

**Savitribai Phule Pune University, Pune
Ganeshkhind, Pune-411007 India**



Skill Development Centre (SDC)

Bachelor of Vocation (B. Voc.)

Course Structure

For

Renewable Energy Skills (Semester- I and II)

(Framed as per National Educational Policy 2020)

(Effective from June 2023 and onwards)

SAVITRIBAI PHULE PUNE UNIVERSITY
PROPOSED STRUCTURE AND SYLLABUS FOR
BACHELOR IN VOCATION (RENEWABLE ENERGY
SKILLS)

AS PER NEW EDUCATION POLICY 2020

The B.Voc (Semester pattern with credit system) degree programme of Skill Development Centre, Savitribai Phule Pune University

Eligibility and Admission

Admission to B.Voc (Renewable Energy Skills Programme) is open to following students:

I: Students already acquired NSQF certification Level 4 in a particular industry sector and opted admission in the skill based courses under NSQF in the institutions recognized under Community Colleges / B.Voc Degree programme / Deen Dayal Upadhyay KAUSHAL Kendra's in same trade with job role for which he / she was previously certified at school level.

II: Students who have acquired NSQF Certification Level 4 but may like to change their trade and may enter into skill based courses in a different trade.

III: students who have passed 10+2 examination (Regular or Vocational) from a recognized board.

The admission will be based on performance in the entrance test, consisting of objective type of questions to be conducted by the university department.

Courses for B.Voc (Renewable Energy) are in-lines with National Skills Qualification Framework and National Education Policy 2020 as shown below and are equivalent to educational accomplishments.

Level	Semester	Total Credits
4.5	I	22
	II	22
Exit Option with Award of UG Certificate		
5	III	22
	IV	22
Exit Option with Award of UG Diploma		
5.5	V	22
	VI	22
Exit Option with Award of UG Degree		
6	VII	22
	VIII	22
Exit Option with Award of UG Degree Honors		

Scheme of Examination:

The assessment will be based on 50:50 ratio of continuous internal assessment (CIA) and semester end examination (SEE). Separate and independent passing in CIA and SEE will be mandatory. In case of failure in CIA of a particular course, students will have to appear for the same CIA, at his/her own responsibility in the next academic year, when the same course is offered during regular academic session. However, in case of failure in SEE in particular course(s), exam will be conducted in immediate subsequent semester.

In case a student fails in certain course(s) in a particular semester and the same course(s) are modified/ revised/ removed from the curriculum in due course, the student will have to appear as per the newly framed curriculum and/or pattern in subsequent semester, at his/her own responsibility.

Continuous Internal Assessment (CIA):

There will be 50 marks for Continuous Internal Assessment. Distribution of 50 marks will be as follows -10 marks for assignments, 10 marks for seminar presentation / tutorials and 30 marks for internal unit tests. Internal unit tests based on subjective short questions will be conducted on every chapter during the semester as a part of continuous assessment. At the end of the semester average of all unit tests will be converted into 30 marks. The setting of the question papers and the assessment will be done by the concerned teacher.

Semester End Examination (SEE):

- The semester end theory examination for each theory course will be of 50 marks. The total marks shall be 100 for 4 credit theory course (50 marks semester end exam + 50 marks CIA).
- Semester end examination (SEE) time table will be declared by the departmental committee (as per the university annual calendar). The paper setting and assessment of theory courses, laboratory courses and research project will done by external (50 %) and internal (50%) examiners. However, in case of non-availability of external examiner for either paper setting or assessment or both, department committee will be empowered to take appropriate decision.
- Pattern of semester end question paper will be as below:
 - The semester end examination of theory course will have two parts (10+40 = 50 Marks)
 - Part A will be consisting of 10 questions having 1 marks each (multiple choice questions / fill in the blanks/ answer in sentence) as compulsory questions and it should cover entire course curriculum (10 Marks)
 - Part B will carry 8 questions (02 sub-questions in each question and students will have to attempt any one). Therefore, students will have to attempt 04 questions out of 08 (40 Marks).
 - 20 to 30% weightage can be given to problems/ numerical wherein use of non- programmable scientific calculator may be allowed.
 - Number of sub questions (with allotment of marks) in a question may be decided by the examiner.
- Assessment of laboratory courses and project will also have 50 % internal and 50 % semester end assessment. Semester end practical examination will be of 75 marks and 75 marks will be for internal examination. Student must perform at least ten / twenty experiments from each laboratory course. The semester end practical examination will be conducted at the end of each semester along with the theory examination.
- At the end of each semester, the Departmental Committee will assign grades to the students. The result sheet will be prepared in duplicate.
- The Director of the Centre shall send all results to the Controller of Examination for further processing.

Earning Credits:

At the end of every semester, a letter grade will be awarded in each course for which a student had registered. A student's performance will be measured by the number of credits that he/she earned by the weighted Grade Point Average (GPA). The SGPA (Semester Grade Point Average) will be awarded after completion of respective semester and the CGPA (Cumulative Grade Point Average) will be awarded at the respective exit point

Standards of Passing

No. of Credits	Int Marks Total	Ext Marks Total	Total Marks	Int Passing Marks (30%)	Ext Passing Marks (30%)	Total Passing Marks (40%)
1	10	15	25	03	05	10
2	25	25	50	08	08	20
3	35	40	75	11	12	30
4	50	50	100	15	15	40
5	50	75	125	15	23	50
6	75	75	150	23	23	60

Grading System:

- The grading reflects a student-own proficiency in the course. A ten point rating scale shall be used for the evaluation of the performance of the students to provide letter grade for each course and overall grade for the Programme. Grade points are based on the total number of marks obtained by him / her in all heads of the examination of the course. The grade points and their equivalent range of marks are shown in Table-I

Table – I: Ten point grade and grade description

Letter Grade	Points	Percentage earned
O (Outstanding)	10	100
A+ (Excellent)	9	90 - 99.9
A (Very Good)	8	80 - 89.9
B+ (Good)	7	70 - 79.9
B (Above Average)	6	60 - 69.9
C (Average)	5	50 - 59.9
P (Pass)	4	40 - 49.9
F (Fail)	0	< = 39.9
Ab (Absent)	0	0

- Non-appearance in any examination / assessment shall be treated as the students have secured zero marks in that subject examination / assessment.
- Minimum P grade (4.00 grade points) shall be the limit to clear / pass the course / subject. A student with F grade will be considered as “failed” in the concerned course and he / she has to clear the course by appearing in the next successive semester examinations. There will be no reevaluation or recounting under this system.
- Every student shall be awarded grade points out of maximum 10 points in each subject (based on 10 point scale). Based on the grade points obtained in each subject, Semester Grade Point Average (SGPA) and then Cumulative Grade Point Average (CGPA) shall be computed. Results will be announced at the end of each semester and CGPA will be given at respective exit point.

Computation of SGPA (Semester Grade Point Average) and GPA (Grade Point Average):

Grade in each subject / course will be calculated based on the summation of marks obtained in all five modules.

The computation of SGPA and CGPA will be as below

- Semester Grade Point Average (SGPA) is the weighted average points obtained by the students in a semester and will be computed as follows

$$\text{Credit Point (CP)} = \text{Credit (C)} \times \text{Grade Point (G)}$$

$$\text{SGPA (S}_i\text{)} = \frac{\sum (C_i \times G_i)}{\sum C_i}$$

SGPA = Semester Grade Point Average
 C_i = Number of credits of the ith course component
 G_i = Grade Point scored by the student in the ith course component The

SGPA will be mentioned on the grade card at the end of every semester.

- The Grade Point Average (GPA) will be used to describe the overall performance of a student in all semester of the course and will be computed as under.
- **Grade Point Average** = $\frac{\text{Total of Grade Point Earned} \times \text{Credit hours for Each Course}}{\text{Total Credit Hours}}$

$$\text{CGPA} = \frac{\sum (C_i \times S_i)}{\sum C_i}$$

CGPA = Cumulative Grade Point Average
 S_i = SGPA of the ith semester
 C_i = Number of credits in that semester

The SGPA and GPA shall be rounded off to the second place of decimal.

Grade Card:

Results will be declared by the Centre and the grade card (containing the grades obtained by the student along with SGPA) will be issued by the university after completion of every semester.

The grade card will be consisting of following details.

- Title of the courses along with code opted by the student.
- Credits associated with the course.
- Grades and grade points secured by the student.
- Total credits earned by the student in a particular semester.
- Total credits earned by the students till that semester.
- SGPA of the student.
- CGPA of the student (at respective exit point).

Cumulative Grade Card:

The grade card showing details grades secured by the student in each subject in all semesters along with overall CGPA will be issued by the University at respective exit point.

Attendance:

Every candidate will be required to attend a minimum of 75% lectures delivered to that class in each paper as well as 75% of the laboratory work, seminars etc. separately.

Departmental Committee:

The Departmental Committee (DC) of the Centre will monitor the smooth functioning of the programme.

Results Grievances / Redressal Committee:

Grievance redressal committee will be constituted in the department to resolve all grievances relating to the evaluation. The committee shall consist of Head of the department, the concerned teacher of a particular course and senior faculty member of Department of University. The decision of Grievance redressal committee will have to be approved by Department committee.

Semester-I

Subject Code	Course Name	Course Type	Type of Course	Credits	Internal Marks	External Marks	Total
RET-1.1	Introduction to Renewable Energy	Department Specific Core-	Theory	2	25	25	50
RET-1.2	Basic Electronics	Department Specific Core-	Theory	2	25	25	50
REP-1.3	Practical Based on Theory	Department Specific Core	Practical	2	25	25	50
REP-1.4	Basic Computer Aided Design	Vocational Skills Course (Department Subject based on Major & Minor)	Practical	2	25	25	50
RET-1.5	Personality Development	Skills Enhancement Course (Basket)	Theory/Practical	2	25	25	50
RET-1.6	Environmental Awareness	Value Education Course	Theory + Practical	2	25	25	50
RET-1.7	Communicative English Language	Ability Enhancement Course (AEC)	Theory	2	25	25	50
RET-1.8	Health and Well-being	Co-Curricular	Theory	2	25	25	50
		General /Open Elective (Other Faculty)	Theory	2	25	25	50
		General/ Open Elective (Other Faculty)	Practical	2	25	25	50
		Indian Knowledge System (Basket)	Theory	2	25	25	50
				22	275	275	550

Semester-II

Subject Code	Course Name	Course Type	Type of Course	Credits	Internal Marks	External Marks	Total
RET- 2.1	Sustainable Development and Energy	Department Specific Core-	Theory	2	25	25	50
RET- 2.2	Applications of Solar Energy	Department Specific Core-	Theory	2	50	50	100
REP- 2.3	Industrial Training & Field Work	Vocational Skills Course (Dept Subject based on Major & Minor)	Practical	2	25	25	50
REP- 2.4	Basic Computer Skills	Skills Enhancement Course (Basket)	Theory/Practical	2	25	25	50
RET- 2.5	Digital Literacy Skills	Value Education Course	Theory + Practical	2	25	25	50
RET- 2.6	Entrepreneurship Development	Ability Enhancement Course (AEC)	Theory	2	25	25	50
RET- 2.7	Yoga Education/ Choice of Student	Co-Curricular		2	25	25	50
	Same Faculty, Different Discipline	Minor (Same Faculty)	Theory	2	25	25	50
		General /Open Elective (Other Faculty)	Theory	2	25	25	50
		General/ Open Elective (Other Faculty)	Practical	2	25	25	50
		Indian Knowledge System (Basket)	Theory	2	25	25	50
				22	275	275	550

