Vocational Education

Vocational Education at the secondary stage introduces learners to work-centered knowledge, skills, and values linked to local contexts, livelihoods, and emerging economic opportunities.

The content includes awareness of vocational domains, foundational technical skills, safe work practices, and appreciation of the dignity of labour.

Pedagogy is experiential and activity-oriented, involving hands-on tasks, community linkages, observation of work processes, and reflective engagement with real-world situations.

Assessment is based on performance in tasks, application of skills, problem-solving, collaboration, and responsible work behaviour, with emphasis on authenticity and relevance.

Framework for Learning in Vocational Education

The Three Forms of Work

Vocations that share fundamentally common elements — requiring similar or overlapping capacities and knowledge — are grouped into the same Form of Work. This grouping enables the development of a broad base of transferable capacities while allowing schools to select locally relevant vocations.

Work with Life Forms	Work with Machines & Materials	Work in Human Services
Developing capacities to do productive work that involves plants and animals. **Examples:** ◦ Crop cultivation ◦ Rooftop gardening ◦ Mushroom cultivation ◦ Aquaponics / Aquaculture ◦ Precision farming ◦ Backyard poultry	Designing, making, or modifying products using materials (including waste) and machines. **Examples:** ◦ Apparel and fashion ◦ Construction ◦ Food processing ◦ Furniture making ◦ Plumbing ◦ Handicrafts	Interaction with people to understand their needs and requirements; developing capacities to communicate well. **Examples:** ◦ Community health services ◦ Hospitality / Tourism ◦ Event management ◦ Interior design ◦ Data-based services ◦ Public information services

Progression of Vocational Education through the School Stages

The design in the middle stage is such that students gain exposure to a wide range of vocations through a set of nine projects, across the forms of work in Grades 6, 7 and 8, respectively. Time allocation for Vocational Education in the middle stage, as per the NCF-SE 2023, is **110 hours per year, totaling to 330 hours across the three years.**

In the Secondary Stage, **Phase 1, students engage more deeply with six vocational areas, one from each form of work in Grades 9 and 10, respectively**.

The focus in all stages is authentic work, which means that:

i) *students must be able to get a hands-on practice of work in real-life situations (e.g., actual serving of guests in a canteen or event as opposed to a role-play);*
ii) *their work must lead to productive outcomes, and*
iii) *they must do work from end-to-end (for the life cycle of life form or product or end-to-end service).*

Nature of Knowledge in Vocational Education

In the context of Vocational Education, the NCF-SE 2023 places capacities at the core of vocational knowledge. These capacities are procedural — 'know-how' — in nature and intended to accomplish specific tasks. This procedural knowledge enables further work-focused tasks, both in the world of work and in daily life.

Type of Knowledge	Description	Examples
Procedural Knowledge ('Know-How')	Capacities and skills to perform specific tasks. Forms the core of vocational knowledge.	Pipe installation, seed sowing, client interviewing, prototype making, data entry
Conceptual Knowledge ('Know-That')	Knowledge from other curricular areas that supports and deepens vocational understanding.	Soil chemistry (Science), cost estimation (Mathematics), record-keeping (Language)
Knowledge of the World of Work	Understanding norms, guidelines, markets, safety protocols, and the ecosystem of work.	Rules and regulations, transportation logistics, safety norms, market linkages
Values and Dispositions	Attitudes and behaviours essential to productive work, common across all vocations.	Attention to detail, persistence, curiosity, empathy, teamwork, dignity of labour
Cross-cutting Competencies	Competencies that are common across all kinds of work and demonstrated in practice.	Environmental literacy, use of technology, financial literacy, rootedness in India

Aims of Vocational Education

In alignment with the aims of school education, the aims of Vocational Education are:

- **Developing and understanding the basic capacities for different forms of work:** Students will develop a broad-based understanding of different forms of work, which will equip them to successfully manage their personal affairs. This will also equip them to identify, create, and initiate business, work and community opportunities.
- **Preparation for specific vocations:** Students will develop capacities to be gainfully employed in one or more specific vocations after leaving school.
- **Respect for the dignity of labour and all vocations:** Students will develop respect for the dignity of labour through the acquisition of positive attitudes towards work and the workplace.
- **Developing values and dispositions related to work:** Students will develop persistence and focus, curiosity and creativity, empathy and sensitivity, and collaboration and teamwork. They will be willing to do physical work and will pay keen attention to details.

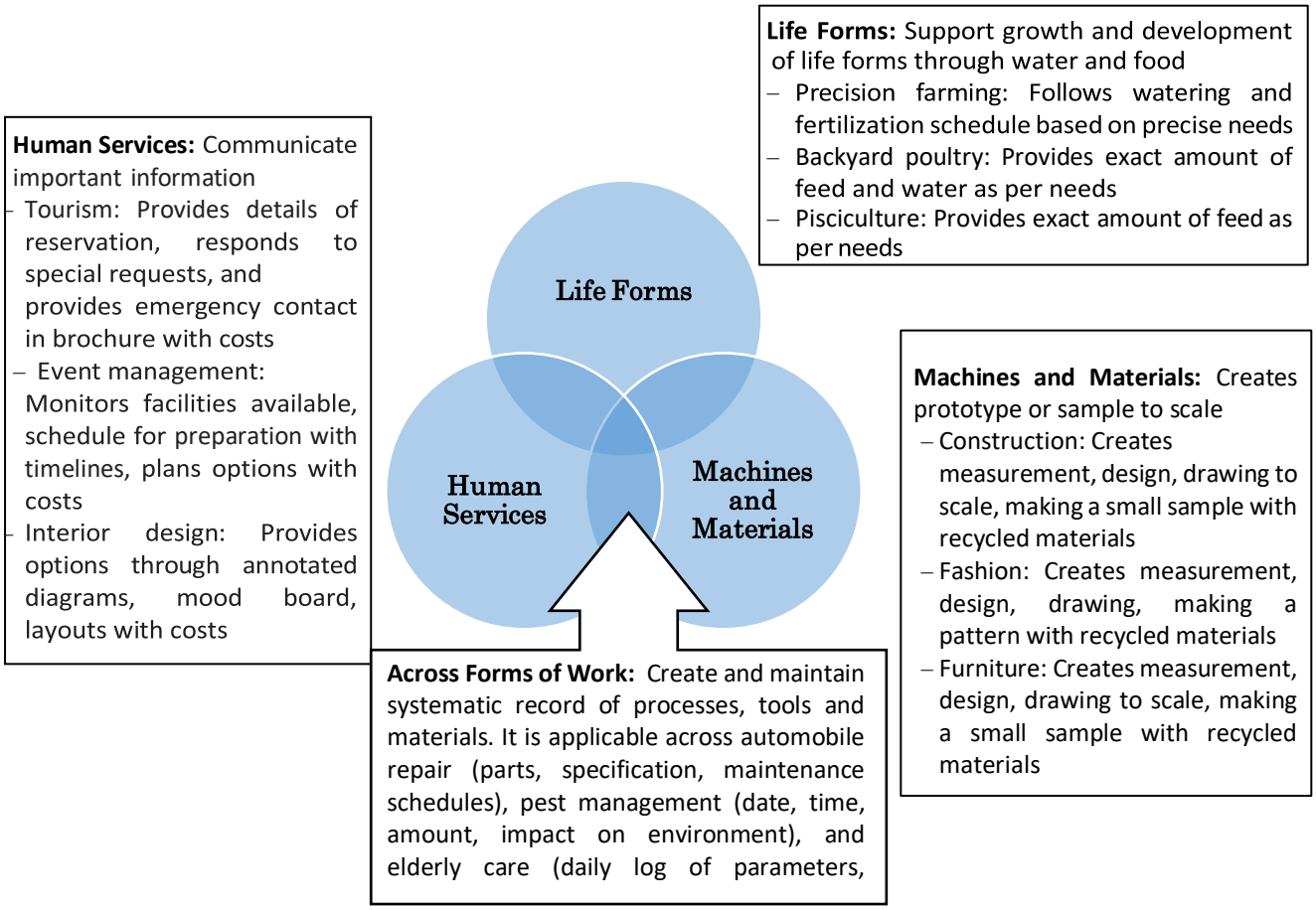
Through these aims, schools will develop vocational knowledge, capacities, and dispositions in students, giving them livelihood opportunities, as well as enabling them to contribute and participate in the economy of the country. NCF-SE 2023 emphasizes the importance of cross-curricular linkages between Vocational Education and conceptual knowledge developed in other curricular areas. Students will progress from the broad-based exposure to a range of vocations in the middle stage to a more in-depth exposure to six vocations over two years.

Artificial Intelligence:

Artificial intelligence (AI) will be integrated into the syllabus in two ways:

i) First, reference will be provided for the use of AI while developing content related to vocations. For example, if discussing agricultural practices, the use of apps for identification and management of pests and diseases will be included. Similarly, when discussing apparel making, the use of AI for creating 3D models will be included.

ii) Second, vocations related to AI or those heavily dependent on AI will be introduced. For example, precision farming, AI and data science, and mechatronics.



Transferability within and across forms of work

Learning Standards

In the Secondary Stage, Grades 9–10, there are three curricular goals for each form of work. Each curricular goal deals with an overarching component:

- **CG-1 involves the use of knowledge and skills in the work.**
- **CG-2 involves the values inculcated while working (since they are not always measurable, they need to be observed in students' practices).**
- **CG-3 involves the application of knowledge and skills in home-based tasks.**

The following are the curricular goals and competencies to be developed for any form of work:

❖ **CG-1 Develops in-depth basic skills and allied knowledge of work and their associated materials/ procedures.**
  ➢ C-1.1 Perform procedures competently through required tools/equipment.
  ➢ C-1.2 Differentiates between effective and non-effective practices in completing the task.

❖ **CG-2 Develops essential values while working in a specific vocation.**
  ➢ C-2.1 Develops the following values while engaging in work:
    - Attention to detail
    - Persistence and focus
    - Curiosity and creativity
    - Empathy and sensitivity
    - Collaboration and teamwork
    - Willingness to do physical work

❖ **CG-3 Develops basic skills and allied knowledge to run and contribute to the home.**
  ➢ C-3.1 Applies the acquired vocational skills and knowledge in a home setting.

Details of Syllabus

The curricular goal, competency and learning outcomes related to values and dispositions will be foundational, and will apply across the entire content and tasks related to the work assigned for students. Therefore, the learning outcomes for CG-2, which relates to values and dispositions, are indicated at the beginning of the tables mapping competencies and learning outcomes for Grades 9 and 10 below.

Grade 9

The curricular goal, competency and learning outcomes related to the development of values and dispositions will be common across all forms of work. Since these Learning Outcomes are foundational, no specific content is mapped to them.

For All Forms of Work

CG-2 Develops essential values or disposition while working across areas	
Competency	**Learning Outcomes**
C-2.1 Develops the following values while engaging in work · Attention to detail · Persistence and focus · Curiosity and creativity · Empathy and sensitivity · Collaboration and teamwork · Willingness to do physical work · Respect for the value of money	Students will be able to: · Keenly observe the usage of tools and materials during demonstration and asks relevant questions · Show care and respect towards people doing physical labour, irrespective of gender · Plan tasks with peers and helps others during difficulty at work · Rework or redo task for improved efficiency · Ask questions about functioning of tools and machines, and give suggestions for alternative use · Show willingness to do physical work, while enjoying working with tools and materials · Use resources judiciously · Describe life cycle cost
While the curricular goals and competencies will remain the same, the learning outcomes will be different for each form of work, to cater for the nature of each form.	

Work with Life Forms

The table below maps learning outcomes and content against the competencies for work with life forms in Grade 9. These are articulated in generic terms, so that they can be fulfilled through vocations that the state, board or schools may choose.

Themes	**Theme Outlines/ Key Concepts**	**Learning Outcomes**
Introduction to Vocational Area (Suggestive Instructional hours: 10 hours)	· Understanding the vocational area — contribution, livelihood ecosystems, value chains, employment opportunities · Conditions for plant growth	Students will be able to: **CG-1, C-1.1** • Describe the relevance of the vocation — with reference to society, nation and the world • Explore different sources of information and

Themes	Theme Outlines/ Key Concepts	Learning Outcomes
	under different geographical conditions · Using meteorological data from a DIY observatory · Testing input materials and making amendments · Quality criteria · Selection of work on the basis of guidelines	map resources to identify work assigned • Test suitability of growing medium, using appropriate tools and materials for physical observation and chemical testing (including technology or AI, if possible), and makes amendments where relevant · Use meteorological data to take decisions related to work **C-1.2** · Describe quality criteria related to inputs, process and output
Vocation-specific themes (Suggestive Instructional hours: 26 hours)	· Site visit · Developing process chart · Tools and materials: use, storage, safety protocols · Preparation of soil or growing medium, or shelter (as relevant) · Layout of space or shelter · Initiating and nurturing growth · Using nutrient supplement · Protection: pest control, managing disease, physical protection · Meeting water requirements · Harvesting: tools and processes · Layout of space for growing plants · Monitoring and supporting growth · Maintaining records related to costs, and growth and development · Safety protocols related to handling tools and performing tasks · Segregation and disposal of waste · Applying learning · outside school setting	Students will be able to: **CG-1, C-1.1** · Develop a process chart based on observation and interaction with experts, and plan to monitor work against milestones · Create and maintain conditions essential for growth and development of plants or animals, based on geographical conditions and local criteria, using appropriate tools and materials (including technology, if possible) · Prepare growing medium as per needs of the plant or animal, using appropriate tools and materials · Initiate growth of plant or animal (e.g., plants seeds, saplings, tubers; introduces spawn to water) as per requirements, using appropriate tools and materials · Set up a simple system for irrigation or providing water (using technology, if possible) as per schedule · Take steps to support development of plants — monitor growth by physical observation and using technology, if possible; provide nutrients and protection from physical harm, pests and diseases using appropriate tools and materials · Harvest, store and package produce using appropriate tools and materials · Maintain records of costing (inputs and cost of 'soft' services including time, human resource, etc.) and expenditure **C-1.2.** · Explore traditional and indigenous materials and methods

Themes	Theme Outlines/ Key Concepts	Learning Outcomes
		• Use technology or AI where relevant to optimize work • Apply safety protocols (including cyber safety) as prescribed for tools and materials • Reflect on improvements to optimise processes and use tools and materials • Dispose waste (e.g., crop stubble, leftover growing media) in an environment friendly manner **CG-3, C-3.1** • Explain how learnings can be applied outside the school

Work with Machines and Materials

The table below maps learning outcomes and content against the competencies for work with machines and materials in Grade 9. These are articulated in generic terms, so that they can be fulfilled through vocations the state/board/schools may choose

Theme	Theme Outlines/ Key Concepts	Learning Outcomes
Introduction to Vocational Area (Suggestive Instructional Hours: 10)	• Understanding the vocational area contribution, livelihood ecosystems, value chains, and employment opportunities • Properties of materials (wood, plastic, metal, clay, leather, etc.) • Introduction to technical or engineering drawing • Measurement based on technical or engineering drawing • Selection of materials and products to be developed based on the guidelines (including properties of materials) • Selection of work on the basis of guidelines • Quality criteria	**CG-1, C-1.1** Students will be able to: • Describe the relevance of the vocation with reference to society, nation, and the world • Explore different sources of information and map resources to identify work to be done • Determine products to be created based on the properties and availability of materials • Demonstrate the basics of technical or engineering drawing • Demonstrate measurement based on technical or engineering drawing **C-1.2** • Describe the quality criteria related to inputs, process, and output

Theme	Theme Outlines/ Key Concepts	Learning Outcomes
Vocation-specific themes (Suggestive Instructional Hours: 26)	· Site visit · Developing process chart · Tools and materials: use, storage, and safety protocols · Developing and refining prototypes or practising on a small sample · Estimation of requirements of materials · Testing product and making improvements · Finishing and packing (where relevant) the product · Maintaining records related to costs, and growth and development · Safety protocols related to handling tools and performing tasks · Segregation and disposal of waste · Applying learning outside the school setting	**CG-1, C-1.1** Students will be able to: · Develop a process chart based on observation and interaction with experts, and plan to monitor work against milestones · Create a detailed 2D sketch of the selected product indicating its design and dimensions, using technology where relevant · Estimate quantities of materials required, using appropriate tools, based on the 2D sketch · Develop, review and refine a prototype using alternative or waste materials or carry out a small part of the work · Follow guidelines and protocols to create the final product · Incorporate changes, as required, in the product based on testing and feedback · Finish and package the product to ensure it is usable and presentable · Maintain records of costing (inputs and cost of 'soft' services including time, manpower, etc.) and expenditure **C-1.2** · Demonstrate optimal usage of tools and material (e.g., reusing waste wood, using waste for packaging) · Demonstrate effective and efficient use of tools (e.g., holding, using, etc.) · Use technology or AI where relevant to optimise work · Apply safety protocols (including cyber safety) to each task, while ensuring the safety of self and others · Dispose waste as per protocols and environmental considerations **CG-3, C-3.1** · Explain how learnings can be applied outside school

Work in Human Services

The table below maps learning outcomes and content against the competencies for work in human services in Grade 9. These are articulated in generic terms, so that they can be fulfilled through vocations the state/board/schools may choose.

Theme	Theme Outlines/ Key Concepts	Learning Outcomes
Introduction to Vocational Area (Suggestive Instructional Hours: 10)	· Understanding the vocational area contribution, livelihood ecosystems, value chains, and employment opportunities · Understanding the vocational area contribution, livelihood ecosystems, value chains, employment opportunities · Suitable environment · Sensitive and empathetic communication with the person(s) to whom service is to be provided · Selecting work on the basis of guidelines · Quality criteria	**CG-1, C-1.1** Students will be able to: · Describe the relevance of the vocation with reference to society, nation, and the world · Explore different sources of information and map resources to identify the work to be done · Demonstrate an understanding of the setting up of a service environment · Demonstrate an understanding of a service mindset **C-1.2** · Describe the quality criteria related to inputs, process and output based on observation and expert interaction
Vocation-specific themes (Suggestive Instructional Hours: 26)	· Site visit · Developing process chart · Tools and materials: use, storage, and safety protocols · Processes of needs identification, including tools used for understanding needs of person(s) to whom service is to be provided (e.g., questionnaire, checklist, etc.) · Designing solutions to meet the needs of the person(s) to whom service is to be provided · Tools used for providing service (e.g., thermometer, blood pressure machine, reading health records and prescriptions, tools for personal hygiene, and tools for maintaining hygienic surroundings) · Costs and billing for services	**CG-1, C-1.1** Students will be able to: · Prepare a process chart outlining the key elements of the service to be provided to monitor the work against milestone · Identify the needs of the person(s) for whom service is to be provided through different ways (e.g., questionnaire, interview, etc.) · Reflect on the possible challenges while providing service and possible actions to counter them · Arrange the physical environment as per the comfort of the person(s) to whom service is to be provided · Prepare and finalise a contract for providing service · Establish the norms for communication during service, including active and empathetic listening · Create polite, respectful and responsive environment in the context of the service

Theme	Theme Outlines/ Key Concepts	Learning Outcomes
	· Process of review of the service provided · Method of documentation for feedback and reflection · Safety protocols related to sensitivity and confidentiality · Segregation and disposal of waste · Service provided by family and community · Providing service outside the school	to be provided ·Maintain the records of costing (inputs and cost of 'soft' services including time, manpower, etc.) and expenditure ·Track progress against process chart **C-1.2** ·Use technology or AI where relevant to optimise work ·Follow safety protocols as indicated by the expert or teacher (including cyber safety and confidentiality) ·Follow protocol for waste disposal where relevant **CG-3, C-3.1** ·Identify elements of the service received at home, based on learning ·Explain how learnings are applied to provide service at home

Pedagogy or Instructional Methods

The NCF-SE 2023 emphasises the role of 'doing' in Vocational Education. Knowledge, capacities, and values are developed through consistent practice and on-site exposure. The pedagogical approach for Grades 9 and 10 must align with real life — students must be provided opportunities to learn through real-life work contexts.

- Emphasise "learning by doing" through hands-on, real-life work experiences with a clear focus on productive outcomes and on-site exposure.
- Ensure a balanced integration of theory and practice, with a greater proportion of time devoted to practical work, supported through projects, workshops, internships, and exposure visits.
- Promote experiential learning in real-world contexts, including structured visits to workplaces and interaction with practitioners to deepen understanding of vocations.
- Integrate technology and AI meaningfully within pedagogy to enhance learning and demonstrate their role in improving efficiency and productivity in work settings.
- Uphold equity and inclusion, ensuring equal access to tools, resources, and opportunities for all students, including those from diverse socio-economic backgrounds and differently abled learners.
- Strengthen school–industry linkages by partnering with local enterprises, institutions, and organisations to facilitate internships, exposure, and authentic work-based learning experiences.

Assessment

The focus of Vocational Education assessment in Grades 9 and 10 is to assess skills that are transferable across different kinds of work. Given the nature of vocational knowledge, the primary focus of assessment should be demonstrated performance — not written examination alone.

Mode of Assessment: Students must be assessed on the basis of the competencies, curricular goals & learning outcomes, as defined in the syllabus.

Suggestive tools of assessment:

i. Teacher's Observations (based on demonstrated performance via rubrics, checklists)
ii. Student Portfolio
iii. Oral Presentations
iv. Self and Peer Assessments
v. Paper and Pencil tests (Situation Based Questions)

Detailed assessment guidelines shall be shared with schools once the textbooks are published by NCERT.

What is to be assessed?	What are the criteria for assessment?	Examples of tools and sources of evidence
Values and dispositions related to work	· Observation and questioning during practice · Dignity of labour for all kinds of work · Collaboration with peers · Efficiency in work · Pursuit of quality · Creativity and problem-solving · Willingness and motivation · Optimal use of all resources	· Teachers' observations · Oral presentation or viva-voce · Self-assessment
Selection, use, and maintenance of tools and equipment	· Selection of appropriate tools for task · Correct usage of tools · Keeping materials and equipment ready for use · Following safety protocols · Proper storage of tools and materials post usage	· Teachers' observations · Oral presentation or viva-voce · Paper and pencil test · Portfolio
Knowledge to perform tasks	· Conceptual knowledge necessary to do work · Context and relevance of work · Sustainable and/or indigenous practices · Knowledge of procedures and protocols (including safety and documentation) · Planning templates or creating process charts · Mapping and budgeting of resources	· Oral presentation or viva-voce · Paper and pencil test · Portfolio
Performance of tasks	· Sequencing of tasks · Creating appropriate conditions or gathering tools and materials · Estimation of material or need identification · Carrying out tasks using tools and materials · Improvements based on testing or feedback · Monitoring progress against plan · Workplace organization · Waste management	· Teachers' observations · Portfolio · Oral presentation of the task performance (rationale of performing the task)
Place of vocation in the world of work	· Importance of vocation · Livelihood ecosystem	· Oral presentation or viva-voce · Paper and pencil test · Site visit reports or observation notes
Applying quality criteria	· Identifying criteria for evaluating quality of products · Reflection on processes	· Oral presentation or viva-voce · Paper and pencil test · Portfolio · Self-assessment
Application of vocational competencies at home	· Use of vocational skills and knowledge at home	· Oral presentation or viva-voce · Paper and pencil test · Portfolio