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Statement of participation

Tithi Bose

has completed the free course including any mandatory tests for:

Digital communications

This 20-hour free course explained the technology that enables data to be transmitted along optical fibre at such high speed over such long distances.

Issue date: 26 January 2022

www.open.edu/openlearn

Please go to the course on OpenLearn for full details:
https://www.open.edu/openlearn/science-maths-technology/computing-ict/digital-communications/content-section-0

COURSE CODE: **T305_1**

Digital communications

Course summary

Optical-fibre communications became commercially viable in the 1970s and innovation continues today. This free course, Digital communications, will illustrate how very high data rates can be transmitted over long distances through optical fibres. You will learn how these fibres are linked, examine the technology used and assess the future direction of this continually developing area of communication.

Learning outcomes

By completing this course, the learner should be able to:

- convert between wavelengths and frequencies
- describe the main differences between lasers and LEDs as used as light sources for optical-fibre communications systems
- describe the difference between direct and external modulation of a laser
- describe the difference in structure and performance of step-index multimode, graded-index multimode and single-mode optical fibres
- draw up a power budget for an optical-fibre communication link and use it to estimate the maximum link distance.

Completed study

The learner has completed the following:

Section 1
Optical fibre communication: introduction

Section 2
Elements of an optical-fibre link

Section 3
Optical components

Section 4
Developments and future directions in optical-fibre communications

Section 5
Conclusion

Section 6
Appendices