Commencing: Semester 1 or Semester 2
Location: St Lucia
Delivery Mode: Internal

postgraduate coursework programs in bioinformatics

With a worldwide shortage of bioinformaticians, the career opportunities for skilled bioinformatics graduates are extensive. At UQ, you can learn how bioinformatics is changing the way we interpret scientific data and make scientific discoveries.

This program is open to those with an undergraduate degree in science, or a degree in a discipline that is relevant to bioinformatics such as computing and mathematics.

If you have a four-year degree and have already been introduced to Bioinformatics, you may complete this program in two or three semesters.

Study bioinformatics and you will apply the power of computing to molecular biology.

By taking core courses in bioinformatics, you will learn how to analyse genes, their molecular products and model the systems they make.

You will also compare genetic material between species, monitor the expression of molecules in different cells and discover abnormalities that cause disease.

Postgraduate bioinformatics students learn the latest techniques for exploiting the Next Generation Sequencing technologies that now dominate clinical and life science research.

You will be offered the opportunity to solve real problems in genomics, proteomics, structural and systems biology, learn about using high-performance computers and dealing with vast data sets.

These opportunities are available in research laboratories at UQ, under the supervision of leading experts in bioinformatics and in a wide range of disciplines where it is applied, e.g. neuroscience, medicine and agriculture.

Choose UQ’s bioinformatics postgraduate programs to increase your technical and research skills in core areas of bioinformatics and update your knowledge of recent technologies and methodologies. The programs will prepare you to take on key roles when personal genomics rolls out to clinics.

UQ Advantage
Our bioinformatics graduates are in high demand due to their strong foundation in science and practical, interdisciplinary skills in computing, mathematics and biology.

www.uq.edu.au/study
Career opportunities
Postgraduate study in bioinformatics will prepare you for a highly rewarding career in an industry that’s shaping the future of modern science.

As it is a new and growing area, there is a world shortage of trained bioinformaticists and computational biologists. You can find employment in pharmaceutical and biotechnology companies, research organisations and governments in roles such as a:
• bioinformatician
• biomedical computer scientist
• biostatistician
• clinical data manager
• geneticist
• medical writer/technical writer
• research scientist
• software/database programmer.

Entry requirements
Graduate Certificate in Bioinformatics
Bachelor degree in science, information technology and fields of engineering or an approved discipline, with UQ or equivalent GPA of 4.5 or above on a 7 point scale; or 5 years work in the same discipline.

Master of Bioinformatics (#16)
Bachelor degree (Honours and/or 4 years of study) in science, information technology and fields of engineering, or a relevant field, incorporating a major research project or other significant research experience, with introductions to molecular biology, computer science and statistics. UQ or equivalent GPA of 5 or above on a 7 point scale.

Master of Bioinformatics (#24)
Bachelor degree in science, information technology and fields of engineering, with an introduction in one or more subjects relevant to the study of bioinformatics, including molecular biology, computer science and statistics. UQ or equivalent GPA of 5 or above on a 7 point scale.

Master of Bioinformatics Research Extensive (#24)
Bachelor degree (Honours and/or 4 years of study) in science, information technology and fields of engineering, or an approved relevant discipline, incorporating a major research project or other significant research experience, with introductions to molecular biology, computer science and statistics. UQ or equivalent GPA of 5 or above on a 7 point scale.

How to apply
Information about application procedures can be found at: www.future-students.uq.edu.au/apply

Program structure
Graduate Certificate in Bioinformatics
• 8 units (half year full-time or part-time equivalent)

Master of Bioinformatics
• 16 units (1 year full-time or part-time equivalent)
• 24 units (1.5 years full-time)

Master of Bioinformatics Research Extensive
• 24 units (1.5 years full-time)
• 32 units (2 years full-time or part-time equivalent)

Sample course list
• Advanced bioinformatics
• Advanced genome informatics
• Algorithms and data structures
• Data mining
• Computational biostatistics

“Ideol and Bioinformatics Research
Extensive (#32)
Bachelor degree in science, information technology and relevant fields of engineering or other relevant discipline with an introduction in one or more subjects relevant to the study of bioinformatics; or a Graduate Certificate or Graduate Diploma in Bioinformatics. UQ or equivalent GPA of 5 or above on a 7 point scale.

How to apply
Information about application procedures can be found at: www.future-students.uq.edu.au/apply

Program structure
Graduate Certificate in Bioinformatics
• 8 units (half year full-time or part-time equivalent)

Master of Bioinformatics
• 16 units (1 year full-time or part-time equivalent)
• 24 units (1.5 years full-time)

Master of Bioinformatics Research Extensive
• 24 units (1.5 years full-time)
• 32 units (2 years full-time or part-time equivalent)

Sample course list
• Advanced bioinformatics
• Advanced genome informatics
• Algorithms and data structures
• Data mining
• Computational biostatistics

“Master of Bioinformatics allowed me to combine my knowledge of genetics with a skill set that makes me employable anywhere in the world. The massive amount of data now available means that all biologists do some bioinformatics and I wanted to be a good at it.

I chose to study bioinformatics at UQ because it has great teachers, great resources and a great international reputation.

This qualification has ensured that I can find employment now while also leaving open the option to pursue an academic career later on.

During my studies I learnt to code and to work with large data sets. Many of the skills I acquired are directly applicable to my current position working with Next Generation Sequencing diagnostics.”

Liam McIntyre
Master of Bioinformatics graduate