

YOU THINK YOU MIGHT WANT TO STUDY:

APPLIED COMPUTING

BUSINESS
APPLICATIONS

COMPUTER
SECURITY AND
DIGITAL FORENSICS

MULTIMEDIA
AND DIGITAL
ENTERTAINMENT
TECHNOLOGY

IT SUPPORT

COMPUTER SERVICES
MANAGEMENT

COMPUTER GAMES
DEVELOPMENT

ENTERPRISE
APPLICATIONS
DEVELOPMENT



COURSE LISTING

Bachelor of Science Honours in Applied Computing

Bachelor of Science in Computing with Business Applications

Bachelor of Science Honours in Applied Computing with Business Applications

Bachelor of Science in Computing with Computer Security and Digital Forensics

Bachelor of Science Honours in Applied Computing with Computer Security & Digital Forensics

Bachelor of Science in Computing for Multimedia and Digital Entertainment Technology

Bachelor of Science in Computing with Computer Games Development

Bachelor of Science Honours in Computing with Computer Games Development

Higher Certificate in Computing in Information Technology Support

Bachelor of Science in Computing in Information Technology Support

Bachelor of Science Honours in Computer Services Management

PgDip/MSc in Enterprise Applications Development

Higher Diploma in Computing (Conversion Course)

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Ireland is currently the world's largest exporter of computer software with unparalleled employment prospects so there are excellent career opportunities in the dynamic computer industry both at home and abroad. This department covers all aspects of computing from programming to games design, mobile applications development, computer security and digital forensics.

COURSE TITLE

**BACHELOR OF SCIENCE HONOURS
IN APPLIED COMPUTING**

NATIONAL FRAMEWORK LEVEL

8

CAO CODE

LY708

DURATION

4 years

NUMBER OF PLACES

48

AWARDING BODY

LYIT

POINTS IN RECENT YEARS

YEAR	FINAL	MEDIAN
2008/09	235	354
2009/10	200	315
2010/11	230	300

Is this the course for you?

This is a wide-ranging, flexible course that reveals what the diverse world of computing has to offer – from developing websites such as Amazon.com to writing applications for banking systems to developing mobile internet applications. If you are curious about how computers operate, how computer systems are designed and created, problem solving and how to manage company IT systems, then this broad degree will give you all the fundamental knowledge and skills you need. In particular the course gives you strong skills in software development which are in huge demand by employers.

Minimum entry requirements

Pass (OD3 or better) in 6 Leaving Certificate subjects (at least two honours), including passes in Mathematics and in either Irish or English.

Career opportunities

This degree will open up a vast range of career opportunities for you from computer programming to business and project management. Nearly every business and organisation uses computers so wherever your interests lie you will have the skills and the confidence to work at home or abroad in many different roles, including:

- Designing and creating computer systems
- Managing large computer systems in financial organisations
- Implementing computer security to prevent hackers and viruses for an IT consultancy
- Managing IT systems and other business responsibilities for small local companies
- Designing software in an IT company
- Developing internet applications
- Project management

There is a shortage of computer graduates in the North West and nationally. Major local employers include: Pramerica, Northbrook and SITA. Visit www.ics.ie and www.computer.org for more careers ideas.

For more information on careers in computing, please see the course webpage.

Follow-on courses

- Masters degree (by research) or Doctoral degree (by research) at LYIT or other colleges and universities.
- Taught MSc in Enterprise Applications Development

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
1 1	Communications	M	4	5
	General Computing	M	4	5
	Computer Applications	M	4	5
	Discrete Mathematics	M	4	5
	Introduction to Object Oriented Programming 1	M	5	5
	Student Development	M	4	5
1 2	Computer Architecture	M	4	5
	Information Systems	M	4	5
	Mathematics for Computer Graphics	M	4	5
	Multimedia & the Web	M	4	5
	Introduction to Object Oriented Programming 2	M	5	5
	Problem Solving with Robotics	M	3	5
2 3	Database Technology	M	4	5
	Object Oriented Programming	M	5	5
	Operating Systems	M	4	5
	Visual Programming	M	4	5
	Requirements Elicitation & Specification	M	4	5
	Graphics & Interact Design for WWW	M	4	5
2 4	Data Communications	M	4	5
	Enhanced Visual Programming	M	4	5
	Sets, Relations & Functions	M	4	5
	Object Oriented GUI Programming	M	4	5
	Structured Query Language (SQL)	M	4	5
	Web Authoring	M	4	5
3 5	Object Oriented Analysis & Design	M	4	5
	Software Implementation	M	4	5
	Unix	M	4	5
	Research Methods	M	4	5
	Smart Device Applications	M	4	5
	Dynamic Web Design & Development	M	4	5

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
3 6	Client/Server Database Architecture	M	4	5
	Project Management	M	4	5
	Algorithms & Data Structures	M	4	5
	Team Project	M	4	5
	Mobile Applications Development	M	4	5
	Interactive Application Design & Development	M	4	5
4 7	Legal, Ethical & Social Issues in Computing	M	4	5
	Project Preparation	M	4	5
	Software Engineering	M	4	5
	Comparative Programming Paradigms	M	4	5
	Human Computer Interaction	M	4	5
	Thin Client Web Applications	M	4	5
4 8	Database Models	M	4	5
	Graphs & Algorithms	M	4	5
	Development Project	M	4	10
	Image Processing	M	4	5
	Artificial Intelligence	M	4	5

COURSE TITLE

**BACHELOR OF SCIENCE IN
COMPUTING WITH BUSINESS
APPLICATIONS**

NATIONAL FRAMEWORK LEVEL

7

CAO CODE

LY717

DURATION

3 years

NUMBER OF PLACES

24

AWARDING BODY

LYIT

POINTS IN RECENT YEARS

YEAR	FINAL	MEDIAN
2008/09	105	255
2009/10	120	210

Is this the course for you?

In today's competitive business world, effective management of information can give a company the vital competitive advantage needed for success. Computers are the key to linking different parts of a business together so that it runs efficiently and makes best use of its resources. Just think of how valuable shop loyalty cards are to retailers - they can gather customer data and analyse it to understand what products sell best and to study trends that will help to predict future buying behaviour. Behind all of this are computer graduates who understand how computers can feed into business decisions.

Do you want to have the ability and expertise to develop, install and manage such business systems? This course will teach you general computing and specialist skills in business applications so that you will be well placed to support the IT hardware and software of businesses at a technical and managerial level.

Minimum entry requirements

Pass (OD3 or better) in 5 Leaving Certificate subjects, including passes in Mathematics and in either Irish or English (or an equivalent qualification). The minimum points for entry is 140 points.

Career opportunities

This practical and varied degree opens up a vast array of career opportunities for graduates with attractive career progression and salaries, here in the North West, nationally or abroad. Typical roles and responsibilities include:

- Database administrator
- Software applications support officer for staff or customers
- Data analyst studying trends, data patterns and results
- E-business technicians managing the internet side of a business including buying/selling online, security and user applications support.
- Website developer
- Multimedia engineer
- Software development
- Business systems designer

Major employers in the North West include: Pramerica, Northbrook and SITA.

For more information on careers in computing, please see the course webpage.

Follow-on courses

- B.Sc. Honours in Computing with Business Applications.
- Honours degrees in other colleges and universities.

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
1 1	Communications	M	4	5
	General Computing	M	4	5
	Computer Applications	M	4	5
	Discrete Mathematics	M	4	5
	Introduction to Object Oriented Programming 1	M	5	5
	Student Development	M	4	5
	1 2	Business Studies	M	4
Computer Architecture		M	4	5
Mathematics for Computer Graphics		M	4	5
Introduction to Object Oriented Programming 2		M	5	5
Problem Solving with Robotics		M	3	5
User Training & Support		M	4	5
2 3		Accounting	M	4
	Database Technology	M	4	5
	Object Oriented Programming	M	5	5
	Operating Systems	M	4	5
	Requirements Elicitation & Specification	M	4	5
	Internet Applications Support for Business	M	4	5
2 4	Software Accounting	M	4	5
	Advanced Spreadsheet Modelling	M	4	5
	Data Communications	M	4	5
	Sets, Relations & Functions	M	4	5
	Structured Query Language (SQL)	M	4	5
	Technical Support for Business 1	E	4	5
	Object Oriented GUI Programming	E	4	5

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
3 5	Advanced Document Production	M	4	5
	E-Business Planning & Design	M	4	5
	Object Oriented Analysis & Design	M	4	5
	Groupware Application Development	M	4	5
	Research Methods	M	4	5
	Technical Support Business 2	E	4	5
	Software Implementation	E	4	5
3 6	Client/Server Database Architecture	M	4	5
	E-Business Development	M	4	5
	Project Management	M	4	5
	Team Project	M	4	5
	Advanced Database Query Languages	M	4	5
	Algorithms & Data Structures	E	4	5
	MIS Support	E	4	5



COURSE TITLE

**BACHELOR OF SCIENCE HONOURS
IN APPLIED COMPUTING
(BUSINESS APPLICATIONS)**

NATIONAL FRAMEWORK LEVEL

8

LYIT INTERNAL CODE

LY_KBUAP_B

DURATION

1 year

NUMBER OF PLACES

24

AWARDING BODY

LYIT

Is this the course for you?

There are excellent opportunities for computing graduates in Ireland and abroad, as the industry continues to evolve and permeate so many aspects of our daily lives. As a graduate you will be able to build a rewarding career that is stimulating, innovative, enjoyable and well-paid, whether you prefer to live locally or further afield. The opportunities are excellent. The Business Applications specialism in the course is directed at enterprises whose primary function may not be solely within the IT domain. These enterprises require skilled personnel to ensure that the IT functions of the company match the business needs of the company.

Minimum entry requirements

B.Sc. in Computing with Business Applications or an equivalent qualification.

Career opportunities

Current forecasts about the future of the computing industry in Ireland are excellent. It is projected that students who enter third level colleges this year are likely to find there are far more professional computing jobs available when they graduate than there are computing graduates to fill them.

In addition to the national demand for computing graduates there are several large computing companies in the Northwest such as Pramerica which is based in Letterkenny, Allstate which has operations in Derry and Strabane and SITA which is owned by the air transport industry and has recently announced a major jobs expansion.

So what kind of job would you like to do, there are thousands available to choose from.

Follow-on courses

Masters degree or possible Doctoral by research at LYIT or other colleges or universities.

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
4 7	Software Engineering	M	4	5
	Legal, Ethical & Social Issues in Computing	M	4	5
	Project Preparation	M	4	5
	Human Computer Interaction	M	4	5
	E-Marketing	E	4	5
	IT Services Support Planning & Management	E	4	5
	Comparative Programming Paradigms	E	4	5
4 8	Database Models	M	4	5
	Development Project	M	4	10
	Governance for IT Enhancement	M	4	5
	Database Administration	M	6	10



COURSE TITLE

**BACHELOR OF SCIENCE IN
COMPUTING WITH COMPUTER
SECURITY AND DIGITAL FORENSICS**

NATIONAL FRAMEWORK LEVEL

7

CAO CODE

LY737

DURATION

3 years

NUMBER OF PLACES

36

AWARDING BODY

LYIT

POINTS IN RECENT YEARS

YEAR	FINAL	MEDIAN
2008/09	115	245
2009/10	AQA	275
2010/11	155	265

Is this the course for you?

Securing computer systems and protecting sensitive information stored on computers is crucially important for many different types of organisations. Businesses, governments, banks, airlines, hospitals and police forces all store important information, be it personal health details, criminal records or financial information – they need effective IT systems to guard against hackers out to defraud or steal, viruses that can destroy information, industrial espionage and other unauthorised use of information.

If you feel that you'd like to have the expertise to work in this exciting and lucrative industry then this course is for you. It will teach you the core IT theory and practical skills, and the latest techniques used in the area of computer security.

Minimum entry requirements

Pass (OD3 or better) in 5 Leaving Certificate subjects, including passes in Mathematics and in either Irish or English (or an equivalent qualification) The minimum points for entry is 140 points.

Career opportunities

This is a huge growth area worldwide and one that holds many exciting career opportunities for graduates. You may work with different technologies, IT systems and hardware and for a range of employers such as:

- Companies and organisations with computer networks and mobile devices, including businesses, airlines and hospitals
- The card payment industry
- Companies involved in e-commerce
- Financial services companies
- Academic institutions
- Government departments
- Internet service providers
- IT security consultants
- An Garda Síochána
- Online computer games.

For more information on careers in computing and computer security, please see the course webpage.

Follow-on courses

- B.Sc. Honours in Computing Security and Digital Forensics.
- Honours degrees at other colleges and universities.



What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
1 1	Introduction to Object Oriented Programming 1	M	5	5
	Communications	M	4	5
	Discrete Mathematics	M	4	5
	Student Development	M	4	5
	General Computing	M	4	5
	Computer Applications	M	4	5
1 2	Introduction to Object Oriented Programming 2	M	5	5
	Problem Solving with Robotics	M	3	5
	Mathematics for Cryptography	M	4	5
	Computer Architecture	M	4	5
	Packet Network 1	M	4	5
	Computer Crime	M	4	5

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
2 3	Object Oriented Programming	M	5	5
	Requirements Elicitation & Specification	M	4	5
	Database Technology	M	4	5
	Operating Systems	M	4	5
	Packet Network 2	M	4	5
	Network Security & Cryptography	M	4	5
2 4	Object Oriented GUI Programming	M	4	5
	Structured Query Language (SQL)	M	4	5
	Network Programming 1	M	4	5
	Server Systems Administration	M	4	5
	Security Standards & Policies	M	4	5
	Digital Forensics 1	M	4	5
3 5	Software Implementation	M	4	5
	Object Oriented Analysis & Design	M	4	5
	Research Methods	M	4	5
	Securing Servers & Databases	M	4	5
	Digital Forensics 2	M	4	5
	Security Threats & Countermeasures	M	4	5
3 6	Algorithms & Data Structures	M	4	5
	Project Management	M	4	5
	Team Project	M	4	5
	Cryptography and Cryptographic Protocols	M	4	5
	The Law of Evidence	M	3	5
	Applied Security & Digital Forensics	M	4	5



COURSE TITLE

**BACHELOR OF SCIENCE HONOURS
IN APPLIED COMPUTING
(COMPUTER SECURITY &
DIGITAL FORENSICS)**

NATIONAL FRAMEWORK LEVEL

8

LYIT INTERNAL CODE

LY_KCSDF_B

DURATION

1 year

NUMBER OF PLACES

24

AWARDING BODY

LYIT

Is this the course for you?

Ireland is the worlds' largest exporter of Computer Software. This means that there are excellent opportunities for finding well-paid employment when you graduate. Additionally, because computers are used in almost every area of modern life, the range of opportunities and types of jobs which are open to computing graduates means that the chances of having a career you enjoy are excellent. The Computer Security and Digital Forensics specialism in the course will equip student to design, develop and manage all aspects of computer systems particularly those relating to security, including building secure systems, intruder detection, forensic analysis to determine what intruders have done to the system etc.

Minimum entry requirements

B.Sc. in Computing with Computer Security & Digital Forensics or an equivalent qualification.

Career opportunities

Current forecasts about the future of the computing industry in Ireland are excellent. It is projected that students who enter third level colleges this year are likely to find there are far more professional computing jobs available when they graduate than there are computing graduates to fill them.

In addition to the national demand for computing graduates there are several large computing companies in the Northwest such as Pramerica which is based in Letterkenny, Allstate which has operations in Derry and Strabane and SITA which is owned by the air transport industry and has recently announced a major jobs expansion including work on airport security systems.

The Computer Security and Digital Forensics specialism in the course is directed at enterprises whose primary function involves the storage and management of confidential or sensitive information. For example companies in the financial services sector, banks, insurance companies, credit card companies and many more.

For more information on careers in computing, please see the course webpage.

Follow-on courses

Masters degree or possible Doctoral by research at LYIT or other colleges or universities.

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
4 7	Software Engineering	M	4	5
	Legal, Ethical & Social Issues in Computing	M	4	5
	Project Preparation	M	4	5
	Thin Client Web Applications	M	4	5
	Programming for Security	M	3	5
	Data Forensics with Linux	M	3	5
4 8	Development Project	M	4	10
	Database Models	M	4	5
	Image Processing	M	4	5
	Biometric Security	M	3	5
	Steganography and Digital Watermarking	M	3	5



COURSE TITLE

**BACHELOR OF SCIENCE IN
COMPUTING FOR MULTIMEDIA
AND DIGITAL ENTERTAINMENT
TECHNOLOGY**

NATIONAL FRAMEWORK LEVEL

7

CAO CODE

LY747

DURATION

3 years

NUMBER OF PLACES

24

AWARDING BODY

LYIT

POINTS IN RECENT YEARS

YEAR	FINAL	MEDIAN
2010/11	AQA	230

Is this the course for you?

Computer technologies have reshaped the way in which media content is produced, distributed and marketed. They have also re-defined the borders of the entertainment industry. You can now read the news online, add your comments live and even start a blog on a discussion topic. You can download music, games and movies as and when you like, to play on all kinds of mobile devices.

These media and entertainment advancements are rapidly and increasingly being driven by computer technology. If you want to be part of this exciting and expanding area, this new course is for you. It includes a number of strands in general computing, linked to strands in digital entertainment, multimedia, media distribution and e-learning. You will learn how to design and implement IT systems which rely on the use of multimedia and/or digital entertainment to create innovative products and services.

Minimum entry requirements

Pass (OD3 or better) in 5 Leaving Certificate subjects, including passes in Mathematics and in either Irish or English (or an equivalent qualification). The minimum points for entry is 140 points.

Career opportunities

The entertainment industry has a strong and growing need for computer scientists who understand the technologies used in producing and distributing digital entertainment content. This course will open up a wide variety of job opportunities for you, working in the booming industry of general computing and in the multimedia and digital entertainment industries in particular. Roles will typically include:

- Multimedia developer
- Digital Entertainment content developer
- Digital Media publisher
- Web developer
- E-Learning developer
- Digital marketing specialist
- Social network developer.

For more information on careers in computing and multimedia/digital entertainment, please see the course webpage.

Follow-on courses

- BSc Honours in Computing for Multimedia and Digital Entertainment Technology at LYIT is in development.

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
1 1	Communications	M	4	5
	Introduction to Object Oriented Programming 1	M	5	5
	Discrete Mathematics	M	4	5
	Student Development	M	4	5
	General Computing	M	4	5
	Computer Applications	M	4	5
	1 2	Multimedia & the Web	M	4
Introduction to Object Oriented Programming 2		M	5	5
Mathematics for Computer Graphics		M	4	5
Introduction to Digital Entertainment		M	4	5
Computer Architecture		M	4	5
Introduction to Computer Games		M	4	5
2 3		Graphics and Interactive Design for the Web	M	4
	E-Learning and Multimedia	M	4	5
	Database Technology	M	4	5
	Operating Systems	M	4	5
	Digital Entertainment Devices	M	4	5
	Application Scripting	M	4	5
2 4	Web Authoring	M	4	5
	Structured Query Language (SQL)	M	4	5
	E-Learning Course Development	M	4	5
	Data Communications	M	4	5
	Digital, Audio and Video Production	M	4	5
	Game Authoring and Animation	M	4	5

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
3 5	Dynamic Web Design and Development	M	4	5
	Object Oriented Analysis & Design	M	4	5
	EMarketing	M	4	5
	Research Methods	M	4	5
	Digital Audio and Video Production and Post-production for the WWW	M	4	5
	Digital Multimedia and the Semantic Web	M	4	5
3 6	Interactive Application Design and Development	M	4	5
	Project Management	M	4	5
	Client/Server Database Architecture	M	4	5
	Team Project	M	4	5
	Digital Media Distribution	M	4	5
	Web Services for Digital Media	M	4	5



COURSE TITLE

**BACHELOR OF SCIENCE IN
COMPUTING WITH COMPUTER
GAMES DEVELOPMENT**

NATIONAL FRAMEWORK LEVEL

7

CAO CODE

LY707

DURATION

3 years

NUMBER OF PLACES

48

AWARDING BODY

LYIT

POINTS IN RECENT YEARS

YEAR	FINAL	MEDIAN
2008/09	AQA	270
2009/10	AQA	250
2010/11	140	270

Is this the course for you?

You certainly need more than just a passion for computer games on this course – it's quite challenging and involves many aspects of computing, including writing software for computer games and working in teams to design and create computer games. Teamwork is an important aspect to computing as you are always connecting with people from other areas of expertise, in this case, artistically creative people. So if you are eager to learn the broad fundamentals of computing with the added twist of learning about the techniques and skills specific to games development, then this exciting course is perfect for you.

Minimum entry requirements

Pass (OD3 or better) in 5 Leaving Certificate subjects, including passes in Mathematics and in either Irish or English (or an equivalent qualification). The minimum points for entry is 140 points.

Career opportunities

The games industry is expanding globally and the Irish government has targeted this area for particular growth, so there are excellent career opportunities and attractive salaries open to talented graduates at home and abroad. Graduates from this course can move into general computing positions, or get involved in games development, both with lucrative and exciting career prospects. Employers include:

- Small Irish companies specialised in a niche area of games development or offering digital production services for local and international video game makers. E.g. Havoc in Dublin and Instinct Technology in Donegal.
- Large multi-national companies manufacturing video games such as Sony Play Station for video game consoles, PCs and hand held devices, including Personal Digital Assistants, mobile phones and MP3 players.

Please visit www.careerdirections.ie for more career ideas.

For more information on careers in computing and computer games plus videos of what people working in the games industry do, please see the course webpage.

Follow-on courses

- B.Sc. Honours in Computer Games Development at LYIT
- Honours degrees in other colleges and universities.

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
1 1	Communications	M	4	5
	General Computing	M	4	5
	Computer Applications	M	4	5
	Discrete Mathematics	M	4	5
	Introduction to OO Programming 1	M	5	5
	Student Development	M	4	5
1 2	Computer Architecture	M	4	5
	Introduction to Computer Games	M	4	5
	Mathematics for Computer Graphics	M	4	5
	Introduction to Object Oriented Programming 2	M	5	5
	Problem Solving with Robotics	M	3	5
	Games Programming 1	M	4	5
2 3	Database Technology	M	4	5
	Graphics & Audio Production for Games	M	4	5
	Object Oriented Programming	M	5	5
	Operating Systems	M	4	5
	C++ for Java Coursers	M	4	5
Requirements Elicitation & Specification	M	4	5	
2 4	Data Communications	M	4	5
	Game Authoring & Animation	M	4	5
	Sets, Relations & Functions	M	4	5
	Object Oriented GUI Programming	M	4	5
	Structured Query Language (SQL)	M	4	5
	Graphics Programming for Games 1	M	4	5

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
3 5	Advanced Game Design	M	4	5
	Mathematics & Physics for Games	M	4	5
	Object Oriented Analysis & Design	M	4	5
	Graphics Programming for Games 2	M	4	5
	Research Methods	M	4	5
	Software Implementation	M	4	5
3 6	Client/Server Database Architecture	M	4	5
	Algorithms & Data Structures for Games Programming	M	4	5
	Project Management	M	4	5
	Games Programming with Direct X	M	4	5
	Team Project	M	4	5
	3D Modelling for Games	M	4	5



COURSE TITLE

**BACHELOR OF SCIENCE HONOURS
IN COMPUTING WITH COMPUTER
GAMES DEVELOPMENT**

NATIONAL FRAMEWORK LEVEL

8

LYIT INTERNAL CODE

LY_KGAME_B

DURATION

1 year

NUMBER OF PLACES

24

AWARDING BODY

LYIT

Is this the course for you?

This course will build on the knowledge and skills you will have gained from the B.Sc. in Computing with Computer Games Development. So if you are eager to further develop your expertise in computing and computer games development and learn more advanced technical and managerial skills then this Honours course is the way to go. You will need to be self-motivated and eager to work independently as well as keen to work as part of a team. If you have ambition and dedication, this degree will help you develop a challenging and exciting career.

Minimum entry requirements

B.Sc. in Computing with Computer Games Development or an equivalent qualification.

Career opportunities

The added expertise you will gain from this course will leave you ready for positions of increased responsibility. In addition to the careers listed in the B.Sc. in Computing with Computer Games Development, you will be well placed for managerial roles with a full range of IT companies and with computer games development companies. They would include working with and leading teams working on the development of computer systems and computer games in particular, developing mobile applications and games, developing PC and console games and working with audio and video and integrating them into the production of computer games. Potential employers include: Instinct Technology, Havok and Microsoft among others.

Follow-on courses

- Masters degree or possible Doctoral by research at LYIT or other colleges or universities.

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
4 7	Software Engineering	M	4	5
	Legal, Ethical & Social Issues in Computing	M	4	5
	Project Preparation	M	4	5
	Game Development for Mobile Devices 1	M	4	5
	Game Programming with Direct X	M	4	5
	Animation & 3D Modelling for Middleware Applications	E	4	5
	Games Physics & Modelling	E	4	5
4 8	Graphs & Algorithms	M	4	5
	Development Project	M	4	10
	Business & Computer Games	M	4	5
	Game Development for Mobile Devices 2	M	4	5
	Middleware for Game Engine Architecture	E	4	5
	XNA Game Programming	E	4	5



COURSE TITLE

**HIGHER CERTIFICATE IN
COMPUTING IN INFORMATION
TECHNOLOGY SUPPORT**

NATIONAL FRAMEWORK LEVEL

6

LYIT INTERNAL CODE

LY_KITSW_C

LY_KITSS_C

DURATION

18 MONTHS

NUMBER OF PLACES

24

AWARDING BODY

LYIT

Is this the course for you?

Are you looking for a change of career into a dynamic area of technology that will bring you exciting new job prospects? This course is aimed primarily at mature students. It lasts 18 months, broken down into six months in college; six months on work placement; and six months in college. It will teach you how to setup a computer system, install software, create user accounts, connect computers to the internet and many other hands-on skills.

Minimum entry requirements

Since many mature students may not have a Leaving Certificate qualification, an interview will be required instead. Non-mature students will need Pass (OD3 or better) in 5 Leaving Certificate subjects, including passes in Mathematics and in either Irish or English (or an equivalent qualification), and must pass an interview.

Garda Vetting: Certain work placements will require Garda Vetting, ie, those working with children or vulnerable adults.

Work Placement: Please note that with respect to the placement, while the institute will make every effort to assist the learner in finding a placement (interview techniques, CV preparation, arranging interviews etc.) final responsibility for securing the placement resides with the learner.

Career opportunities

This practical course opens a wide range of job opportunities and paves your way for further study in this exciting and growing area. Most businesses and organisations need good people with IT skills and knowledge of computer networks. Roles include:

- Computer systems technician
- Network engineers
- Website developers
- IT technicians.

Job opportunities in IT have never been better. There is a huge and growing shortage of people to work in the industry, both locally and nationally. The prospects for IT graduates are excellent.

You can also work towards becoming more involved in IT systems management where you may install and manage computer systems, manage the security of computer networks, develop internet services and assist in software development. IT employers in the North West include: large companies such as Pramerica, Northbrook and SITA and small niche companies such as Torc Interactive.

Follow-on courses

- Level 7 B.Sc. in IT Support progressing to a Level 8 Honours degree in Computer Services Management at LYIT.
- Further study at other colleges or universities.

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	No. of credits	Class hours per week
1 1	Computer Applications	M	5	5
	Computer Systems	M	5	5
	Operating Systems 1	M	5	5
	Computer Networks 1	M	5	5
	Software Development 1	M	5	5
	Interpersonal Communications	M	5	5
	1 2	Industrial Placement	M	30
2 3	Industrial Placement	M	30	1/2
2 4	Computer Networks 2	M	5	5
	Operating Systems 2	M	5	5
	Training & Support	M	5	5
	Mathematics	M	5	5
	Software Development 2	M	5	5
	Database Technology	M	5	5



COURSE TITLE

**BACHELOR OF SCIENCE IN
COMPUTING IN INFORMATION
TECHNOLOGY SUPPORT**

NATIONAL FRAMEWORK LEVEL

7

LYIT INTERNAL CODE

LY_KITSP_D

DURATION

1 year

NUMBER OF PLACES

24

AWARDING BODY

LYIT

Is this the course for you?

If you wish to build on your knowledge gained from the Higher Certificate in Computing in Information Technology Support, then this course is a natural choice for you. It will expand your knowledge of computer systems so that you will be able to assess an organisation's information needs and develop an IT system to suit them. The IT sector is an exciting and constantly changing area to work in so this course will expose you to a challenging and fast moving industry that holds great potential for personal and career development.

Minimum entry requirements

Level 6 Higher Certificate in Computing in Information Technology Support, or an equivalent Level 6 course in IT.

Career opportunities

This thriving industry offers excellent career prospects to well-qualified graduates.

The many career areas listed in the Higher Certificate in Computing and Information Technology Support are open to graduates of this course at a more senior level. You will be ready for extra responsibilities and a wider choice of roles including:

- Computer systems administrator – set up and manage large computer systems with many different users
- Develop and support internet websites for e-commerce.

IT employers in the North West include: Pramerica, Northbrook and SITA.

Follow-on courses

- B.Sc. Honours in Computer Service Management and then to a Masters degree by research at LYIT
- Honours courses at other colleges or universities.

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	No. of credits	Class hours per week
3 5	Computer Systems Administration 1	M	4	5
	Computer Services Management	M	4	5
	E-Business Planning & Design	E	4	5
	Structured Query Language (SQL)	E	4	5
	Project Research & Design	M	4	5
	Software Development	M	4	5
	Wide Area Network Technology	M	4	5
3 6	Computer Systems Administration 2	M	4	5
	Client/Service Database Architecture	E	4	5
	E-Business Development	E	4	5
	Project Management	M	4	5
	Advanced Network Technologies	M	4	5
	GUI Application Development	M	4	5
	Project Development	M	4	5



COURSE TITLE

**BACHELOR OF SCIENCE HONOURS
IN COMPUTER SERVICES
MANAGEMENT**

NATIONAL FRAMEWORK LEVEL

8

LYIT INTERNAL CODE

LY_KITSP_B

DURATION

1 year

NUMBER OF PLACES

24

AWARDING BODY

LYIT

Is this the course for you?

Whether a company has a small network of two computers or several networks spanning the globe, it will need strong IT professionals to keep everything running smoothly. If you want to be the person with the expertise and experience to source, manage and operate these crucial computer systems, then this course is for you.

This course will build on the knowledge and skills you gained in your B.Sc. in Information Technology Support (or equivalent degree). It will prepare you for technical and managerial roles in IT and give you the confidence and ability to work in any organisation.

Minimum entry requirements

B.Sc. in Computing in Information Technology Support or equivalent qualification.

Career opportunities

This flexible and practical degree offers great career opportunities with any companies or organisations that have a computer system – that leaves you wide open to exciting jobs at home or abroad in a thriving industry. Your role may include many different responsibilities such as:

- Develop and implement policies to ensure that investment in IT matches the organisation's business goals
- Plan and manage significant IT projects
- Identify key IT trends and advise on business strategy
- Work for an IT consultancy to advise clients on efficient IT strategies.

Follow-on courses

- Masters degree by research or possibly Doctoral degree by research at LYIT
- Masters or Doctoral degrees at other colleges or universities.

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
4 7	Software Design	M	4	5
	IT Service Support Planning & Management	M	4	5
	Network Applications Development	M	4	5
	Legal, Ethical & Social Issues in Computing	M	4	5
	Project Preparation	M	4	5
	Thin Client Web Applications	E	4	5
	Groupware Applications Development	E	4	5
4 8	Governance & IT Enhancement	M	4	5
	IT Service Delivery	M	4	5
	Multimedia & Wireless Communications	M	4	5
	Project Development	M	4	5
	Database Models	E	4	5
	Image Processing	E	4	5
	Artificial Intelligence	E	4	5



COURSE TITLE

HIGHER DIPLOMA IN SCIENCE IN COMPUTING (CONVERSION COURSE INTO COMPUTING)

NATIONAL FRAMEWORK LEVEL

8

LYIT INTERNAL CODE

LY_KCOMP_G

DURATION

9 months

NUMBER OF PLACES

20

AWARDING BODY

LYIT

Is this the course for you?

Letterkenny Institute of Technology has obtained approval to run a level 8 honours-degree-equivalent conversion-style Higher Diploma in Computing. The objective of the course is to take graduates in non-computing fields and augment their skills and knowledge in readiness to begin a career in the computing industry. It is designed to ensure that graduates are given both a base for continuing self-development and a set of skills which are transferable to the broader computing industry. These skill sets are reinforced with a strong emphasis on teamwork. The main aim of the course is to produce graduates with the required theoretical and hands-on skills to allow them to work and participate effectively in a commercial IT environment.

Minimum entry requirements

All applicants who meet the minimum entry requirements of an honours degree or equivalent in a non-computing discipline are eligible to apply by direct entry to LYIT.

Career opportunities

Currently employment prospects for computing graduates remains healthy. The most recent reports on employment in the Irish economy commissioned since the beginning of the current economic down-turn continue to point to the strength of the IT sector in Ireland and abroad and the positive opportunities for employment in the sector. IT Services continue to be one of the growth areas in the Irish economy with growth in IT Services exports continuing to grow throughout the past year.

For an independent view on employment in the IT industry see the course web page.

Follow-on courses

Progression to courses leading to Masters Degree (taught or by research) or a Doctoral Degree (by research), is available internally at LYIT or through a range of other institutes of technology and universities in Ireland and abroad. Progression internationally to some second cycle (e.g. 'Bologna Masters') degree courses is possible.

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	Class hours per week	No. of credits
1 1	Software Design 1	M	5	10
	Database Technology	M	5	10
	Computer Systems	M	5	10
1 2	Software Design 2	M	5	10
	Software Engineering	M	5	10
	Internet Applications Development and Project	M	5	10



COURSE TITLE

**POST-GRADUATE DIPLOMA IN
COMPUTING IN ENTERPRISE
APPLICATIONS DEVELOPMENT
AND
MASTER OF SCIENCE IN
COMPUTING IN ENTERPRISE
APPLICATIONS DEVELOPMENT**

NATIONAL FRAMEWORK LEVEL

9

LYIT INTERNAL CODE

LY_KEADE_M

DURATION

**PGDip: 12 months
+
MSc: 3 months**

NUMBER OF PLACES

12

AWARDING BODY

LYIT

Is this the course for you?

The postgraduate diploma is a two semester taught course in computing which focuses on topics applicable to Enterprise Applications Development. These are followed by a placement module in which students will gain practical experience working in a company engaged in enterprise applications development. Its aim is to take a graduate in a computing or computing related field and augment his/her skills and knowledge in readiness to begin a career in enterprise or cloud applications development. It is designed to ensure that graduates are given both a base for beginning to work immediately in the industry/field and also for continuing self-development. These skill sets are reinforced with a strong emphasis on teamwork and project work.

The additional dissertation component for the Masters will offer the student the opportunity to apply a range of topics covered in the postgraduate diploma to demonstrate an extended knowledge and ability in that area. The dissertation will normally be completed over one to two additional semester's depending on whether its done on a part-time or full-time basis.

Minimum entry requirements

The course will be available to applicants who hold an Honours Degree in Computing with first or second-class honours or an equivalent qualification.

For suitably qualified applicants who are currently in employment in the field of Enterprise Application Development there will also be a limited number of places available for part-time study with an option to seek an exemption on the placement requirement dependent on the suitability of the applicants existing work experience.

Career opportunities

This course was developed in partnership with the IT industry in the north-west and with SITA (Specialists in air transportation communications and IT solutions) in particular. The objective of developing the course and of providing a placement is to ensure a supply of highly-skilled and experienced graduates for key employers locally and throughout Ireland. The existence of the course and the placement reflects the commitment of employers to this field of expertise. Graduates from this course can expect to find attractive employment opportunities locally and nationally. For example SITA are in the process of tripling their work force and IBM have announced a significant expansion in this area.

For an independent view on employment in the IT industry see the course web page.

Follow-on courses

Progression to courses leading to a Doctoral Degree (by research), are available internally at LYIT or through a range of other Institutes of Technology and Universities in Ireland and abroad.

Progression internationally to some second cycle (e.g. 'Bologna Masters') degree courses

What will I study?

Year/ Semester	Proposed Modules	Mandatory /Elective	No. of credits	Class hours per week
1 1	Enterprise Service Architecture	M	15	5
	Cryptography and System Security	M	10	5
1 2	Enterprise Performance Management	M	15	5
	Client Centric Development	M	10	5
1 3	Placement	M	10	
2 4	Dissertation	M	30	

