

## Statement of participation

# Majid Hassan Mustafa

has completed the free course including any mandatory tests for:

## General principles of cellular communication

This 8-hour course explained cell signalling pathways and identified some characteristics of signalling pathway components.

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### 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.



## General principles of cellular communication

https://www.open.edu/openlearn/science-maths-technology/general-principles-cellular-communication/content-section-0

#### **Course summary**

Learn about how cells sense and respond to extrinsic stimuli, a capacity that allows them to communicate with each other and to respond to changes in their environment. This free course, General principles of cellular communication, explains cell signalling pathways in general terms and identifies some of the universal characteristics of signalling pathway components.

#### Learning outcomes

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

- describe in general terms how extrinsic signals activate cell signalling pathways to elicit cellular responses
- describe how cell signalling processes facilitate quorum sensing in bacteria
- outline the diverse roles played by proteins in cellular communication and how various proteins can function together in a signalling pathway
- relate the activities and properties (including domain structure) of proteins to their roles in signalling.

#### **Completed study**

The learner has completed the following:

#### Section 1

Diversity and evolution of cell signalling pathways

#### Section 2

General principles of signalling pathways

#### **Section 3**

Proteins: major components of signalling pathways

#### Section 4

Conclusion