

Multimedia Games Development

Bachelor of Information Technology and Systems

The Multimedia Games Development major is suited to people who enjoy playing computer games and have a creative streak coupled with a knack for logic.

It is designed to provide students with the ability to apply core knowledge of programming to game creation through a curriculum that emphasises game and interactive software development.

In addition, the units in this major will assist students in applying critical thinking, logic, communication, and problem solving skills in managing challenges that occur in the games development environment.

Students will also learn about multimedia, graphics and animation for professional game design and development.

Although this major requires some imagination and flair, students must also be good at logical thought and have a strong interest in programming.

Some of the topics covered include programming using C++, Java programming, techniques for implementing games, creating narrative in multimedia, artificial intelligence for gaming and 3D.

The major can be combined with minors in other information technology areas to enhance your career opportunities.

Career information

Students will graduate with a sound knowledge of games development programming, coupled with skills in the wider multimedia area.

They can look forward to a diverse range of careers in the games development industry, such as:

- Games engine/Tools programmer
- Graphics/Special effects programmer
- Audio programmer
- Artificial intelligence programmer
- Games designer
- Games tester
- Electronic commerce consulting
- Multimedia developer
- Analyst/programmer

“The total value of the digital content industry in Australia today is estimated to be around \$21 billion and to employ more than 300,000 people... [Australian] games exports are estimated at over \$100 million a year and expect to reach \$500 million by the end of the decade...”

Recent research by Price Waterhouse Coopers indicates that the electronic games industry is experiencing double-digit growth globally. To put this growth in context – global games revenues are already larger than the film box office take. Revenues are projected to more than double over the period from 2004 to 2009 – increasing from almost \$35 billion in world-wide revenue in 2004 to \$74 billion at an annual rate of almost 16%.”

Senator the Hon Helen Coonan

Minister for Communications, Information Technology and the Arts

Playing for keeps – commercial investment in the electronic games industry

Launch of the Electronic Games Investment Fund
Canberra, 7 November 2005



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Multimedia Games Development major

Monash course code: 3334. CRICOS code: 054529J

Course structure

First year

FIT1001 Computer systems – Introduces basic computer hardware and operating systems software with emphasis on the concepts required to understand the low-level and internal operations of computer systems.

FIT1002 Computer programming – Provides an overview of programming and its role in problem-solving and strategies for meeting user requirements and for designing solutions to programming problems.

FIT1003 IT in organizations – Provides the organizational and social context for the technical core units, and introduces students to the professional roles and responsibilities of IT practitioners.

FIT1004 Database – Introduces the principles concepts of database systems, including planning, designing, using and implementing a data model using an enterprise-scale relational database system.

FIT1005 Networks and data communications – Introduces the fundamentals of distributed networked environments, and provides knowledge of internetworking standards and understanding of the networking architecture, technology and operation.

FIT1012 Website authoring – Introduces the concepts of website authoring, from design to implementation, providing experience for students in developing the skills to create digital content for the web.

VCM1001 Visual communication (Art and Design) – Introduces methodologies for creative problem solving in design and the exploration and manipulation of design elements.

DIS1911 3D design and visualisation (Art and Design) – Introduces the methods and processes involved in creating 3D elements, objects and spaces using computer software and looks at the key areas of modelling, lighting and rendering.

Second year

FIT2001 Systems analysis and design – Provides an overview of the main techniques used for carrying out analysis and specification of the design of a computer system, with a focus on the unified modeling language (UML).

FIT2002 IT project management – Provides both a theoretical and practical overview of processes involved in managing large projects, with particular emphasis on projects common to the IT industry.

FIT2012 Digital media authoring – Provides a focus on specialist tools and techniques that are used for developing content-rich interactive multimedia systems. Students will create CD-ROM products using industry standard authoring tools.

FIT2034 Computer programming 2 – Equips students to be able to understand apply the concepts, principles and techniques of object-oriented program design, enabling them to select and use advanced data structures in solving practical problems.

FIT2048 Game implementation and techniques – Topics include the types of hardware used across various platforms, the role of games engines and the importance of physics in ensuring realism.

FIT2049 Games programming using C++ – Further develops object-oriented programming skills, introducing the C++ language to students which will build upon previous programming skills, and provide a strong grounding related to games engine development.

Two elective units – These are free choice units which may be taken from within the Faculty of Information Technology or from any other faculty in the university.

Third year

FIT3039 and FIT3040 Studios 1 and 2 – In these two units spread over 12 months, students work as a team, using project planning/management skills to design, build and deliver a game system under the guidance, where possible, of a commercial client.

FIT3094 Artificial intelligence for gaming – Introduces the fundamental concepts of AI, expert systems and neural networks and examines how these concepts relate to game development.

FIT3095 Creating narrative in multimedia – Covers the varied forms of narrative structure and the main techniques of narrative construction which are used in different media.

FIT3023 Interactive environments – This unit explores the various types of interaction, simulation and visualisation related to creating interactive games based content, covering topics such as genres of immersive interactive environments as well as the principles and techniques of game design and game play.

One information technology third year unit – This unit must be taken from within the Faculty of Information Technology.

Two elective units – These are free choice units which may be taken from within the Faculty of Information Technology or from any other faculty in the University.

Find out more today!

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