

## Statement of participation

# Majid Hassan Mustafa

has completed the free course including any mandatory tests for:

### Cell signalling

This 12-hour free course explained the principles of signal transduction, and how even the simplest organism can respond to events in its environment.

**Issue date:** 30 May 2023



[www.open.edu/openlearn](https://www.open.edu/openlearn)

This statement does not imply the award of credit points nor the conferment of a University Qualification.  
This statement confirms that this free course and all mandatory tests were passed by the learner.

Please go to the course on OpenLearn for full details:

<https://www.open.edu/openlearn/science-maths-technology/cell-signalling/content-section-0>

COURSE CODE: **S377\_4**

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# Cell signalling

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<https://www.open.edu/openlearn/science-maths-technology/cell-signalling/content-section-0>

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## Course summary

This free course, Cell signalling, explains the general principles of signal transduction and specifically, how even the simplest organisms can detect and respond to events in their ever-changing environment.

## Learning outcomes

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

- define and use each of the terms printed in bold in the text
- understand the basic principles of signal transduction mechanisms, in particular the concepts of response specificity, signal amplitude and duration, signal integration and intracellular location
- give examples of different types of extracellular signals and receptors, and explain their functional significance
- describe the mechanisms by which different receptors may be activated by their respective ligands
- describe and give examples of the structure and properties of the major components of signal transduction pathways.

## Completed study

The learner has completed the following:

### Section 1

General principles of signal transduction

### Section 2

Receptors and their ligands

### Section 3

Intracellular signalling components

### Section 4

Glucose metabolism: an example of integration of signalling pathways

### Section 5

Conclusion