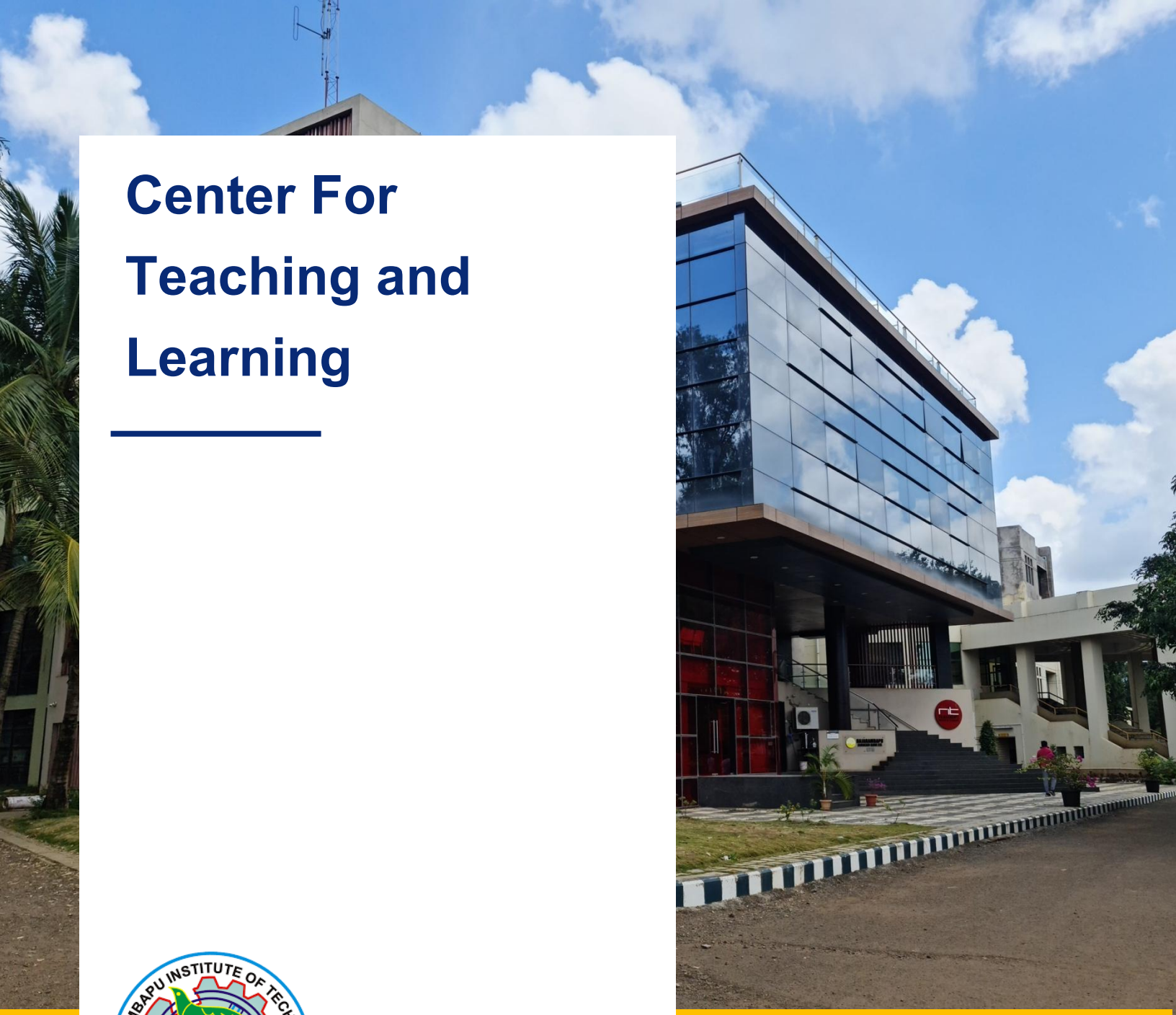


Center For Teaching and Learning

www.ritindia.edu

Rajarambapu Institute of Technology
Rajaramnagar, Sakhrale

Table of Content

Introduction

CTL stands for Center for Teaching and Learning. CTL helps to improvise student learning, instructional methodology & student engagement and quality course designing and eLearning as well as enhances innovation in teaching - learning process. Faculties write blogs to share the new teaching methodologies and their findings. Students can access the videos uploaded by faculties to enhance the learning process. Along with this, CTL also provides services to other institutes to prepare for NBA, NAAC, Autonomy and to enhance their teaching and learning methods.

What we do at CTL

We tutor students Although many teaching principles and practices can be conveyed through workshops and articles, there is no substitute for individual discussion with a CTL staff member about one's teaching style, classroom goals, and interaction with faculty, teaching fellows and students. The CTL routinely assists members of the RIT community with course design, section planning, effective use of technology, assignment development, mid-semester classroom observations and feedback, interpreting student evaluations, and addressing challenges in the classroom.

Goals of CTL

- **Student Learning:** Design, implement, reflect, and revise learning-cantered curriculum and instructional practices.
- **Instructional Methodology & Student Engagement:** Improve student engagement and student academic development through communities of practice.
- **Quality Course Design/eLearning:** Improve online success rates through quality course design practices and eLearning tools for engaged teaching and learning.
- **Changing Nature of "Professoriate":** Build an ongoing sense of inquiry through the scholarship of teaching and learning to refine and improve academic excellence and student learning.
- **Innovation:** Improve professional practice by exploring proven and promising practices that leverage technology to improve student learning.

- **Cultural & Global Perspective:** Integrate intercultural knowledge and competence into daily practice.

Services of CTL

- Mentor RIT & other institute's teaching community to Design, implement, reflect, and revise learning-centered curriculum & instructional practices
- Devising Vision and Mission of the Institute
- Guide the institutes to enhance and implement the standard academic practices to improve the quality of higher education
- Provide consultancy to other Engineering Institutes to prepare for NBA, NAAC, Autonomy and enhance their teaching and learning methods
- Implementation of Outcome Based Education
- Implementation of ICT using MOODLE

Implementation of Outcome Based Education

OBE is a comprehensive approach to organizing and operating a curriculum that is focused on – and defined by – the successful demonstrations of learning sought from each learner. The term clearly means focusing and organizing everything in an education system around "what is essential for all learners to be able to do successfully at the end of their learning experiences" OBE ultimately implies emerging with a vivid idea of what is important for learners to be able to do (determining the outcomes), thereafter developing the programs for learning, implementing it and assessing the learner on a continuous basis to ensure that learning has ultimately taken place. The outcomes-based approach to education requires:

- Developing a clear set of outcomes organized into the system's subjects
- Establishing conditions and opportunities within the system to enable
- Encourage learners to achieve these outcomes.

Guidance will be given in following aspects:

1. Devise Department Vision and Mission
2. Department Programme Educational Objectives (PEOs)

3. Programme Curriculum and Teaching Learning Process
4. Teaching, Learning Process Course Outcomes (COs) and Programme Outcomes (Pos)
5. CO to PO Mapping
6. Process of CO Attainment
7. Process for PO Attainment
8. Use of PO Attainment
9. Towards Improvement of Programme

CTL Blogs

We intend the blog to be an active way for members of the RIT community to discuss ideas, experiences, innovations, adventures, challenges, and research about teaching and learning. The audience for the blog is the RIT teaching community, but the blog will be publicly accessible from the CTL homepage. We invite members of the RIT teaching and learning community (faculty, staff, graduate students, and undergraduates) to submit potential blog posts. If you are interested in contributing, please read the guidelines below and complete the Idea Submission form.

Blog Post Guidelines Focus Contemporary teaching and learning topics. Successful blog posts will do one or more of the following things:

- Offer ideas & innovations
- Refer to one or two resources
- Make sense to readers in a range of disciplines and departments
- Talk about the writer's experience as an instructor or student or both
- Consider instructive failures

We invite posts that present a compelling case or invite readers to consider a topic from a new angle. However, we encourage our writers to keep it casual and to remember that people from many different backgrounds and disciplines may read your post. Avoid the use of disciplinary jargon or dense theoretical material. We encourage humour and the use of metaphors to draw connections.

Suggested topics Interviews (asking questions), mini-case studies, response to an article, a reflective piece, or something else.

- Active learning
- Balancing teaching and research
- Best practices
- Inclusive teaching
- Hybrid or online courses
- Team or collaborative teaching
- Working with Multilingual students

Innovative Practice League(IPL)

To motivate faculties to explore, utilize and showcase modern teaching tools, we at CTL organize Innovative Practice League.

Innovative Practice League (IPL 2018)

- To create interest and awareness of best and innovative teaching learning tools, we organized a league among faculty members in the month of May, 2018.
- Name given to this competition was Innovative Practice League (IPL). In this competition faculties presented their innovative teaching tools.

IPL-2018, Three awards were given to best performances.

Innovative Practice League (IPL 2019)

- To motivate faculties and showcase the new innovating teaching methods, IPL 2019 was organised in the month of May.
- Two faculties from each of the departments participated and showcased their innovative teaching methods in this competition.

IPL-2019, Three awards were given to best performances.

Participants of the Innovative Practice League 2019 – 2020.

Teaching Resources

MOODLE Usage:

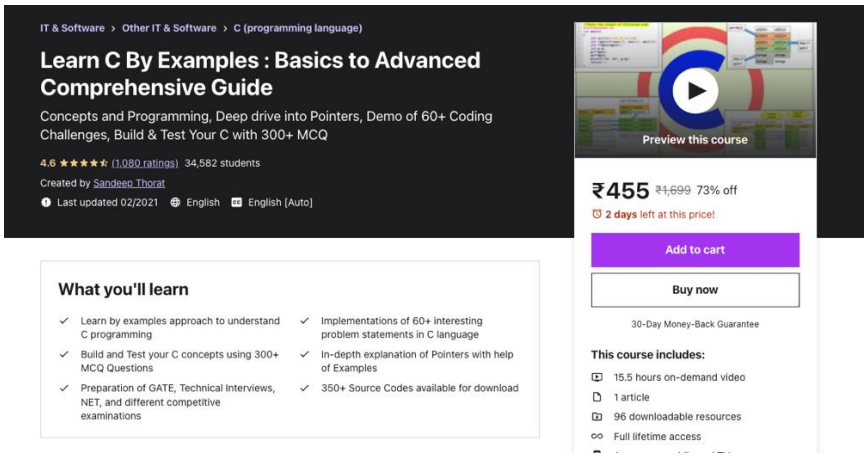
This is a modern approach to education, in which the information technology emerges as an intermediary in contacts between trainers and users who are not in the same place at the same time. Use of Moodle has improved learning of students. Faculties can utilize this tool to share the resources, and they can make use of this tool as an active learning tool.

E-learning

Curriculum of final year B.Tech involves online courses. Students do the online courses on various platforms like NPTEL, UDEMY etc. Two RIT faculties have designed online courses on Udemy platform

- **Build and test C programming skills-Udemy**

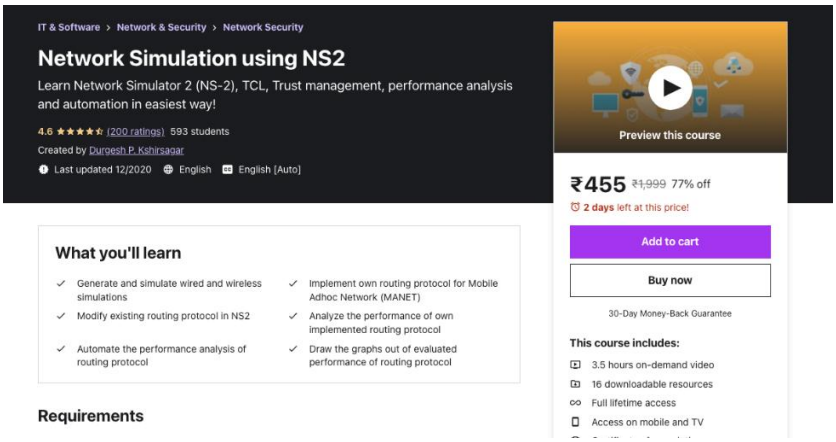
  Dr. Sandip A. Thorat is working as an Associate Professor in department of Computer Science & Engineering. His area of interest are network security and Machine Learning.



Learn C By Examples Udemy Course

- **Network simulation using NS2-Udemy**

  Prof. Durgesh P. Kshirsagar is working as an Assistant Professor in department of Computer Science & Engineering. His area of intrest are network security and Machine Learning.



Network Simulation using NS2 Udemy course

Workshops conducted under CTL 2018-2019:

Sr. No.	Title of workshop	Department	Intended audience	Date	Count of attendees
1	Innovative Practice League (IPL)	Team CTL	Faculties	14th May, 2018	16
2	Strengthening Academics Activities using OBE	Team CTL	Faculties	27th – 29th June, 2018	150
3	Clicker Software Demonstration	CSE	Faculties	19th September, 2018	150
4	Technical Documentation using LaTeX	CSE	PG Faculties	26th October, 2018	62
5	Electric and Hybrid Electric Vehicle Technology	Automobile	External Faculties/Students	5th – 19th December, 2018	13
6	Programming Techniques for Hardware Interface and Application Design with MATLAB and PYTHON	ETC	External Faculties/Students	10th - 21st December, 2018	8
7	Valuation of Immovable Properties	Civil	External Faculties/Students	10th – 22nd December, 2018	16
8	3D CAD modeling and Drafting with CATIA	Mechanical	External Faculties/Students	15th – 17th December, 2018	33
9	Computational Fluid Dynamics ICEM-Ansys-Fluent	Mechanical	External Faculties/Students	18th – 19th December, 2018	5
10	Technical Documentation using LaTeX	CSE	External Faculties	8th February, 2019	30
11	Research Data Analysis and Technical Report Writing	Team CTL	M. Tech Students	21st - 23rd March, 2019	100
12	IonCudos new features, Q & A	CSE	Faculties	15th May, 2019	155
13	Data Science Using Python	IT	External Faculties/Students	17th - 21st June, 2019	70
14	Analysis of Laminated Composite Structures	Automobile	Faculties	17th - 21st June, 2019	12
15	Arduino and Its Applications	Electrical	External Faculties/Students	29th – 30th June, 2019	22

Workshops conducted under CTL 2019-2020:

Sr. No.	Department	Workshop Title	Date to	Date from	Number of participants
1	Auto	Analysis of the Laminated Composite Structures	17th June, 2019	21st June, 2019	12
2	CSIT	Data Science using Python	17th June, 2019	21st June, 2019	71
3	Dean Academics	Outcome Based Education	28th June, 2019	29th June, 2019	87
4	Mechanical	Finite Element Analysis With Hypermesh	19th June, 2019	29th June, 2019	14
5	ETC	Embedded System Design	13th September, 2019	28th September, 2019	40
6	Dean Academics	Effective Teaching Learning and Outcome Based Education	4th November, 2019	8th November, 2019	61
7	CSE	Problem solving using C language	30th November, 2019	30th November, 2019	113
8	CSIT	Mobile Application Development using Android	9th December, 2019	13th December, 2019	67
9	Electrical	Implementation of advanced optimization techniques using MATLAB	23rd December, 2019	27rd December, 2019	12
10	Mechanical	Computational Fluid Dynamics ICEM -FLUENT	23rd December, 2019	2nd January 2020	15
11	Mechanical	One-Day workshop on Advanced Optimization Techniques	14th March, 2020	14th March, 2020	70
12	Auto	Vehicle Dynamics for Motorsport Vehicles	19th March, 2020	5th April, 2020	60
13	Auto	One Week Webinar Series for Motorsport Vehicle Teams	8th April, 2020	14th April, 2020	528
14	Auto	Seven days Webinar Series for Motorsport Vehicle Teams	22nd April, 2020	29th April, 2020	355
15	Auto	One Day Awareness Program on Electric Vehicles	23rd April, 2020	23rd April, 2020	450
16	Auto	Global oPIP on Electric Vehicles	24th April, 2020	29th April, 2020	435
17	Auto	Five Days Webinar Series on Design & Development of UAVs	30th April, 2020	4th May, 2020	1000
18	Auto	Global oPIP on Vehicle Dynamics & Control	12th May, 2020	17th May, 2020	350

Sr. No.	Department	Workshop Title	Date to	Date from	Number of participants
19	Auto	Four Days Webinar Series on 3D Printing	6th May, 2020	9th May, 2020	400
20	Auto	Five Days Webinar Series on CAE Driven Product Design	23rd May, 2020	27th May, 2020	235
21	Auto	Five Days Webinar Series on Soft Skills, Interpersonal Skills and Laboratory Documentation for NBA Accreditation	26th May, 2020	30th May, 2020	180
22	Electrical	Power System Optimization Using GAMS	11th May, 2020	16th May, 2020	59
23	CSIT	Introduction to Python Programming	15th May, 2020	16th May, 2020	35
24	Mechanical	Funding Opportunities for Engineering Teachers & Technical Paper Writing	15th June, 2020	19th June, 2020	260
25	CSIT	Recent IT Technologies, Writing Papers and Funding Proposals	20th June, 2020	24th June, 2020	171
26	Mechanical	Enhancing Research and Consultancy Skills	22nd June, 2020	26th June, 2020	230

Workshops conducted under CTL 2020-2021:

Sr. No.	Department	Workshop Title	Date to	Date from	Number of participants
1	Academics (CTL)	Forming Positive Mindset	10th June, 2020	10th June, 2020	200
2	Mechanical	Funding Opportunities for Engineering Teachers & Technical Paper Writing	15th June, 2020	19th June, 2020	260
3	CSIT	Recent IT Technologies, Writing Papers and Funding Proposals	20th June, 2020	24th June, 2020	171
4	Mechanical	Enhancing Research and Consultancy Skills	22nd June, 2020	26th June, 2020	230
5	CSIT	Recent Project Development Practices in IT Industry	26th June, 2020	30th June, 2020	130
6	Academics (CTL)	Effective Conduction of Online Lectures Using ICT Tools	6th July, 2020	10th July, 2020	200
7	CSIT	Programming in Python	20th July, 2020	24th July, 2020	45
8	Mechanical	Advanced CFD for Industrial Applications	15th December, 2020	25th December, 2020	106
9	ETC	Design and simulation of Antenna in HFSS	29th June, 2020	30th June, 2020	39
10	Automobile	Automotive Dealership	29th April, 2021	30th April, 2021	40
11	Academics (CTL)	Technical documentation using LaTex Software	26th April, 2021	28th April, 2021	50

Workshops conducted under CTL 2021-22:

Sr. No.	Department	Workshop Title	Date to	Date from	Number of participants
1	Electrical Engineering	Emerging Trends in Electric Vehicles and Infrastructure Development	12-07-2021	12-07-2021	129
2	Mechanical Engineering	Applications of Artificial Intelligence (AI) in Mechanical Engineering	12-07-2021	16-07-2021	47
3	Electrical Engineering	Restructured Power System: Operation and Planning	23-08-2021	28-08-2021	52
4	Mechanical Engineering	Emerging Optimization Techniques for Engineering Applications	27-09-2021	01-10-2021	105
5	Automobile Engineering	ASME Geometric Dimensions and Tolerances	26-02-2022	26-02-2022	52
6	Computer Science & Engineering	Technical Documentation using LaTex Software	24-06-2022	25-06-2022	90

Workshops conducted under CTL 2022-23:

Sr. No.	Department	Activity/Workshop Title	Date to	Date from	Number of participants
1	Academic Section	Faculty Induction Program	9th December 2022	10th December 2022	55
2	Information Technology	Programming in C	12th September 2022	16th September 2022	60
3	Mechanical Engineering	Python for Mechanical Engineers: First Step towards ML	13th January 2023	14th January 2023	64
4	Information Technology	Full Stack Development	9th March 2023	18th March 2023	74
5	Academics Section	National Education Policy 2020 (NEP2020)	11th March 2023	11th March 20 2023	150

Workshops conducted under CTL 2023-24:

Sr. No.	Name of Workshop/Training	Department	Duration
1	Scientific Programming using Python	Computer Science and Engineering (AI&ML)	2 Days 24-25 Nov. 23
2	Webpage Template Designing	Computer Science and Engineering (AI&ML)	2 Days 1 – 2 March 24
3	C Programming: Basic to Advanced	Computer Science and Engineering	2 Days 23 March 24
4	Structured Query Language (SQL)	Electronics and Telecommunication	1 Day 20 April 24
5	React Js: Basic to Advance	Information Technology	2 Weeks 29 March to 6 April 24

Workshops conducted under CTL 2024-25:

Sr No	Name of Department	Name of Program/Workshop	Date of Conduction		No. of Participants
			From	To	
1	Electronics & Telecommunication Engineering	One Day Workshop on Circuit-Craft Explore Electronic components, circuits & application with Simulation Tool	03-08-2024	03-08-2024	71
2	MBA	"Scope Of Growth In EV Business & Career Opportunities For Management Graduates"	29-08-2024	29-08-2024	150
3	CSE(AI&ML)	Two Days workshop on Discovering Gen AI :from Basic to breakthroughs	07-10-2024	08-10-2024	84
4	CSE(AI&ML)	Faculty Skilling Program on Digital Twin	25-01-2025	25-01-2025	72