

 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

3.6.1	Outcomes of extension activities in the neighborhood community in terms of impact and sensitizing the students to social issues and holistic development, and awards received during the last five years.
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List of Courses included in Curriculum Relevant to societal issues, holistic development, and extension and outreach activities

S.N.	Course Title	Page No.
1	National Cadet Corps (NCC) (Semesters I to IV)	2-13
2	National Service Scheme (NSS) (Semester I to IV)	14-27
3	Environment conservation and sustainable development (Semesters I and II)	28-32
4	Introduction to Sustainable Development Goals (SDGs) (Semester I)	33-36
5	Human Values & Holistic Living (HVHL) (Semesters I and II)	37-42
6	Wisdom & Ethics for Success in Life (WESL) (Semesters I and II)	43-48
7	Internship on Social Immersion (Semester III)	49-52
8	Concept to Practice (Semester I to IV)	53-64
9	Microbiology Outreach Activity (Semester IV)	65



 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Part III - Skill Enhancement Course (SEC–II) For the UG students admitted from A.Y. 2021-2022 & onwards		
Offering Department: NCC		Offered to: All UG Programmes
Semesters I, II, III & IV		
Course Code	Course Title	Course Credit and Hours
21AECO025	National Cadet Corps (200 Hrs)	1 Credit

Course Description:

This course reinforces the basic understanding of armed force. Cadets will learn about various military tactics like Field craft and battle craft, Weapon Training, Map reading. This course creates and awareness about the history of Indian armed forces and the contribution of brave soldiers to the nation security. NCC stands for the National Cadet Corps, which works towards the empowerment of the nation's youth. The course encourages the aspirants into several productive activities that keep them away from any unconstructive forces. Course is designed so that cadet can groom their overall personality and also be aware about various challenges to our nation and social issues. By various activity Cadets are able to learn disaster management and community development. The course provide information and training on how to join armed forces, other paramilitary forces, state military and civil defense force after completion of the NCC Course successfully. The course shall extend over a period of three years comprising of six semesters with two semesters in one academic year. Each semester normally consists of and minimum 3 regular and 2 Individual activities, lectures and practical as per DG NCC guidelines and one annual training camp is compulsory in second and third year.

Course Purpose:

With the motto of unity and discipline after completion of the course cadet will develop character, camaraderie, discipline, secular outlook, the spirit of adventure, sportsman spirit and ideals of selfless service amongst cadets by working in teams, honing qualities such as self-discipline, self-confidence, self-reliance and dignity of labour in the cadets. Course will create interest in cadets by including and laying emphasis on those aspects of Institutional Training which attract young cadets into the NCC and provides them an element of thrill and excitement. Training inculcate defence Services work ethos that is characterized by hard work, sincerity of purpose, honesty, ideal of selfless service, dignity of labour, secular outlook, comradeship,



spirit of adventure and sportsmanship. The course will create a pool of organized, trained and motivated youth with leadership qualities in all walks of life, who will serve the Nation, regard less of which career they choose. To provide a conducive environment to motivate young Indians to choose the Armed Forces as a career. Institutional training includes basic military training of the cadets as part of the curriculum with its long-standing effort to mould young volunteers into disciplined and responsible citizens of India. NCC course is aimed to achieve following learning objectives.

Couse Outcome:		
CO No.	CO Statement	Blooms taxonomy Level (K₁ to K₆)
CO1	Imbibe the conduct of NCC cadets.	K2
CO2	Respect the diversity of different Indian culture and Practice togetherness and empathy in all walks of their life.	K2
CO3	Do their own self analysis and will work out to overcome their weakness for better performance in all aspects of life. Understand creative thinking & its components and think divergently and will try to break functional fixedness.	K3
CO4	Make a team and will work together for achieving the common goals and do the social services on different occasions.	K2

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Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**





Semester – I

Course Code	Course Title	Hrs
21AECO025	National Cadet Corps-1 (Theory)	Theory-15 hrs

Course Content (Theory)	Hours
Divided into four Modules, and activities are part of each module.	
Module-I : NCC General (N)	06
<ul style="list-style-type: none"> ➤ Introduction of NCC ➤ History, Aims, Objective of NCC ➤ NCC as Organization ➤ Incentives of NCC ➤ Duties of NCC Cadet ➤ NCC Camps: Types & Conduct 	
Module-II: National Integration & Awareness (NI)	04
<ul style="list-style-type: none"> ➤ National Integration: Importance & Necessity ➤ Factors Affecting National Integration ➤ Unity in Diversity & Role of NCC in Nation Building ➤ Threats to National Security 	
Module III: Personality Development (PD)	03
<ul style="list-style-type: none"> ➤ Intra & Interpersonal skills ➤ Self-Awareness & Analysis ➤ Empathy ➤ Critical & creative thinking ➤ Decision making and problem solvin 	
Module IV: Social Service and Community Development (SSCD)	02
<ul style="list-style-type: none"> ➤ Basics of social service and its need ➤ Types of social service activities ➤ Objectives of rural development programs and its importance ➤ NGO's and their contribution in social welfare ➤ Contribution of youth and NCC in Social welfare 	

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**Atmiya University
Rajkot**





**ATMIYA
UNIVERSITY**

**NAAC – Cycle – 1
AISHE: U-0967**

Criterion 3

R, I & E

KI 3.6

M 3.6.1

Sr. No.	List of activities	Hrs
01	15 August: Independence Day	02
02	Cleanliness drive	02
03	Tree plantation	02

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Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**





Semester – I (Practical)

Course Code	Course Title	Hrs
21AECO25	National Cadet Corps-1	Practical-30 hrs

Course Content (Practical)

Hours

Divided into five Modules, and activities are part of each module.

Module-I : Drill (D)

12

- Foot Drill- Drill ki Aam Hidayaten
- Word ki Command, Savdhan
- Vishram, Aram Se
- Murdna, Kadvar Sizing
- Teen Line Banana
- Khuli Line, Nikat Line
- Khade Khade Salute Karna Parade Par
- Visarjan, Line Tod
- Tej Chal
- Tham aur Dhire Chal, Tham

Module-II: Weapon Training (WT)

05

- Introduction & Characteristics of .22 rifle
- Handling of .22 rifle

Module III: Map Reading (MR)

03

- Definition of Map
- Conventional signs
- Scale and Grid System
- Topographical forms and technical terms
- Relief
- Contours and gradients
- Cardinal points and types of North
- Magnetic Variation and Grid Convergence

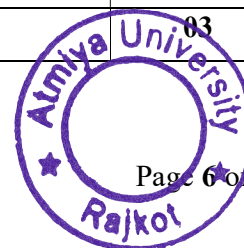
Module IV: Field Craft & Battle Craft (FC & BC)

03

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Rajkot**





- Introduction of Field Craft & Battle craft
- Judging Distance
- Method of Judging Distance.

Module V: Social Service and Community Development (SSCD)

07

- Cadets will participate in various activities throughout the semester
- e.g., Blood donation Camp
- Swachhata Abhiyan
- Constitution Day
- Jan Jeevan Hariyali Abhiyan
- Beti Bachao Beti Padhao etc

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Rajkot**





Semester – II

Course Code	Course Title	Hrs
21AECO025	National Cadet Corps-II (Theory)	Theory-15 hrs

Course Content (Theory)	Hours
Divided into Three Modules, and activities are part of each module	
Module-1: Personality Development (PD)	05
<ul style="list-style-type: none"> Thinking- Meaning and Concept of thinking, Reasoning, Process of thinking. Critical Thinking- Meaning & concept of critical thinking, Features of critical thinking, Process of critical thinking. Creative thinking- Meaning & concept of creative thinking, Features of creative thinking, Process of creative thinking, levels of Creativity, Characteristics of creative person. 	
Module-2: Leadership Development (LD)	05
<ul style="list-style-type: none"> Leadership capsule Important Leadership traits, Indicators of leadership and evaluation. Motivation- Meaning & concept, Types of motivation. Factors affecting motivation Ethics and Honor codes. 	
Module-3: Social Service and Community Development (SSCD)	05
<ul style="list-style-type: none"> Protection of Children & Women Safety Road/Rail Safety New Government Initiatives Cyber and mobile Security Awareness. 	

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Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**





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UNIVERSITY**

**NAAC – Cycle – 1
AISHE: U-0967**

Criterion 3

R, I & E

KI 3.6

M 3.6.1

Sr. No.	List of activities	Hrs (aprox.)
01	1 st Dec: AIDS day	02
02	7 th Dec: Armed forces flag day	02
03	26 th January: Republic day	04

Registrar

Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**





Semester – II

Course Code	Course Title	Hrs
21AECO025	National Cadet Corps-II (Practical)	Practical-30 hrs

Course Content (Practical)	Hours
Divided into five Modules, and activities are part of each module	
Module-I : Drill (D)	12
<ul style="list-style-type: none"> • Foot Drill Dahine, Baen, Aageaur Piche Kadam Lena • Tej Chal se Murdna, Tej Chal se Salute Karna, Tej Kadam Taal aur Tham, Tej Kadam Taal se Kadam Badalna • Teeno Teen se Ek File aur ek file se Teeno Teen Banana 	
Module-II : Weapon Training (WT)	04
<ul style="list-style-type: none"> • Range procedure & Theory of group • Short Range firing 	
Module-III : Map Reading (MP)	05
<ul style="list-style-type: none"> • Protractor Bearing and its conversion methods • Service protractor and its uses • Prismatic compass and its uses and GPS • Navigation by compass and GPS 	
Module-IV : Field Craft & Battle Craft (FCBC)	04
<ul style="list-style-type: none"> • Indications of landmarks and Targets • Intro, Definitions, Types of Ground, Indication of Landmarks, Methods of iden of targets, difficult targets 	
Module-V: Social Service and Community Development (SSCD)	05
<ul style="list-style-type: none"> • Cadets will participate in various activities throughout the semester e.g., Blood donation Camp, Swachhata Abhiyan, Constitution Day, Jan Jeevan Hariyali Abhiyan, Beti Bachao Beti Padhao etc. as per the requirement and similar announced days- National and state level 	

Registrar

Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**



 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Text book:

- Army NCC Cadet Handbook Common Subject SD/SW
- Army NCC Cadet Handbook Specialised Subject SD/SW

Reference Book and app

- NCC book by R K Gupta
- NCC Hand book by Kanti prakashan
- DGNCC Training app
- NCC darpan app
- NCC guide app
- Cadet app

Pedagogic tools:

- Chalk and Board
- Power Point Presentation
- Videos
- Handouts
- Field visit
- Activities

Methods of Assessment & Tools:

Components of CIA: **100** marks

SR No.	Component	Content	Marks	Sub total
1	Attendance	Regular Institutional Training Parade	10	10
2	Social Activity	Total 15 social activity Involvement in the activities	15	15
3	Theory exam	As prescribed in the DGNCC Syllabus first year (semester I&II)	10	20



		As prescribed in the DG NCC Syllabus Second year (semester III&IV)	10	
4	Practical exam	Test-1 at the end of 1 st year Drill test-1 , Map Reading-1 Test-2 at the end of 2 nd year Drill -2 ,MR-2, WT, FC&BC, Leadership, Responsibility,	15 30	45
5	Special Activity	Camp only in second year	10	10
Total			100	100

- At the end of the course a separate certificate on completion of course will be issued by the CoE having only remarks as follows:

Letter Grade	Grade Point
O (Outstanding)	9-10
A+(Excellent)	8-9
A (Very Good)	7-8
B+(Good)	6-7
B (Above average)	5-6
C (Average)	4-5
P (Pass)	4
F (Fail)	0
Ab (Absent)	0

Registrar

Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**



 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

GUIDELINES FOR THE PROGRAMME

1. Minimum 80% attendance is required, if not able to fulfil it then only by the permission of NCC Officer and the principal will be allowed to compensate in the next year.
2. Degree will be awarded only after receiving of the certificate.
3. Additional award will be given on being selected for national level activities like RDC, TSC, National Games, YEP, NIC etc.
4. Institutional training theory Syllabus is as prescribed by DG NCC and training plan by DG NCC, New Delhi.
5. During Sem –I & II (1st Year Of Training) cadet need to be attend_ 15 parade (each parade is of 3 period of 40 minutes so, 45 periods including practical).
6. During Sem III or Sem IV (2nd Year Of Training) cadet need to be attend 18 parade (1 parade = 3 period of 40 minutes so, 54 periods including practical)&One Annual Training Camp is compulsory (being eligible for B Certi exam).
7. Mandatory special activities are compulsory during each semester as per syllabus.(Special case of absence considered only when the cadet found in severe medical problem during the activities).
8. Successfully completion of one training year and one theory and practical exam in the month of February/march.
9. The evaluation shall comprise of Continuous Internal Evaluation (CIE) for regular institutional training 10 special activities in each year.
10. 80 % attendance will be minimum required for getting the certificate.
11. Participation is compulsory in special camp in second year.



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Atmiya University
Rajkot
 Atmiya University, Rajkot-Gujarat-India



 ATMIYA UNIVERSITY	NAAC – Cycle – 1	
	AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

National Service Scheme (NSS)

Offered By: NSS Unit	Offered to: Across University for all UG Programs	
Semester – I to IV		
Course Code	Course Title	Course Credit and Hours
	National Service Scheme (NSS)	16 Credits – 240 Hrs.

Course Description:

The National Service Scheme (NSS) establishes a meaningful linkage between the campus and the community. This course allows students to understand the society in which they work and understand their relationship with the society and nature. This course is an excellent option for anyone to identify the needs and problems of the community and utilize their knowledge in finding practical solution to it. This course develops competence in students required for harmonious living and sharing of responsibilities. It allows students to acquire leadership qualities and practice national integration with social harmony.

Course Purpose:

Making education more relevant to the present situation to meet the felt needs of the community and supplement the education of the university students by bringing them face to face with the rural situation.

Providing opportunities to the students to play their role in planning and executing development projects which would not only help in creating durable community assets in rural areas and urban slums but also results in the improvement of quality of life of the economically and socially weaker sections of the community.

Developing qualities of leadership by discovering the latent potential among the students.

Emphasizing dignity of labour and self- help and the need for combining physical work with intellectual pursuits.

Encouraging youth to participate enthusiastically in the process of national development and promote national integration, through cooperative action.

To unlock the potential of the youth by arranging youth development programmes across five priority areas viz. education, employment & entrepreneurship; youth leadership & development; health, fitness & sports; and social justice.

 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

It is aimed at instilling discipline, building character, promotion of physical fitness and development of culture.

Course Outcomes: Upon completion of this course, the learner will be able to		
CO No.	CO Statement	Bloom's taxonomy Level (K₁ to K₆)
CO1	Identify the needs and problems of the community and involve them in problem solving process.	K1
CO2	Apply their knowledge in finding practical solution to individual and community problems.	K2
CO3	Demonstrate leadership qualities and democratic attitude.	K2
CO4	Illustrate competence required for group living and sharing of responsibilities.	K3
CO5	Choose national integration and social harmony.	K3



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Rajkot
 Atmiya University, Rajkot-Gujarat-India

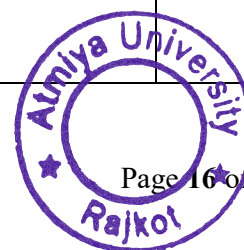




***Semester – I**

Course Code	Course Title	Hrs.
	NSS - Level 1	60 Hrs.

Course Content	Hours
Divided into five modules and activities are part of each module.	
Module-I: Introduction and Basic Concept of NSS	12 hrs
1. History of NSS 2. Emblem, flag, motto, song, badge etc. 3. Organizational structure, roles and responsibilities of various NSS functionaries <ul style="list-style-type: none"> • Regular Activities: <ol style="list-style-type: none"> 1. Orientation Program 2. Enrollment of Volunteers 3. NSS Day celebrations • Special Activities: <ol style="list-style-type: none"> 1. Independence Day celebration 2. Gandhi Jayanti celebration 3. Children’s Day celebration 4. Flag Day celebration 	
Module-II: NSS Programmes and Activities	12 hrs
1. Concept of regular activities, special camping, day camps 2. Maintenance of a diary, collection and analysis of data 3. Documentation and report preparation 4. Observation of important days and cultural talent expression <ul style="list-style-type: none"> • Regular Activities: <ol style="list-style-type: none"> 1. Festival celebrations 2. Tree plantation 3. National Blood Donation Day • Special Activities: 	





1. Visits to mentally challenged children’s schools 2. Visits to old age homes 3. Blood donation camp	
Module-III: Understanding Youth	12 hrs
1. Definition, profile of youth, categories of youth 2. Issues, challenges and opportunities for youth 3. Youth as an agent of social change • Regular Activities: 1. Seminar on Life of National Youth Heroes • Special Activities: 1. Seminar on Life of National Leaders	
Module-IV: Community Mobilisation	12 hrs
1. Mapping of community stakeholders 2. Identifying methods of mobilization 3. Youth-adult partnership • Regular Activities: 1. Coordination with Voluntary Organizations 2. Contacting and carrying out survey of an adopted slum/village • Special Activities: 1. Identification of problems of community 2. Completion and evaluation of project	
Module-V: Volunteerism and Shramdan	12 hrs
1. Indian tradition of volunteerism 2. Need and importance of volunteerism 3. Shramdan as a part of volunteerism • Regular Activities: 1. Participating as a volunteer in various activities arranged by University 2. Observing Joy of Giving Week • Special Activities: 1. Participating as a volunteer in various activities arranged by NGO’s 2. Van Mahotsava Week	

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Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**





***Semester – II**

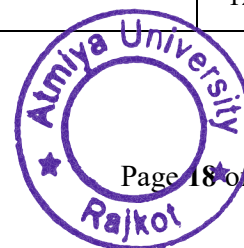
Course Code	Course Title	Hrs.
	NSS - Level 2	60 Hrs.

Course Content	Hours
Divided into five modules and activities are part of each module.	
Module-I: Family, Community and Society	12 hrs
1. Concept of family, community and society 2. Role of an individual in family, community and society 3. Existence is co-existence <ul style="list-style-type: none"> • Regular Activities 1. Mother's Day 2. Sadbhavana Divas • Special Activities 1. International Family Day 2. World Population Day 	
Module-II: Environment Issues	12 hrs
1. Environment conservation, enrichment and sustainability 2. Waste management 3. Natural resource management <ul style="list-style-type: none"> • Regular Activities: 1. World Environment Day 2. National Pollution Prevention Day 3. International Mother Earth Day • Special Activities: 1. World Wildlife Day 2. World Water Day 	
Module-III: Life Competencies	12 hrs

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Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**





<p>1. Definition and importance of life competencies</p> <p>2. Communication and interpersonal skills</p> <p>3. Problem solving and decision making</p> <ul style="list-style-type: none"> • Regular Activities: <p>1. Seminar on life skills</p> <ul style="list-style-type: none"> • Special Activities: <p>1. Exercise on interpersonal skills, problem solving and decision making</p>	
Module-IV: Social Harmony and National Integration	12 hrs
<p>1. Indian history and culture</p> <p>2. Role of youth in peace building and conflict resolution</p> <p>3. Role of youth in Nation building</p> <ul style="list-style-type: none"> • Regular Activities: <p>1. Republic Day celebration</p> <p>2. Martyrs Day (Shahid Divas)</p> <ul style="list-style-type: none"> • Special Activities: <p>1. National Voters Day</p> <p>2. Anti-terrorism Day</p>	
Module-V: Youth Development Programmes in India	12 hrs
<p>1. National Youth Policy</p> <p>2. Youth development programmes at the National level and State level</p> <p>3. Youth focused and Youth led organizations</p> <ul style="list-style-type: none"> • Regular Activities: <p>1. National Youth Day celebration</p> <p>2. International Women's Day</p> <p>3. World Health Day</p> <ul style="list-style-type: none"> • Special Activities: <p>1. World No Tobacco Day</p> <p>2. National Youth Week</p>	

Registrar

Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**





***Semester – III**

Course Code	Course Title	Hrs.
	NSS - Level 3	60 Hrs.

Course Content	Hours
Divided into five modules and activities are part of each module.	
Module-I: Citizenship	12 hrs
1. Basic features of Constitution of India 2. Fundamental Rights and Duties 3. Human Rights 4. Consumer awareness and the legal rights of the consumer 5. RTI <ul style="list-style-type: none"> • Regular Activities: <ol style="list-style-type: none"> 1. World Human Rights Day 2. Independence Day celebration 3. Celebration of Birth Anniversary of Dr. B. R. Ambedkar as Constitution Day • Special Activities: <ol style="list-style-type: none"> 1. International Peace Day 2. Communal Harmony Day 3. National Integration day 	
Module-II: Health, Hygiene and Diseases	12 hrs
1. Definition, needs and scope of health education 2. Food and nutrition 3. Safe drinking water, water borne diseases and sanitation 4. National Health Programme <ul style="list-style-type: none"> • Regular Activities <ol style="list-style-type: none"> 1. Health awareness programmes in campus 2. Fit India Movement 3. Preventive Campaigning on Malaria, Tuberculosis, Dengue, Cancer, HIV/AIDS, Diabetes, Malnutrition, etc. 	





<ul style="list-style-type: none"> • Special Activities <ol style="list-style-type: none"> 1. Health awareness programmes in community 2. Swachh Bharat Abhiyan 3. World AIDS Day 	
Module-III: Youth Health, Yoga and Meditation	12 hrs
<ol style="list-style-type: none"> 1. Healthy Lifestyles 2. History, philosophy and concept of Yoga 3. Yoga as a preventive and curative method 4. Meditation <ul style="list-style-type: none"> • Regular Activities: <ol style="list-style-type: none"> 1. Seminar on Yoga and its importance <ul style="list-style-type: none"> • Special Activities: <ol style="list-style-type: none"> 1. Celebrating International Day of Yoga 	
Module-IV: Youth and Crime	12 hrs
<ol style="list-style-type: none"> 1. Sociological and Psychological factors influencing youth crime 2. Peer mentoring in preventing crimes 3. Cyber crime and its prevention 4. Juvenile Justice <ul style="list-style-type: none"> • Regular Activities: <ol style="list-style-type: none"> 1. International Literacy Day 2. Seminar on juvenile justice <ul style="list-style-type: none"> • Special Activities: <ol style="list-style-type: none"> 1. Seminar on cyber crime and its prevention 2. International Literacy week 	
Module-V: Disaster Management	12 hrs
<ol style="list-style-type: none"> 1. Disaster – its meaning and types 2. Disaster Preparedness – its meaning and methods 3. Disaster Management – Concept and Disaster Cycle 4. First Aid techniques and Breathing techniques (Rescue Methods - CPR) 5. Role of volunteer as first responder 6. Role of Technology in Disaster Response 	





7. Disaster Management Cells at different levels and its functioning

8. Help lines Numbers

- **Regular Activities**

1. Awareness on disaster management by NDRF team

- **Special Activities**

1. World Day for Safety and Health at Work

Registrar

Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**





***Semester – IV**

Course Code	Course Title	Hrs.
	NSS - Level 4	60 Hrs.

Course Content	Hours
Divided into five modules and activities are part of each module.	
Module-I: Youth Leadership	12 hrs
1. Meaning and types of leadership 2. Qualities of good leaders and traits of leadership 3. Importance and role of youth leadership 4. Issues, challenges and opportunities for youth. <ul style="list-style-type: none"> • Regular Activities 1. Activities like games, elocution, sports to build leadership skills 2. Participation in youth development programmes • Special Activities 1. Celebrating National youth day 2. Leadership workshops 	
Module-II: Project Cycle Management	12 hrs
1. Project planning 2. Project implementation and monitoring 3. Project evaluation: impact assessment <ul style="list-style-type: none"> • Regular Activities 1. Studying case studies • Special Activities 1. Preparing case studies 	
Module-III: Civil/Self Defense	12 hrs
1. Civil defense services, aims and objectives of civil defense 2. Needs for self defense training <ul style="list-style-type: none"> • Regular Activities 1. Seminar on/civil defense 	

Registrar

Atmiya University, Rajkot-Gujarat-India

**Atmiya University
Rajkot**





<ul style="list-style-type: none"> • Special Activities <ol style="list-style-type: none"> 1. Seminar on self defense 	
Module-IV: Additional Life Skills	12 hrs
<ol style="list-style-type: none"> 1. Positive thinking 2. Self confidence and self esteem 3. setting life goals and working to achieve them 4. Management of stress including time management <ul style="list-style-type: none"> • Regular Activities <ol style="list-style-type: none"> 1. Seminar on life skills <ul style="list-style-type: none"> • Special Activities <ol style="list-style-type: none"> 1. Seminar on life goals 	
Module-V: Vocational Skills and Entrepreneurship Development	12 hrs
<ol style="list-style-type: none"> 1. Definition and Meaning 2. Qualities of good entrepreneur 3. Steps/ways in opening an enterprise 4. Role of financial and support service institutions <ul style="list-style-type: none"> • Regular Activities <ol style="list-style-type: none"> 1. Seminar on Entrepreneurship <ul style="list-style-type: none"> • Special Activities <ol style="list-style-type: none"> 1. Hands on vocational skills 	

Suggested other activities:

1. Day Camps:

If NSS volunteers fail to complete the prescribed 120 hours per year in social work under NSS programme due to disturbance caused to academic session. NSS unit organizes day camps to complete the prescribed 120 hours of NSS regular work. This camp of 8 hours duration is to be organized on weekends and holidays. Students do the community work for 16 hours in 2 consecutive days. Such camps can be organized selectively when felt necessary.



 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

2. Special Camping Programmes:

Special Camping forms an integral part of National Service Scheme. It has special appeal as it provides unique opportunities to the students for group living, collective experience sharing and constant interaction with community. Special camping is organized generally on various developmental issues of national importance. Every year 50 percent of the volunteers of NSS unit are expected to participate in special camps which is of seven to ten days duration.

Pedagogic tools:

1. Chalk and Talk
2. PPT and Videos
3. Hands-on activities
4. Assignments
5. Group discussion

Reference Books:

1. National Service Scheme Manual (Revised), 2006 Government of India, Ministry of Youth Affairs and Sports, New Delhi.
2. Environmental Studies by P K Pandey (Mahaveer Publications)
3. Fundamentals of Entrepreneurship by H Nandan (PHI)
4. Social Problems in India, Ram Ahuja.

Suggested reading / E-resources

1. Case material as a Training Aid for Field Workers, Gurmeet Hans.
2. Guide to Report Writing by Michael Netzley and Craig Snow (Pearson)
3. Biodiversity, Environment and Disaster Management by Shamna Hussain (Unique Publishers)



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	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Suggested MOOCs:

1. Mind Education by Prof. Kim Soo Yeon, International Youth Fellowship
Link: https://onlinecourses.swayam2.ac.in/aic19_as05/preview
2. Introduction to NGO Management by Prof Neeti Agrawal & Prof Nayantara Padhi, Indira Gandhi National Open University
Link: https://onlinecourses.swayam2.ac.in/nou22_hs19/preview
3. Developing life skills by Dr. M. N. Mohamedunni Alias Musthafa, Central University of Kerala
Link: https://onlinecourses.swayam2.ac.in/cec21_ed08/preview
4. Indian Society - Social Problems and Issues by Dr. Sobhana Mishra, EMRC Director (Retd) Madurai Kamaraj University
Link: https://onlinecourses.swayam2.ac.in/cec21_hs31/preview

Methods of Assessment & Tools:

(Though the credit has to be awarded at the end of the course i.e. four semesters, continuous and consolidated assessment will be done at end of each semester.)

Sr. No.	Criteria	Rubrics			Max. Marks
1	Theory Attendance	---			10
2	Theory Exam (MCQ)	---			20
3	Significance and possible impact of the activity	Low significant with low impact (0 – 3 marks)	Moderately significant with medium impact (4 – 7 marks)	Highly significant with high impact (8 – 10 marks)	10
4	Association with organizations / individuals where activities are done	Very less association (0 – 3 marks)	Fairly good association (4 – 7 marks)	High level of partnering (8 – 10 marks)	10

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	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

5	Exhibiting Execution and Leadership Skills	Low level of planning and poor involvement (0 – 3 marks)	Average level of planning and fairly good involvement (4 – 7 marks)	High level of planning and good involvement (8 – 10 marks)	10
6	Team Work	Unable to work in a team and understand roles and responsibilities (0 – 6 marks)	Able to work in a team and understand roles and responsibilities with little assistance (7 – 13 marks)	Able to clearly work in a team and understand roles and responsibilities with no assistance (14 – 20 marks)	20
7	Documentation and Summary Report	Incomplete documentation and report (0 – 6 marks)	Complete documentation and report but with average quality (7 – 13 marks)	Complete documentation and report with good quality (14 – 20 marks)	20
Total Marks					100

At the end of the course no marks are given, only remarks are given as follows:

REMARKS:

Range of Marks	Remarks
90-100	Excellent
75-89	Very Good
60-74	Good
40-59	Fair
< 40	Not Completed



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	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Enclosure –IDI

ATMIYA UNIVERSITY

Ability Enhancement Compulsory Course (AECC -1) For the students admitted from A.Y. 2021-2022 & onwards		
Offering Department: Civil Engineering		Offered to: All Programmes
Semester – I & Semester - II		
Course Code	Course Title	Course Credit and Hours
	Environment conservation and sustainable development	1 (per semester)

Course Description:

This course is deal with interdependence between human activities and the ecosystem of nature. Environmental science is a transdisciplinary discipline which requires precise perception about the environment, as well as consciousness about the ways in which human being work with its ecosystem. We investigate the effects of human being accomplishments towards the environment, policies and regulations associated with nature, and how intervention impacted on the mankind. We also interpret the human psychology and socio cultural aspects and affects on the surrounding nature.

Course Purpose:

The course focuses comprehension of the concept of sustainability in an amalgamated way, including surrounding, socioeconomic aspects. This course explores the coming future and what transformation need in current. The basic idea of the environmental conservation is that progression towards a sustainable future depends on what creative interdisciplinary thinking you derived from society. We look to motivate creativity and combine passion with critical thinking skills in students who one day will be the citizens working to convert the world to more sustainable systems.



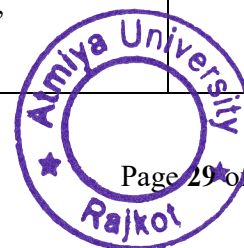
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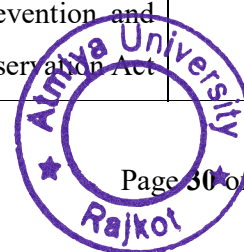
Course Outcomes: Upon completion of this course, the learner will be able to		
CO No.	CO Statement	Blooms taxonomy Level (K₁ to K₆)
CO ₁	Understands and realize the multidisciplinary approach of environment	K2
CO ₂	Understand importance of natural resources and biological diversity	K2
CO ₃	Understand and evaluate the global scale of environmental pollution and global issues	K1
CO ₄	Correlate the exploitation and utilization of conventional and non-conventional energy resources	K3
CO ₅	Understand the various environmental policies	K1, K3

Course Content	Hours
Unit-I: Introduction to Environmental Studies (Semester-I)	5 hrs
<ul style="list-style-type: none"> Multidisciplinary nature of environmental studies Scope and importance; Concept of sustainability and sustainable development structure and composition of atmosphere, Impact of technology on Environment <p>Expected SDG covered: SDG 11 – Sustainable Cities and Communities</p> <p style="text-align: center;">SDG 13 – Climate Action</p> <p style="text-align: center;">SDG 16 – Life on Land</p>	
Unit-II: Natural Resource and Ecosystems (Semester-I)	7 hrs
<ul style="list-style-type: none"> Forest resources: Use and over-exploitation, Consequences of Deforestation' water resources: use and over-utilization of surface and ground water, concept of rain water harvesting and water shed management, Land resources: Land as erosion and desertification 	





<ul style="list-style-type: none"> • What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession • Biodiversity: definition, types, importance of biodiversity' and threats to biodiversity <p>Expected SDG covered: SDG 6 – Clean Water and Sanitation SDG 12 – Responsible Consumption and Production SDG 16 – Life on Land</p>	
Unit- III: Environmental Pollution & Global Issues (Semester-II)	6 hrs
<ul style="list-style-type: none"> • Air pollution • Water Pollution • Noise Pollution • Soil Pollution • Marine Pollution • Global Environmental issues: Climate change, global warming, acid rain, ozone layer depletion, • Solid waste: Generation and management; • Hazardous waste: types, characteristics and health impacts • E-waste: Generation and management • HIV/AIDS, Women child wealth <p>Expected SDG covered: SDG 6 – Clean Water and Sanitation SDG 13 – Climate Action</p>	
Unit- IV: Conservation and Environment (Semester-II)	6hrs
<ul style="list-style-type: none"> • Conventional and Non-conventional Source of energy • Hydropower energy, tidal energy, wind energy, solar energy • Green building & Green Building Materials <p>Expected SDG covered: SDG 7 – Affordable and Clean Energy</p>	
Unit- V: Environmental Policies & Practices (Semester-II)	6 hrs
<ul style="list-style-type: none"> • Introduction and salient features of the acts: Environment Protection Act, Air (Prevention and Control of pollution) Act, Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act 	



 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

<ul style="list-style-type: none"> • Environmental ethics: Role of Indian and other religions and cultures in environmental conservation. • Environmental communication and public awareness • Chipko Movement, Narmada movement • Disaster Management <p>Expected SDG covered: SDG 13 – Climate Action SDG 16 – Life on Land</p>	
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Note: - Unit-I & II taught in semester-I; Unit-III, IV&V taught in Semester-II

Text books (2 textbooks):

- Bharucha Erach (2013), “Textbook of Environmental Studies for Undergraduate Courses”, Universities Press (India) Private Ltd, Hyderabad
- Dave Deeksha & Kateva S.S., “Textbook of Environmental studies”, Cengage Learning India Pvt. Ltd.

Reference books (2 or 3 reference books):

- Botkin Daniel B. & Keller Edward A.,” Environmental sciences”, John Wiley & Sons
- R. Rajagopalan, “Environmental Studies”, Oxford University Press.
- Dr. Suresh K Dhameja (2007), “Environmental studies”, S K Katarina & Sons New Delhi
- Niko Roorda (2021),” Fundamentals of Sustainable Development 3Rd Edition”, Taylor and Francis

Pedagogic tools:

- Chalk and Talk
- Power point presentation / Expert talk
- Videos
- Hands on practice



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Methods of Assessment & Tools:

Components of CIA: 100 marks

SEMESTER-1					
Sr. No.	Component	Content	Duration (if any)	Marks	Sub Total
A	Assignment-1	Unit I & II		10	10
B	Test-1		90 minutes	30	30
C	Activity			10	10
Grand Total(sem-1)					50
SEMESTER-2					
Sr. No.	Component	Content	Duration (if any)	Marks	Sub Total
A	Assignment-2	Unit III, IV, V		10	10
B	Test-2		90 minutes	30	30
C	Field visit report			10	10
Grand Total(sem-2)					50
Total Marks (Include sem-1 and sem-2)					100
Field visit	<ul style="list-style-type: none"> • Public awareness • Problem identification • Field survey • Probable solution • Report 				
Hands on practice	<ul style="list-style-type: none"> • Model preparation • Presentation 				

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	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Enclosure –IDII

ATMIYA UNIVERSITY

Faculty of Science

Ability Enhancement Compulsory Course (AECC -1) For the students admitted from A.Y. 2021-2022 & onwards		
Offering Department:	Offered to: All Programmes	
Interdisciplinary		
Semester – I		
Course Code	Course Title	Course Credit and Hours
	Introduction to Sustainable Development Goals (SDGs)	Audit Course

Course Description:

This course provides the definition of the concepts of sustainability and development, the development indices, evolution of UN SDG2030 agenda and its 17 Goals. The course further elaborates the interconnectedness and interdependence of the goals in terms of three dimensions- Social, economic and Environmental and also the 5 aspects namely People, Planet, Prosperity, Peace and Partnership.

Course Purpose:

The course has been designed to create awareness and sensitize the youth towards the aspects of Sustainability and Development by introducing the UN SDG 2030 agenda and its global and national relevance.



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Course Outcomes: Upon completion of this course, the learner will be able to

Course Outcomes	CO Statement	Bloom’s taxonomy Level (K1 to K6)
CO1	Define and relate to concepts of sustainability and development	K1, K2
CO2	Identify and interpret the SDGs	K1, K2
CO3	Recognize and Classify the SDGs into 5 Ps	K1, K2
CO4	Infer the importance of SDGs as Development Index	K1, K2
CO5	Summarize the interdependence and interconnectedness of SDGs in three dimensions – Social, Economical and Environmental	K2, K3

Course Content	Hours
Unit-I : Overview of the concept of Sustainability	3 hrs
<ul style="list-style-type: none"> Defining Sustainability Importance of Sustainability Path to achieve sustainability 	
Unit-II: Overview of the concept of Development	5 hrs
<ul style="list-style-type: none"> Definitions of development Development Indices and its measurement Parameters United Nations (UN) Sustainable Development Goals (SDGs) as an emerging tool 	

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Unit- III: Introduction to Sustainable Development Goals (SDGs) 2030	2 hrs
<ul style="list-style-type: none"> • From MDGs to SDGs • Consensus of Nations for SDG 2030 Agenda • The 2030 Development Agenda 	
Unit- IV: The 17 Sustainable Development Goals (SDGs)	5 hrs
<ul style="list-style-type: none"> • Introduction to 17 SDGs • Key Characteristics of the SDGs - SDG 12 as the crux • The SDGs and the 5 Ps (People, Planet, Prosperity, Peace and Partnership) • Salient targets of the SDGs 	
Unit- V: Interconnectedness and Interdependence of SDGs	5 hrs
<ul style="list-style-type: none"> • Dimensions of sustainable development <ul style="list-style-type: none"> ○ Social inclusion: Nurturing communities ○ Economic growth: Driving prosperity ○ Environmental protection: preserving resources • Interconnectedness of the three dimensions with SDGs • India’s plan to achieve the SDGs 	

Text books:

1. Brundtland Commission. (1987). Our common future, Chapter 2: Towards sustainable development. *World Commission on Environment and Development (WCED). Geneva: United Nation.* <http://www.un-documents.net/ocf-02.htm>
2. **Ossewaarde**, Martin J. (2018). Introduction to Sustainable Development, New Delhi: SAGE Publications India Pvt Limited, 2018

Reference books:

1. UN. Sustainable Development Knowledge Platform. “Sustainable Development Goals.” <https://sustainabledevelopment.un.org/sdgs>
2. United Nations. (2015). *The Millennium Development Goals Report 2015.*

United Nations Publications:



 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

<http://www.undp.org/content/undp/en/home/librarypage/mdg/the-millennium-development-goals-report-2015.html>

Pedagogic tools :

- Video Lectures
- Illustrations
- Discussions
- Presentations

Methods of Assessment & Tools:

Components of CIA:

Sr. No.	Component	Content	Duration (if any)	Marks	Sub Total
A	Test1	1 st and 2 nd Unit	45 mins	30	30
B	Test 2	All 5 Units	90 mins	70	70
				Grand Total	100

Remarks:

1. Course completed (more than or equal to 40 Marks)
2. Course not completed (less than 40 Marks)



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	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Enclosure –IDIII

ATMIYA UNIVERSITY

Ability Enhancement Compulsory Course (AECC -3) For the students admitted from A.Y. 2021-2022 & onwards		
Offering Department: Universal Human Values (UHV) Cell	Offered to: All Programmes	
Semester – I & Semester - II		
Course Code	Course Title	Course Credit and Hours
	Human Values & Holistic Living (HVHL)	3 Credits

Course Description:

The overall purpose of the education is to enable a human being to live a fulfilling life, in harmony with oneself and with family, society and nature. Hence, it becomes the responsibility of educators to enable the resolution of these issues, so that human society can achieve the cherished goal. In light of this, it becomes essential to find out what is of *value*.

The subject that deals with ‘*what is of value*’, or ‘*what is valuable to a human being*’ is called ‘value education’. Values thus provide the *basis* for all our actions and there is an essential complementarity between values and skills which needs to be ensured in any education system.

Course Purpose:

1. Students are expected to become more aware of themselves, and their surroundings (family, society, nature); they would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.
2. They would have better critical ability. They would also become sensitive to their commitment towards what they have understood (human values, human relationship and human society).
3. Students can rightly evaluate their skills and accordingly contribute in the society and in the nature.



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	AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

L-T-P-C: 2-2-0-3 (24 Lectures+24Tutorial sessions will be covered in semester 1 and 2)

1 credit for attending lectures (submitting experiential assignments)

1 credit for completing tutorials (submitting in form of report/activities, etc)

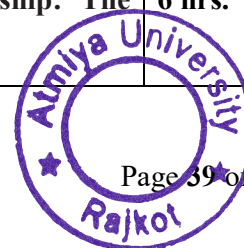
1 credit for two workshops of 3-days each in the starting of semester 1 (SIP) and 2, Students have to submit the brief report of workshop.

Course Outcomes: Upon completion of this course, the learner will be able to		
CO No.	CO Statement	Bloom's taxonomy Level (K₁ to K₆)
CO ₁	Recall basic guidelines of value education and understand the basic aspirations.	K1, K2
CO ₂	Understand the needs of self and body based on their natural acceptance and solves their conflict using self exploration.	K2, K3
CO ₃	Identify the relations between human-human and they have the ability to fulfill the expectations in relations.	K1, K2
CO ₄	Understand required skills to understand the laws of nature.	K2

Course Content (for semester 1)	Hours
Module-I: Exploring the fundamental human desire&identifying the basic questions for life.	7 hrs.
<ul style="list-style-type: none"> • Purpose and motivation for the course, recapitulation from induction program. • Identifying the important Questions for Life, and their integral nature to human living. • Exploring the Fundamental Human Desire – Happiness, Peace, Contentment as related to the 3 dimensions of Living. (Material, Behavioural, and Intellectual) • Identifying how we can fulfil this Holistic Desire & deciding the way for holistic living – our Plan for life, as Intellectual Resolution & Material 	



<p>Prosperity.</p> <ul style="list-style-type: none"> Understand the Method of Study: ‘Listen & Reflect’ = Self referenced study & verification based on Scrutiny, Examination & Survey with examples and implementation. Introduction to Critical Thinking abilities & how we can validate our understanding. <p>Expected SDG covered: SDG 4 – Quality Education SDG 16 – Peace & Justice</p>	
<p>Module-II: Understanding order in the human being.</p>	<p>8 hrs.</p>
<ul style="list-style-type: none"> Understanding human being as a co-existence of the sentient Self and the material Body based on the different needs and functioning of the Self & Body. Getting to know myself better – based on ability of imagination & the freedom of action. Introduction to the activities in the Self or Mind & how they function together & what causes problems within. See incomplete & partial understanding as the root cause for such problems. Identify the solution as knowing = complete holistic understanding. Defining Health with the Body - Understanding Order with the Body. Current appraisal of health at individual, family & societal levels & their resolutions. <p>Expected SDG covered: SDG 3 – Good Health & Well-being SDG 12 – Responsible consumption and Production</p>	
<p>Course Content (for semester 2)</p>	<p>Hours</p>
<p>Module III: Understanding order in human-human relationship: The Family and Society.</p>	<p>6 hrs.</p>





- Introduction to people & Human Relationships and their state today
- Understanding Trust – the foundation of Human Relationship
- The 7 Human Relationships & the 18 universal values or expectations inherent in them.
- Understand Respect – difference between Respect as the correct assessment of a person VS a cause for differentiation.
- The Art of Living in the Family
- Understanding the Order in Human Society – its components & our role in them. The need for an Undivided Human Society & Universal Order.

Expected SDG covered: **SDG 5 – Gender Equality**

SDG 10 – Reduced Inequalities

Module IV: Understanding the order in Nature.

5 hrs.

- Understanding the inherent Order, Cyclist & Self-Regulation in Nature.
- Living complementarily with Natural Law.
- Exploring Nature further: The 4 dimensions of Form Properties, Basic Nature & Innateness.

Expected SDG covered: **SDG 7 – Affordable and Clean energy**

SDG 8 – Decent work and Economic growth

Module V: Understanding Coexistence in Existence.

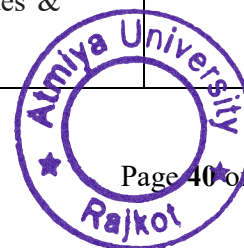
4 hrs.

- Understanding Existence as Coexistence of mutually interacting units in pervasive space.
- Holistic perception of inherent order at all levels of existence.
- Summarising Holistic Living.
- ~~Connect~~ Connect the need to understand and live according to Values & Ethics as per this Holistic understanding.

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	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

<p>Expected SDG covered: SDG 17 – Partnership for the Goals SDG 13 – Climate action</p>	
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Text books

- Values, Ethics & Holistic Living – a practical introduction: by Shriram Narasimhan (*Springer Textbooks*)- *English Version*

Reference books:

- Jeevan Vidya: Ek Parichay, A. Nagraj, Jeevan Vidya Prakashan, Amarkantak, 1999.
- Anand P, Happiness Explained – Oxford Ed 2016
- Nagraj A, VyavharwadiSamajshastra (Behavioural Sociology) 2009 Ed. jeevan vidya prakashan, amarkantak
- Michael J. Sandel (Harvard), What Money Can't Buy, 978-0-374-20303-0
- Dacher Keltner (UC Berkeley), Born to Be Good: The Science of a Meaningful Life. 978-0393065121
- Hegde BM (MD, FRCP, Padma Bhushan) – How to stay Healthy
- Marshall Rosenberg, (2005) Being Me, Loving You: A Practical Guide to Extraordinary Relationships: 978-1892005168

Pedagogic tools:

- Chalk and Talk
- Power point presentation
- Group Discussion
- Documentary/Videos
- Charts/Poster
- Student Workbook



 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Suggested MOOCs

- <https://www.edx.org/course/the-science-of-happiness-3>

Methods of assessing the course outcomes

Components of the course: 100 marks (remarks based)

Sr. No.	Component	Duration	Total weightage	Remarks
1	Experiential Assignments (activity based learning/Tutorials/ Quiz, etc)	During the whole year	60%	i. Expressed ii. Partially Expressed iii. Did not Express
2	A1 Workshop 1 report A2 Activity 1 report B1 Workshop 2 report B2 Activity 2 report	During the whole year	40%	i. Excellent ii. Very good iii. Good iv. Satisfactory
3		Grand Total	100 %	1. Course completed (more than or equal to 40%) 2. Course not completed (less than 40%)



 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Enclosure –IDIV

Skill Enhancement Course (SEC-I) For the PG students admitted from A.Y. 2021-2022 & onwards		
Offering Department: Universal Human Values (UHV) Cell	Offered to: All PG Programmes	
Semester – I & Semester II		
Course Code	Course Title	Course Credit and Hours
	Wisdom & Ethics for Success in Life (WESL)	2 Credits

<p>Course Description:</p> <p>This content is a new development in human understanding. This is a comprehensive knowledge system (<i>darsana</i>) that examines all dimensions of reality & human life: the existential-spiritual, intellectual-logical, emotional-behavioral & occupational. This philosophy is not based on any previous <i>darshan</i>, thought or philosophy. It has been presented as an 'Alternative' to Materialism and Theism/Spiritualism for evaluation and study by humankind.</p> <p>This knowledge system proposes an Undivided Human Society & Balance in Nature via Humanization of Education.</p> <p>Course Purpose:</p> <ul style="list-style-type: none"> • Provides students with a holistic perspective of life. • Students are able to differentiate between success in career & success in life. • This module teaches the students the innate values in human being. • Students can understand harmony in family and how to fulfill those values in family. • This module will also help students to understand ethical human conduct.
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L-T-P-C: 2-2-0-2 (24 Lectures+24 Tutorial sessions will be covered in semester 1 and 2)

1 credit for attending lectures (submitting experiential assignments)


1 credit for completing tutorials (submitting in form of report/activities, etc)





Course Outcomes: Upon completion of this course, the learner will be able to

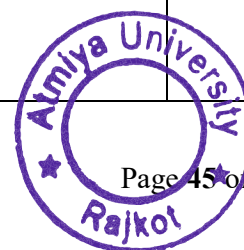
CO No.	CO Statement	Bloom's taxonomy Level (K₁ to K₆)
CO ₁	Differentiate the career success, academic success and life success	K2
CO ₂	Identify the correct priority order in life and illustrate the human goal	K1, K3
CO ₃	Understand that the relationships are definite.	K2
CO ₄	Understand the Interconnectedness between all the orders in existence.	K2

Course Content (for semester 1)	Hours
Module-I: Academic success, Career success and Life success and Living domain of Human	6+2 hrs.
<ul style="list-style-type: none"> • Role of sustainable development goals (SDG) in life • To understand academic success (marks) • To understand career success (recognition & position) • To understand life success (balance & contentment) • To understand ultimate goal of human being • Difference between happiness and excitement • Right Understanding (RU), Relationship (R), Physical Facility (PF) with right priority • How our choices are affected by RU, R, PF • On the basis of needs and activities understand the human being <p>Expected SDG covered: SDG 1- No Poverty SDG 4 – Quality Education</p> 	





Module-II: Understanding Values (MULYA)	7 hrs.
<ul style="list-style-type: none"> • Understanding the Right Evaluation • What is the current basis of Differentiation. • Understanding the expectations in 7 relationships <ol style="list-style-type: none"> 1. Mother-Father/Son-Daughter 2. Husband-Wife 3. Brother-Sister 4. Friend-Friend 5. Teacher-Student 6. Colleague-Coworker 7. Societal <p>Expected SDG covered: SDG 5 –Gender Equality SDG 16 –Peace & Justice</p>	
Course Content (for semester 2)	Hours
Module III: Human to Human Relationship and Universal Values	4 hrs.
<ul style="list-style-type: none"> • To understand the Harmony in Family • Relationship is one self to other self • Sambandh and Sambhodan • Sthapit Mulya & Shisht Mulya in relationship <p>Expected SDG covered: SDG 11 –Sustainable cities and communities</p>	
Module IV: Comprehensive Human Goal	6 hrs.
<ul style="list-style-type: none"> • Understanding (Gyan), Wisdom (Vivek), Science (Vigyan) • Human Goal (Samadhan, Samrudhhi, Abhay, Santulan) • Five dimensions to fulfill human goal <ul style="list-style-type: none"> • Shiksha-Sanskar (Education-Inculcation) • Nyay-Suraksha (Justice-Protection) • Utpadan-Karya (Production-Work) 	



 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

<ul style="list-style-type: none"> • Vinimay-Kosh (Exchange-Storage) • Swasthya-Sanyam (Health-Self regulation) <p>Expected SDG covered: SDG 2 –Zero Hunger SDG 3 –Good Health & Well Being</p>	
Module V: Harmony in Nature and Existence and Ethical human conduct	5 hrs.
<ul style="list-style-type: none"> • The four orders in nature • Interconnectedness and mutual fulfillment • Introduction to space • Definitiveness of ethical human conduct • Values (Mulya) • Policy (Niti) <p>Expected SDG covered: SDG 13 –Climate Action SDG 14 –Life below water SDG 15 –Life on land</p>	

Text books

- R.R Gaur, R Sangal, G P Bagaria, “A foundation course in Human Values and professional Ethics”, 2009. – English Version

Reference books:

- Nagraj, “JivanaVidyāEkParichaya”, JivanaVidyāPrakāsana, India, 1998.
- Nagraj, “Vyavahārvādī. Samājshāstra”, JivanaVidyāPrakāsana, India, 1999.
- Nagraj, “ManavaVyavahāra Darsana”, JivanaVidyāPrakāsana, India, 2003.
- Nagraj, “SanchetnavadiManovigyan”, JivanaVidyāPrakāsana, India
- Nagraj, “Vyavharatmak Janvad”, JivanaVidyāPrakāsana, India, 2009
- Nagraj, “Abhyas Darshan”, JivanaVidyāPrakāsana, India, 2004



- Michael J. Sandel (Harvard), What Money Can't Buy, 978-0-374-20303-0
- Dacher Keltner (UC Berkeley), Born to Be Good: The Science of a Meaningful Life. 978-0393065121
- Hegde BM (MD, FRCP, Padma Bhushan) – How to stay Healthy
- Marshall Rosenberg, (2005) Being Me, Loving You: A Practical Guide to Extraordinary Relationships: 978-1892005168

Pedagogic tools:

- Chalk and Talk
- Power point presentation
- Group Discussion
- Documentary/Videos
- Poster/Charts
- Student workbook
- Workshop 1 (beginning of semester 1) for students who have not learn that subject in UG Program, they have to attend 6-Day's crash workshop (4Hrs. /Day) and also submit the report to UHV Cell.
- Workshop 1 (beginning of semester 1) for students who have learn the subject in UG Program, they have to go attend 2-Day's refreshing workshop (4 Hrs. /Day) and also submit the report to UHV Cell.
- Workshop 2 (3-Days) for all the students of starting of semester 2 and they have to submit the workshop report to UHV Cell.

Suggested MOOCs

- <https://www.edx.org/course/the-science-of-happiness-3>

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	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Methods of assessing the course outcomes

Components of the course: 100 marks

Sr. No.	Component	Duration	Total weightage	Remarks
1	Experiential Assignments (Tutorials/Activity based learning/ Quiz, etc)	During the whole year	60%	i. Expressed ii. Partially Expressed iii. Did not Express
2	A1 workshop 1 report A2 activity 1 report B1 workshop 2 report B2 activity 2 report	During the whole year	40%	i. Excellent ii. Very good iii. Good iv. Satisfactory
3		Grand Total	100 %	3. Course completed (more than or equal to 40%) 4. Course not completed (less than 40%)



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 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Internship on Social Immersion

Internship-1 under Core enrichment component in Part II of curriculum for
UG and Integrated Programs

I. Internship Objectives

- Empathize and understand social issues and problems through first-hand experience.
- Learn to appreciate and respect different ways of thinking and living and there by transform perspective towards culture, society and life at large.
- Learn skills of collecting, organizing and interpreting data and information.
- Develop critical thinking and problem-solving abilities.
- Develop interpersonal skills and learn social and professional etiquette.
- Nurture an attitude of ‘giving back’ to society.

II. Internship Period

- Internship period will be minimum of 120 hours which includes 10 hours of preparatory work, 90 hours of actual engagement and 20 hours of post internship activities.
- Student has to carry out the internship during the allotted duration which will typically be of 1 month during the summer break after completion of semesters II (in three years UG programs) or semester IV (in four years UG and Integrated programs).
- Credit for the same will be awarded in the immediate next semester i.e. in semester III or semester V as applicable.

III. Internship Engagements

- Students are encouraged to engage with organizations and/or individuals that servers the objective of internship and helps to obtain real-life perspective regarding societal challenges.
- For example students can engage with NGO’s, Foundations, Social groups, CSR heads of various organizations, Charitable hospitals, Rehabilitation centers, Govt. / Rural schools, Gram Panchayat offices, Initiatives of Govt. on social welfare and rural development, leading change-makers and social activists, etc.

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	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

- Required duration of internship can be through single or maximum three different engagements.
- Students can engage in online internships as well as internships opportunities at the University provided these are in-line with the objectives of the internships. However, duration of such engagement should be limited to maximum of 60 hrs.
- Internship has to be planned as an individual activity and not as a group. However, more than one student can avail internship in the same organization.

IV. Internship Workflow

Stage 1: Planning

- Students will have to plan their internship with support and in-liaison with the Department Internship co-ordinator. The plan has to be submitted and get approved by the Department before completion of semester II or semester IV as applicable.
- Student will be assigned an internship supervisor from the Department.

Stage 2: Execution

- During internship student will stay in continuous communication with internship supervisor for necessary support and guidance.
- Every week, as per mutual convenience of student and supervisor, there will be presentation by the student on experience sharing and the progress of the internship. This presentation can be either online or offline. The same has to be documented in form of a progress diary.
- Internship supervisor will also communicate with the authority/individual under whose guidance the student in doing his/her internship. Supervisor may also make surprise visit.

Stage 3: Submission

- Students will have to submit an internship report that should include
 - Focus area and scope of internship
 - Reason for selecting
 - Work plan and activity schedule
 - Immersion Experience
 - Major activities carried out
 - Analysis of the data collected through survey



- Identifying the problem(s) and framing problem statement(s)
- Recommended solution and its technical, economic and operational feasibility
- Personal reflections about internship experience
- Conclusion
- Certificate of internship completion from the engaging organization / Individual (total hours of engagement during internship to be clearly specified in the certificate)
- Selected Photographs
- Report has to be submitted within three weeks from the commencement of next semester
- Final presentation and viva-voce at the department.

V. Internship Assessment Rubrics

S.No.	Criteria	Rubrics			Max. marks
1	Significance and possible impact of the internship	Low significant with low impact (0 - 5 marks)	Moderately significant with medium impact (6 - 10 marks)	Highly significant with high impact and large no. of beneficiaries (11 - 15 marks)	15
2	Association with organization / individual where internship is taken	Very less association (0 - 5 marks)	Fairly good association (6 - 10 marks)	High level of partnering (11 - 15 marks)	15
3	Exhibiting Execution skills	Low level of planning, poor involvement and regular reporting (0 -5 marks)	Average level of planning, fairly good involvement and regular reporting (6-10 marks)	High level of planning, good involvement and regular reporting (11-15 marks)	15
4	Inference developed through immersion activity	Unable to clearly infer the social issues and	Able to clearly infer the social issues and	Able to clearly	15





		possible solutions without a great deal of assistance (0 - 5 marks)	possible solutions with little assistance (6 - 10 marks)	infer the social issues and possible solutions with no assistance (11 - 15 marks)	
5	Documentation and find Report	Incomplete documentation and report (0 -5 marks)	Complete documentation and report but with average quality (6-10 marks)	Complete documentation and report with good quality (11-15 marks)	15
6	Presentation & Viva- Voce	Answered only some of the questions, with less clarity (0-8 marks)	Answered most of the questions correctly (9 -17 marks)	Answered all questions correctly and gave information much beyond the expectation.(18-25 marks)	25
Total Marks					100

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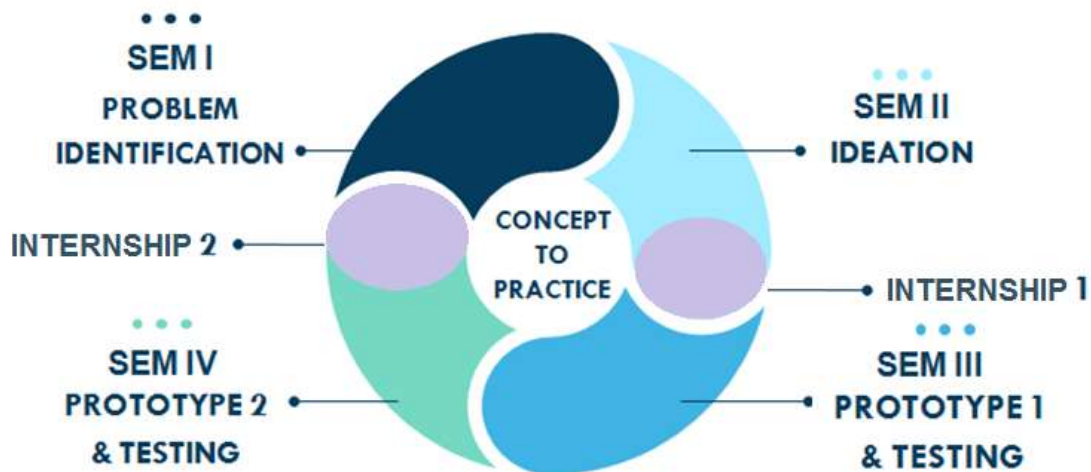
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Concept to Practice

Atmiya University's Concept to Practice course is a thoughtfully designed program aimed at equipping students with foundational ideas, methodologies, principles, and multidisciplinary skills critical across all disciplines. Across four semesters, this course fosters a holistic design experience, encouraging students to engage in activities ranging from problem identification, ideation, brainstorming, and mind mapping to prototype preparation and refinement through societal feedback. It emphasizes systematic problem-solving and promotes entrepreneurial, research, and innovation mindsets, ensuring active student involvement at every stage to prepare them for real-world challenges. Additionally, the course supports faculty members in guiding prototype development, validating feedback, and preparing impactful dissemination materials such as posters, leaflets, and research papers.



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	AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Semester - I

Course Description:

This Course on concept to practice is intended to introduce ideas, methodologies, principles, fundamentals and skills that comprise a common knowledge base important to all disciplines. These fundamentals will foster a multidisciplinary design experience among students and will prepare them to move to the next level. It will provide the students with foundation and fundamentals of skills in design. The course will benefit applicants who have little or no training or experience in art and design and who wish to begin formal education in this field.

Course Purpose:

Concept to practice enables organizations to create lasting value for consumers. The process is useful in any complex system it:

- Aims to solve concrete human needs.
- Tackles problems ambiguous or difficult to define
- Leads to more innovative solutions.

Course Outcomes: Upon completion of this course, the learner will be able to		
CO No.	CO Statement	Blooms taxonomy Level (K ₁ to K ₆)
CO ₁	Understand problem identification, formulation and solution.	K2
CO ₂	Design an engineering solution to complex problems.	K3
CO ₃	Communicate with the community at large in written and oral forms.	K3
CO ₄	Demonstrate a sound technical knowledge of their societal problems.	K2
CO ₅	Demonstrate the knowledge, skills, values and attitudes of professional graduates.	K3



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Course Content	Hours
Unit-I : Introduction to C2P	2 hrs
<ul style="list-style-type: none"> Introduction to C2P, sensitization with activity 	
Unit-II: Observation Canvas	3 hrs
Segregation of Fields & Teachers to the students observation canvas preparation	
Unit- III: Introduce the Empathy	4 hrs
<ul style="list-style-type: none"> Case Study for difference between sympathy & empathy activity 6: integration with stakeholder Empathy canvas preparation 	
Unit- IV: Problem Identification	3 hrs
<ul style="list-style-type: none"> Problem Identification Canvas preparation identification of 5 major problems 	
Unit- V: Sustainable development goals (SDG)	3 hrs
<ul style="list-style-type: none"> Introduction to SDG Map the problems with SDGs 	

Text books

1. Lockwood, T. (2010). *Design thinking: Integrating innovation, customer experience, and brand value*. Simon and Schuster.
2. Müller-Roterberg, C. (2021). *Design Thinking for Dummies*. HOEPLI EDITORE.

Reference books

1. Brown, T. (2008). Design thinking. *Harvard business review*, 86(6), 84.
2. Liedtka, J. (2018). Why design thinking works. *Harvard Business Review*, 96(5), 72-79.
3. Razzouk, R., & Shute, V. (2012). What is design thinking and why is it important? *Review of educational research*, 82(3), 330-348.

Methods of Assessment & Tools

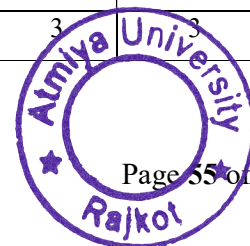
Components of CIE: 40 marks

Sr. No.	Component	Marks	Sub Total
A	Weekly Discussion	5	5
B	Participation in identification of societal problem	3	3

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**NAAC – Cycle – 1
AISHE: U-0967**

Criterion 3

R, I & E

KI 3.6

M 3.6.1

C	Canvas preparation including concept mapping and gap analysis	7	7
D	Report submission	5	5
Grand Total			20

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Semester - II

Course Description

This Course on concept to practice is intended to introduce ideas, methodologies, principles, fundamentals and skills that comprise a common knowledge base important to all disciplines. These fundamentals will foster a multidisciplinary design experience among students and will prepare them to move to the next level. It will provide the students with foundation and fundamentals of skills in design. The course will benefit applicants who have little or no training or experience in art and design and who wish to begin formal education in this field.

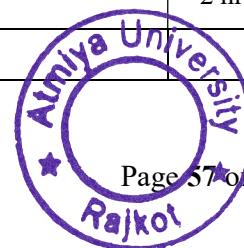
Course Purpose

Concept to practice enables organizations to create lasting value for consumers. The process is useful in any complex system it:

- Aims to solve concrete human needs.
- Tackles problems ambiguous or difficult to define
- Leads to more innovative solutions.

Course Outcomes: Upon completion of this course, the learner will be able to		
CO No.	CO Statement	Blooms taxonomy Level (K ₁ to K ₆)
CO ₁	Understand problem identification, formulation and solution.	K2
CO ₂	Design an engineering solution to complex problems.	K3
CO ₃	Communicate with the community at large in written and oral forms.	K3
CO ₄	Demonstrate a sound technical knowledge of their societal problems.	K2
CO ₅	Demonstrate the knowledge, skills, values and attitudes of professional graduates.	K3

Course Content	Hours
Unit-I : Gap analysis of five major problems	2 hrs
<ul style="list-style-type: none"> • Gap analysis of all five problems with all types of solutions 	





<ul style="list-style-type: none"> preparation of gap analysis canvas 	
Unit-II: ideation process	3 hrs
<ul style="list-style-type: none"> Detailed study of existing solutions of all five problems. Identify limitations in existing solutions and possibilities of improvement. 	
Unit- III: solution analysis	4 hrs
<ul style="list-style-type: none"> Identify any one problem among the five based on the gap analysis. 	
Unit- IV: Preparation of Solution	3 hrs
<ul style="list-style-type: none"> Gap analysis, study existing solutions and possible solutions for that one problem. 	
Unit- V: Discussion on possible solutions.	3 hrs
<ul style="list-style-type: none"> Discussion internally with faculty members/industry personnel/stakeholder on possible solutions. 	

Text books

- Von Thienen, J. P., Clancey, W. J., Corazza, G. E., & Meinel, C. (2018). Theoretical foundations of design thinking. In *Design thinking research* (pp. 13-40). Springer, Cham.

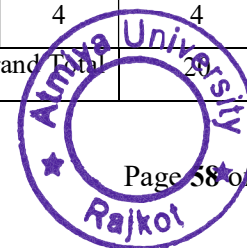
Reference books

- Lupica, L. R., Franklin, T. A., & Friedman, S. M. (2017). The Apps for Justice Project: Employing Design Thinking to Narrow the Access to Justice Gap. *Fordham Urb. LJ*, 44, 1363. Kummitha, R. K. R. (2019).
- Design thinking in social organizations: Understanding the role of user engagement. *Creativity and innovation management*, 28(1), 101-112.

Methods of Assessment & Tools

Components of CIE: 20 marks

Sr. No.	Component	Marks	Sub Total
A	Gap Analysis	4	4
B	Ideation	4	4
C	Solution analysis	4	4
D	Presentation of solution	4	4
E	Report submission	4	4
Grand Total			20



 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Semester – III

Course Description:

This Course on concept to practice is intended to introduce ideas, methodologies, principles, fundamentals and skills that comprise a common knowledge base important to all disciplines. These fundamentals will foster a multidisciplinary design experience among students and will prepare them to move to the next level. It will provide the students with foundation and fundamentals of skills in design. The course will benefit applicants who have little or no training or experience in art and design and who wish to begin formal education in this field.

Course Purpose:

Concept to practice enables organizations to create lasting value for consumers. The process is useful in any complex system it:

- Aims to solve concrete human needs.
- Tackles problems ambiguous or difficult to define
- Leads to more innovative solutions.

Course Outcomes: Upon completion of this course, the learner will be able to		
CO No.	CO Statement	Blooms taxonomy Level (K ₁ to K ₆)
CO ₁	Understand problem identification, formulation and solution.	K2
CO ₂	Design an engineering solution to complex problems.	K3
CO ₃	Communicate with the community at large in written and oral forms.	K3
CO ₄	Demonstrate a sound technical knowledge of their societal problems.	K2
CO ₅	Demonstrate the knowledge, skills, values and attitudes of professional graduates.	K3





Course Content	Hours
Unit-I : Prototype 1(Fundamental) preparation	2 hrs
<ul style="list-style-type: none"> · From problems selected in semester 2, they will develop prototype 1 (rough) by visiting the solution provider. · Prototype 1 must be of fundamental type. · Evaluate the prototype 1 based on various parameters (e.g. ergonomics, technology, cost, aesthetics, eco friendly, usefulness, customer friendly etc.) 	
Unit-II: Evaluation of Prototype 1	3 hrs
<ul style="list-style-type: none"> · Evaluation of Prototype based on ergonomics · Evaluation of Prototype based on technology · Evaluation of Prototype based on aesthetic 	
Unit- III: Evaluation of Prototype 1	4 hrs
<ul style="list-style-type: none"> · Evaluation of Prototype based on eco friendly · Evaluation of Prototype based on usefulness · Evaluation of Prototype based on customer friendly 	
Unit- IV: Internal presentation of prototype 1	3 hrs
<ul style="list-style-type: none"> · Evaluation of prototype 1 by internal and interdisciplinary faculty members by presentation / exhibition · Re evaluate the prototype 1 based on feedback from faculty members 	
Unit- V: Reevaluation of prototype 1	3 hrs
<ul style="list-style-type: none"> · Visit the society · Identify difference between your solution & industries/ service provider · Comparison of both the solutions & resolve the shortfalls · Feedbacks of industries/ service provider 	

Text books:

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- Von Thienen, J. P., Clancey, W. J., Corazza, G. E., & Meinel, C. (2018). Theoretical foundations of design thinking. In *Design thinking research* (pp. 13-40). Springer, Cham.

Reference books:

- Lupica, L. R., Franklin, T. A., & Friedman, S. M. (2017). The Apps for Justice Project: Employing Design Thinking to Narrow the Access to Justice Gap. *Fordham Urb. LJ*, 44, 1363.
- Kummitha, R. K. R. (2019). Design thinking in social organizations: Understanding the role of user engagement. *Creativity and innovation management*, 28(1), 101-112

Pedagogic tools:

- Power point presentation
- Videos
- Chalk and Talk

Methods of Assessment & Tools:

Components of CIE: 20 marks

Sr. No.	Component	Marks	Sub Total
A	Prototype 1 preparation	4	4
B	Prototype evaluation based on ergonomics, technology, aesthetic	4	4
C	Prototype evaluation based on eco friendly, usefulness, customer friendly	4	4
D	Presentation of prototype 1	4	4
E	Comparison of prototype	4	4
Grand Total			20

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 ATMIYA UNIVERSITY	NAAC – Cycle – 1 AISHE: U-0967	
	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

Semester – IV

Course Description:

This Course on concept to practice is intended to introduce ideas, methodologies, principles, fundamentals and skills that comprise a common knowledge base important to all disciplines. These fundamentals will foster a multidisciplinary design experience among students and will prepare them to move to the next level. It will provide the students with foundation and fundamentals of skills in design. The course will benefit applicants who have little or no training or experience in art and design and who wish to begin formal education in this field.

Course Purpose:

Concept to practice enables organizations to create lasting value for consumers. The process is useful in any complex system it:

- Aims to solve concrete human needs.
- Tackles problems ambiguous or difficult to define
- Leads to more innovative solutions.

Course Outcomes: Upon completion of this course, the learner will be able to		
CO No.	CO Statement	Blooms taxonomy Level (K₁ to K₆)
CO ₁	Understand problem identification, formulation and solution.	K2
CO ₂	Design an engineering solution to complex problems.	K3
CO ₃	Communicate with the community at large in written an oral forms.	K3
CO ₄	Demonstrate a sound technical knowledge of their societal problems.	K2
CO ₅	Demonstrate the knowledge, skills, values and attitudes of professional graduates.	K3





Course Content	Hours
Unit-I : Preparation of Improved Prototype 2 from prototype 1	2 hrs
· Collection of feedback from society and service provider for preparation of improved prototype 2	
Unit-II: prototype modification	3 hrs
· Prototype 1 Modification based on the feedback from society and service provider	
Unit- III: testing & validation	4 hrs
· Prototype testing with different methods · redesign prototype testing(design modification) · feature prototype testing (feature modification) · function prototype testing(function modification) · Prototype Validation using Business model canvas (BMC)	
Unit- IV: Prototype feedback	3 hrs
· Preparation of questionnaire for taking feedback · collect feedback from faculty members, peers & society	
Unit- V: Documentation for dissemination	3 hrs
· Prepare a report of activity from problem identification to prototype preparation. · Preparation of 3 fold folder/leaflet/handbill for dissemination & distribution among society during community engagement	

Text books:

1. Machida, H., & Kurachi, N. (1990). Prototype design and testing of the half toroidal CVT. In *International Congress and Exposition..*

Reference books:

1. Bland, D. J., & Osterwalder, A. (2019). *Testing business ideas: A field guide for rapid experimentation.* John Wiley & Sons.
2. Engel, A. (2010). *Verification, validation, and testing of engineered systems* (Vol. 73). John Wiley & Sons.

Pedagogic tools:

- Chalk and Talk



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	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

- Power point presentation
- Videos

Methods of Assessment & Tools:

Components of CIE: 20 marks

Sr. No.	Component	Marks	Sub Total
A	Prototype 2 preparation	5	5
B	Presentation of prototype 2	5	5
C	Report preparation	5	5
D	3 fold foler/leaflet	5	5
Grand Total			20



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	Criterion 3	R, I & E
	KI 3.6	M 3.6.1

**Assessment norms & Guidelines for the courses unique to
B.Sc. Microbiology Programme**

I. Assessment Scheme for Microbiology Outreach activity - 100 Marks

The Microbiology Outreach activity will be offered to **undergraduate** students in **fourth semester**. The students will develop an idea / recognize a societal problem and suggest the remedy to solve it. It can be a product/process/concept or suggestions useful in the fields of environment, agriculture, health, hygiene, industry and economy. The student can present the work and demonstrate it through poster / model / video / animation or any other way. Student has to submit an hand written write up suggest by the guide / mentor. Student will be evaluated by the guide / mentor teacher for following criteria.

Continuous Internal Evaluation in Semester IV						
Evaluation	Poster / model / video / animation content presentation in society	Presentation skill	Defense / Interaction / Question and answer	Write up	Attendance	Total
Marks	20 marks	20 marks	20 marks	20 marks	20 marks	100 marks



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