



Evidence(s)



THE-Impact Ranking

University : Sri Sri University

Country : India

Web Address: www.srisriuniversity.edu.in

SDG17: PARTNERSHIP FOR THE GOALS

17.4.1 Education for SDGs commitment to meaningful education

Description

At Sri Sri University, our commitment to meaningful education and sustainability is deeply embedded in our academic structure and teaching practices. The university is home to 9 departments offering a total of 55 diverse courses, each designed to incorporate topics related to Environmental Science and the United Nations' Sustainable Development Goals (SDGs). This ensures that students are equipped with the knowledge and skills to tackle global challenges and contribute meaningfully to society.

In the B.Tech program, we have taken a step further by introducing a dedicated credit course on SDGs as a compulsory subject for all first-year students. This initiative ensures that every student starts their academic journey with a strong understanding of sustainability, its importance, and its practical applications across various fields.

Moreover, all our courses are carefully mapped to program outcomes and SDG targets, creating a seamless connection between what students learn and how it contributes to broader societal goals. This mapping ensures that our curriculum not only meets academic standards but also aligns with global efforts to achieve a better, more sustainable future.

To provide clear evidence of our efforts, we have included screenshots of SDG-focused courses and their mapping to program outcomes in **Plate 1** and **Plate 2**. These visuals highlight how sustainability principles are integrated into our academic offerings, reflecting SSU's dedication to preparing socially responsible, environmentally conscious, and globally aware graduates

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B.Tech. CSE (Specialization in AIML)					
1 st Year					
Course code	Semester – 1	L	T	P	Cr
Major Courses					
TCS101	Computational Thinking and Problem Solving for Software Development using 'C' (IBM)	2	0	0	2
TCS102	Computational Thinking and Problem Solving for Software Development using 'C' Lab.	0	0	1	1
TEC101	Basic Electronics	2	0	0	2
TEC102	Basic Electronics lab	0	0	1	1
TCS103	Python Programming (IBM)	3	0	0	3
TCS104	Python Programming Lab. (IBM)	0	0	1	1
Minor Courses					
TMN101	Ex. Enterpenureship Development	3	0	0	3
TMN102	Ex. Enterpenureship Development	0	0	1	1
Multidisciplinary Courses					
MAT103	Engineering Mathematics-1 (Differencial calculus)	2	0	0	2
MAT104	Engineering Mathematics-1 Lab.	0	0	1	1
PHY109	Engineering Physics	2	0	0	2
PHY110	Engineering Physics Lab.	0	0	1	1
Ability Enhancement course					
TAE101	Experiential soft competency - 1	1	0	0	1
TAE102	Experiential soft competency - 1 Lab.	0	0	1	1
Skill Enhancement course					
TSE101	Ex- Solar panel technician	2	0	0	2
TSE102	Ex- Solar panel technician Lab.	0	0	1	1
Value Added course					
UHPC101	Happiness Connect program	0	0	2	2
TVA101	Sustainable Development Goal	0	0	1	1
General Proficiency					
TGP101	General proficiency-I	0	0	0	1




Plate 1: SDG course in the curriculum

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4. Develop practical skills in designing, simulating, and troubleshooting both digital and analog electronic circuits.

Course Outcomes:

1. Demonstrate proficiency in analyzing and solving basic electronic circuits using fundamental laws and techniques.
2. Design and analyze electronic circuits employing passive components, semiconductor devices, and operational amplifiers.
3. Apply knowledge of semiconductor devices to construct and analyze common electronic circuits and systems.
4. Design and implement both digital and analog electronic circuits for various applications.

Unit 1: Physics of semiconductor 7 hr

Introduction to Semiconductors: Overview of semiconductor materials, their importance in electronics, and basic properties. **Crystal Structure:** Discussion of crystal structures in semiconductors, including the diamond and zinc-blende structures, and their impact on electronic properties. **Energy Bands:** Explanation of energy bands in solids, including valence and conduction bands, and the band gap between them in semiconductors.

Unit 2: Semiconductor Devices 6hr

Semiconductor Diodes: Diode characteristics and applications, Rectifiers, clippers, clampers
Bipolar Junction Transistors (BJTs): BJT operation, configurations, Biasing techniques, amplifiers;
Field-Effect Transistors (FETs) : FET operation, characteristics, FET biasing, amplifiers, applications

Unit 3: Digital Electronics 8 hr

Number Systems and Binary Codes: Binary, octal, hexadecimal number systems, Binary arithmetic, binary codes, **Logic Gates and Boolean Algebra:** Basic logic gates: AND, OR, NOT gates, Universal gates, De Morgan's theorem, Boolean algebra: laws and theorems
Combinational and Sequential Circuits: Adders, multiplexers, decoders, Flip-flops, counters, registers, State diagrams, state tables

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B.Tech. in ELECTRONICS AND COMMUNICATION ENGINEERING (SPECIALIZATION: VLSI & CHIP DESIGN)-1st semester

Unit 4: Analog Electronics (8 hr)

Operational Amplifiers (Op-Amps) : Ideal op-amp characteristics, Op-amp configurations: inverting, non-inverting, summing , **Op-Amp Applications :** Integrators, differentiators, voltage followers, Active filters: low-pass, high-pass, band-pass filters, **Feedback and Stability:** Feedback concepts: negative and positive feedback, Stability criteria for op-amp circuits

Book References:

1. Boylestad, R.L., Nashelsky, L. (2014). "Electronic Devices and Circuit Theory." Pearson
2. Sedra, A.S., Smith, K.C. (2014). "Microelectronic Circuits." Oxford University Press.
3. Floyd, T.L. (2014). "Electronic Devices: Conventional Current Version." Pearson
4. Malvino, A.P., Bates, J.A. (2006). "Electronic Principles." McGraw-Hill Education
5. Streetman, B.G., Banerjee, S. (2015). "Solid State Electronic Devices." Pearson
6. Roth, C.H. (2016). "Fundamentals of Logic Design." Cengage Learning.

PO-CO Mapping															
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	2	1		1		2				1		
CO2	2	1	2	1	3		1						2		
CO3	1		2		2				2				3		
CO4	2	1		3	1		2		1				3		

APPROVED IN:

BOS :

SDG 9: Industry, Innovation, and Infrastructure: This goal aims to build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. Basic electronics engineering plays a crucial role in advancing technological innovation, developing efficient infrastructure, and promoting sustainable industrial practices



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Summary

At SSU, sustainability and meaningful education are central to our academics. With 9 departments and 55 courses, every program incorporates Environmental Science and Sustainable Development Goals (SDGs), equipping students to address global challenges. In the B.Tech program, a compulsory first-year credit course on SDGs ensures students gain a strong foundation in sustainability. All courses are mapped to program outcomes and SDG targets, aligning academic goals with global priorities. Screenshots showcasing SDG-focused courses and their mapping are provided in **Plate 1** and **Plate 2**, highlighting SSU's dedication to producing socially responsible and sustainability-conscious graduates.