i \times S_i)}{\sum_{i=1}^M C_i}$$

where  $S_i$  is the SGPA of the  $i^{\text{th}}$  semester,  $C_i$  is the total number of credits in that semester and  $M$  is the number of semesters.

SGPA and CGPA shall be rounded off to two decimal points and reported in the

transcripts.

- 15.1 In each semester, every student who satisfies the attendance requirements has to register for the semester-end examination, failing which he/she shall not be promoted to the next semester. Any such student who has not registered for the semester-end examination in a semester shall repeat that semester in the next academic year with the written permission of the Principal.
  - 15.2 To pass a course in the program, a student has to secure a minimum of 40% of maximum marks in the semester-end examination and a minimum Grade of P overall (both sessional and semester-end examination marks put together). A student obtaining Grade F shall be considered failed and shall be required to reappear for the semester-end examination. A student shall not be allowed to reappear for the semester-end examination in a course which he/she has already passed the course to improve the score.
  - 15.3 A student who has failed in a course shall be allowed to reappear for the semester-end examination as and when it is conducted in the normal course. The Sessional Marks obtained by the student shall be carried over for declaring the results.
  - 15.4 The semester-end examination in any course of a particular regulation shall be conducted three times. Thereafter, the students who failed in that course shall take the semester-end examination in the equivalent papers of the subsequent regulation, suggested by the Chairman, BoS concerned.
16. **Ranking and Award of Prizes / Medals**
- 16.1 Ranks shall be awarded in each branch of study on the basis of Cumulative Grade Point Average (CGPA) for the top three students.
  - 16.2 The students who have become eligible for the award of the degree by passing regularly all the eight Semesters shall only be considered for the award of ranks.
  - 16.3 Award of prizes, scholarships and other honors shall be according to the rank secured by the student and in conformity with the desire of the Donor.
17. **Grievance Redressal Committee**
- The Principal shall constitute a Grievance Redressal Committee of three Professors

from the faculty of the college for a period of two years. The senior most among them shall be convener of the committee who receives the grievances from the students and places the same before the committee for its consideration. The committee shall submit its redressal recommendations to the Principal for his consideration.

18. **Transitory Regulations**

A student who has been detained in any semester of a particular regulation for not satisfying the attendance requirements shall be permitted to rejoin in the corresponding semester of the same regulation provided the clauses 12.1 and 12.5 hold good.

19. **Amendment to Regulations**

Sri Venkateswara University reserves the right to amend the regulations at any time in future without any notice. Further, the interpretation of any of the clauses of the regulations entirely rests with the University.