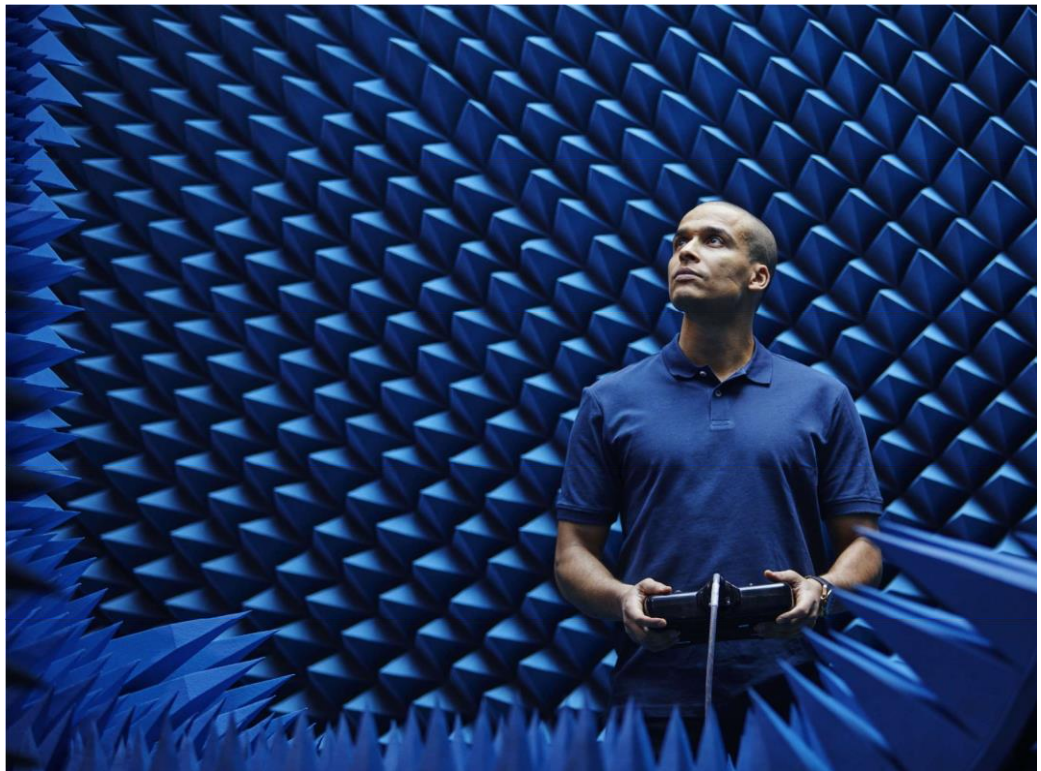


21st Century Technologies Curriculum Description

21st Century Technologies





1 The Challenge

It is essential to bridge the gap between the skills of IT workers and those sought by IT companies in order to address the rapidly changing skill requirements.

Technologies such as 5G and IoT offer the promise of new employment opportunities along with higher productivity gains, but also make new demands on skills. Digital skills are at the center of this change and have become a prerequisite for the future workforce.

To meet this need, Ericsson has developed a digital skills portal with content relating to modern technologies. The intention with this curriculum is to supplement university students' ongoing technical studies with courses that strengthen their ICT skills and increase their readiness for jobs in the Telecom and ICT sectors.

A set of selected subjects are covered at an introductory level including areas such as 5G networks, artificial intelligence and machine learning, automation, IoT, and telecommunications. This content is developed through Ericsson's 21st Century Technologies Program, which will be continuously populated with relevant topics and courses. The objective of this curriculum is to provide training on existing and emerging technologies in the Telecom and IT sector. Tailored for university students, the focus is on developing high quality talent for the Telecom and IT ecosystem by moving students beyond theoretical knowledge.

2 Target Audience

The intended target audience for this program in India:

- 2nd year and above students from the selected colleges based on the agreement signed between Ericsson and Telecom Centres of Excellence India.
- The course is also open to M-TECH, Post Grads, and Post Docs of these colleges.

3 Objectives

- Provide training on existing and emerging technologies in the Telecom and IT sectors.
- Bridge skill gaps by increasing job readiness in the Telecom and IT sectors.
- Supplement ongoing technical studies

4 Learning Outcomes

Students who complete the 21st Century Technologies curriculum will be able to:



- Describe major telecommunications technologies developed over the last 140 years.
- Define 5G and explain its history and evolution.
- Explain the key 5G requirements and standards.
- Describe the fundamentals of 5G RAN and CORE.
- Describe 5G use cases.
- Explain the major uses and impacts of automation, artificial intelligence, and machine learning technologies.
- Describe how AI is shaping telecommunication operations.
- Define common terms and definitions in the machine learning.
- Define IoT and explain how the technology developed.
- Explain the importance of connectivity in IoT.
- Describe the fundamentals of Cellular IoT.
- Explain the uses of IoT across industries.
- Discuss IoT technology and its potential for social good.

5 **Delivery Method**

Access to the 21st Century Technologies digital learning content is via an open portal with free access.

The students from the selected colleges need to register on the link shared by Ericsson India execution partner based on successful registration the student will get the unique link to complete the course.

5.1 **Telecommunications**

5.1.1 **Ericsson Technology Traveler**

Ericsson Tech Traveler is an interactive game for students with a technical background to develop a better understanding of telecommunications technologies and some of Ericsson's history over the last 140 years.

5.2 **Automation**

5.2.1 **Automation 101 & 201**

These courses aim to familiarize you with the basics of automation and what Ericsson is doing in this field. It will also give you some tips on how you can participate and learn more about automation.



5.3 A.I. & Machine Learning

5.3.1 How AI is Shaping Telecommunication Operations

This lecture shows at a global level how A.I. And machine learning is important for business. The examples here show ways to help solve the operational complexity in telecommunications and how to transform operations to a data driven approach.

5.3.2 What is Data Science?

Paul McLachlan, a lead Data scientist at Ericsson introduces common terms and definitions in the field including information about probability distribution & statistical significance.

5.3.3 Artificial Intelligence and Machine Learning

This lecture shows at a global level how A.I. And machine learning is important for business. The examples here show ways to help solve the operational complexity in telecommunications and how to transform operations to a data driven approach.

5.3.4 Open-source Reference Material

This document provides links to open-source information on A.I. and Machine Learning which will help to round out your knowledge in this technical overview.

5.4 5G & IoT

5.4.1 5G Fundamentals

This course aims to familiarize you with the basics of 5G and what Ericsson is doing in this field. It will also introduce you to the capabilities of 5G core and New Radio.

5.4.2 Ericsson Tech Traveler 5G

Ericsson Tech Traveler is an interactive game for students with a technical background to develop a better understanding of telecommunications technologies and some of Ericsson's history over the last 140 years.

5.4.3 Introduction to IoT

An Introduction to IoT looks at the history of IoT, what it is and the types of uses it will be put to as well as the technologies used to make this a reality.



6 Assessments

Ericsson Tech Traveler has assessments built into every mission within the game, which ensures the player has understood and absorbed the education content in addition to solving the in-game puzzles. To complete the game, you need to complete each assessment in the game.

There are four topic-specific additional assessments where the students are asked questions which are based on the learning content in the curriculum:

- Automation
- A.I & Machine Learning
- 5G
- IoT

Each assessment contains 10-12 multichoice questions with a pass mark of 80%. The assessments are designed to test the learners' comprehension of the learning material in the 21st Century Curriculum. The questions included cover the main learning outcomes of the curriculum.

Completing the game and the topic specific assessments are required to gain the Ericsson Educate 21st Century Technologies credential.

7 Digital Credential

Students who have enrolled and have completed the curriculum and passed the assessments will be awarded a digital credential which they can use to demonstrate their learning achievements.

Once the student receives this Digital Batch, they need to inform to execution team and confirm completion. Subsequently a letter of completion will be shared.

The 'Ericsson Educate: 21st Century Technologies' credential can be shared on LinkedIn and other digital platforms to help promote and amplify the participants own personal brands and resumes.

Credential programmes involving digital badges have been shown to help motivate continuous learning, increase course completion rates, and drive engagement.

Badges represent the successful completion of a program or course with a verifiable description of the specific knowledge, skills, and criteria required to earn the badge. Representing skills as a badge gives learners a way to share their abilities online in a way that is simple and trusted—and can be easily verified in real time.