A profile of subjects offered for
the Matriculation Certificate Examination at
Advanced and Intermediate Levels
MALTA 2013
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Your success is our goal.

Terms and conditions apply.
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Foreword

“Our mission is to provide a holistic quality education to young men and women who seek to join the University by preparing them to develop the attributes needed for tertiary level studies.’

Mission Statement

The University Junior College prepares students specifically for the Matriculation Certificate which is a passport for University degree courses.

Special Course Requirements, printed as a separate insert, address students in their choice of subjects, however, where options are left wide open, some find themselves spoilt for choice. Look Before You Leap has been designed to enable students to browse into the various subjects offered at the Junior College, before they make their selection. The contents of each subject are explained while standards required by students before embarking on subjects normally covered at SEC or ‘O’ level are emphasised.

This publication has proved to be a very successful venture. In the light of experiences reaped, write-ups have been reviewed, altered, added upon or clarified from year to year with the full cooperation of the coordinators at the Junior College.

Students are urged to study meticulously the groupings provided before coming to a decision. Choose wisely because requests for changes in options will not be considered once the academic year is in full swing.

May I thank all those who have kindly contributed to make this publication possible.

Joseph Sciriha
Principal
Choosing your subjects

At Junior College we pride ourselves in offering you the widest possible choice of subjects. The following guidelines aim to help you make an informed decision.

- Identify your areas of strength and interest.

- Choose the University course(s) that match your strengths and interests. A full list of courses having special course requirements is available as a separate insert with this booklet. Determine whether your chosen University course(s) require you to study specific subjects.

- Please note that this information is correct as per date of publication. You are requested to consult the latest version of Special Course Requirements for entry to Undergraduate Courses in 2015 which can be accessed at: www.um.edu.mt/sas/scr

- Remember that there are University courses which do not have special course requirements.

- To obtain your MATSEC certificate you are required to choose two subjects at Advanced level and three subjects at Intermediate level besides Systems of Knowledge which is a compulsory subject.

Ensure that your choice includes at least one subject from each of Groups 1, 2 and 3. The other two subjects can be chosen from any of the four groups (refer to table below).

- In this booklet you will find brief information on individual subjects of each group. In addition you are strongly advised to consult the relevant MATSEC syllabus. (www.um.edu.mt/matsec)

Make sure that you go through the whole booklet before making a final decision.
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\(^1\) Offered at Intermediate level only.
\(^2\) Not more than two of Accounting, Economics and Marketing may be chosen.
\(^3\) Environmental Science may not be taken with Biology, Chemistry or Physics.
\(^4\) Computing may not be taken with Information Technology.
\(^5\) Engineering Drawing may not be taken with Graphical Communication. At Intermediate level the two subjects are combined.

The University reserves the right not to offer subjects, or certain combination of subjects, if the number of applicants does not justify it.

**Disclaimer**

Although every effort has been made to ensure the information contained in this booklet is complete and correct at time of publication, the Junior College cannot be held responsible for errors or omissions, or for how the information is used and interpreted.
GROUP 1

ENGLISH
FRENCH
GERMAN
ITALIAN
MALTI
SPANISH
Advanced level English is an intensive course with a clear bias on literature.

You will be studying English with greater intensity and your effort should reflect a proficiency that has improved from SEC/‘O’ level to pre-university standard.

Students taking this course will study a Shakespearean play, a collection of poetry, two novels and linguistics as well as developing their skills in literary criticism, essay and summary writing. The examination also includes a speaking component.

Subject Coordinator:

Mr. J. Gerardi
e-mail: joseph.gerardi@um.edu.mt
Web page: http://www.jc.um.edu.mt/english
At Intermediate level you will be studying English with greater intensity and expected to pitch your performance even higher.

The programme is designed to help students maintain a command of English and to improve their proficiency in the language. Your effort should reflect improvement from SEC/‘O’ level to pre-university level.

Students taking this course will further develop their skills in intensive reading, summarising and essay writing. A literature and speaking component are also included.

Subject Coordinator:

**Mr. J. Gerardi**
e-mail: joseph.gerardi@um.edu.mt
Web page: http://www.jc.um.edu.mt/english
French at Advanced level aims at consolidating and extending the knowledge of French acquired at SEC level.

A literary and a linguistic component are introduced. Three literature books are studied in depth and analysis of non-literary texts carried out. Aspects of French civilisation are explored, while grammar and comprehension are developed further.

Great importance is given to tutorials, during which students work in small groups to ensure individual attention.

Subject Coordinator:

Ms. M. Gilson
e-mail: margaret.gilson@um.edu.mt
Web page: http://www.jc.um.edu.mt/french
French at Intermediate level aims at consolidating the oral and written skills acquired at SEC level.

The Intermediate course enhances and extends language concepts which are dealt with in a broad manner.

The language component includes grammar, essay writing and a summary. Aspects of French civilisation and one literature book are studied. Importance is also given to the development of oral skills.

Important details

• Work is given on a regular basis

• Individual attention given to students

• Emphasis on both oral and written French

Subject Coordinator:

Ms. M. Gilson

e-mail: margaret.gilson @um.edu.mt
Web page: http://www.jc.um.edu.mt/french
Advanced level German aims at consolidating and extending knowledge of German acquired at SEC level.

A literature component is introduced which requires students to study one literary text in depth.

Aspects of German civilization are explored while skills in grammar, reading and listening comprehension are further developed.

Importance is given to tutorials during which students are given the opportunity to work in small groups and discuss their individual difficulties.

Subject Coordinator:

Ms. M. Gilson
e-mail: margaret.gilson@um.edu.mt
Web page: http://www.jc.um.edu.mt/german
Intermediate level German aims at consolidating and extending the receptive and productive language skills the student would have already acquired at SEC level.

Grammatical concepts will however not be treated with the same rigour and depth as in the Advanced level course.

Students will also be made aware of relevant aspects of the culture and civilization of the German speaking countries.

Subject Coordinator:

Ms. M. Gilson

e-mail: margaret.gilson@um.edu.mt
Web page: http://www.jc.um.edu.mt/german
Important details

- 5 hours of lectures per week

- 1 hour weekly tutorial covering language, literature and culture

- A grade 3 or better at SEC level is recommended

The Advanced level course aims at developing comprehension and communication skills in Italian. Use of Italian is encouraged at all times.

Students are introduced to various authors covering the period from the Middle Ages to modern times, as well as Italian culture related to geography, history, arts and other economic achievements of the country.

Reading, especially contemporary authors, provides skills for conversation, discussion and essay writing. Some lectures are accompanied by audio-visual material.

Subject Coordinator:

Ms C. Borg Farrugia
e-mail: christine.farrugia@um.edu.mt
Web page: http://www.jc.um.edu.mt/italian
**Important details**

- **2 hours of lectures per week**

- **One lecture aims at developing fluency and accuracy of the language**

- **The other lecture aims at developing literary criticism skills through the study of a contemporary author**

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The Intermediate level course although not as detailed as the Advanced level course, aims at developing comprehension and communication skills in Italian.

Students are introduced to one contemporary author and are encouraged to discuss themes from their literature book.

There are no formal lectures on culture but students are prepared to give a presentation on a cultural topic related to geography, history, art, music or politics.

Students have only one language lesson per week in which they are exposed to contemporary texts.

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**Subject Coordinator:**

**Ms C. Borg Farrugia**

e-mail: christine.farrugia@um.edu.mt

Web page: http://www.jc.um.edu.mt/italian

F’dan il-Livell, l-istudenti jattendu lekċers dwar l-aspetti differenti tal-lingwa: poeżija, drama, narrattiva, lingwistika u tahriġ fil-kritika letterarja, skont is-sillabu mfassal mill-MATSEC. Tingħata importanza kbira lit-tutorjals li jsiru darba fil-ġimgħa u li fihom l-istudenti jkunu mqassmin fi gruppi żgħar.

Subject Coordinator:

Mr D. Calleja
e-mail: david.calleja@um.edu.mt
Web page: http://www.jc.um.edu.mt/malti
L-istudju tal-Malti fil-Livell Intermedju jiġbed numru kbir ta’ studenti.

Għalkemm dan il-Livell huwa inqas minn dak Avvanżat xorta huwa mehtieġ bi preparazzjoni għal diversi korsijiet fl-università.

Il-lekċers ikunu dwar poeżija, drammi, narrattiva u lingwistika, skont sillabu mfassal mill-MATSEC. L-istudenti jkollhom tahriġ dwar hiliet ta’ kitba kif ukoll orali. F’dan il-livell, l-istudenti jingħataw xogħol mil-lekčers matul is-sena akkademika kemm għad-dar kif ukoll fil-klassi.

**Dettalji importanti**

- 2 lekčers fil-ġimgħa: lekčer wieħed ikun dwar letteratura u lekčer ieħor dwar lingwistika.

- Huwa rakkommandat li student ikollu grad sodisfaċenti fl-eżami fiċ-ĊES

**Subject Coordinator:**

**Mr D. Calleja**  
e-mail: david.calleja@um.edu.mt  
Web page: http://www.jc.um.edu.mt/malti
Important details

- 5 hours of lectures per week
- Tutorials on a weekly basis
- Emphasis on both oral and written Spanish
- A pass at SEC level or equivalent is highly recommended

Advanced Spanish promotes the following abilities to:

- Understand standard spoken and written language;
- Speak fluently and spontaneously;
- Write accurately
- Widen students’ knowledge about the culture of Spain and Spanish-speaking countries.

Subject Coordinator:

Ms M. Gilson
e-mail: margaret.gilson@um.edu.mt
Web page: http://www.jc.um.edu.mt/spanish
**Important details**

- *2 hours of lectures per week*

- *Work is set on a regular basis*

- *Emphasis on both oral and written Spanish*

- *Knowledge of Spanish at SEC level is assumed*

Students will focus on consolidating and further developing their skills in the language.

In addition, students will be prepared for the literature section of the MATSEC Intermediate examination.

Students will also be exposed to different aspects of the society and culture of Spain and Spanish-speaking countries.

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**Subject Coordinator:**

**Ms M. Gilson**

e-mail: margaret.gilson@um.edu.mt

Web page: http://www.jc.um.edu.mt/spanish
GROUP 2

ACCOUNTING
CLASSICAL STUDIES
ECONOMICS
GEOGRAPHY
HISTORY
MARKETING
PHILOSOPHY
PSYCHOLOGY
RELIGIOUS KNOWLEDGE
SOCIOLOGY
Important details

• 5 hours of lectures per week
• 1 hour tutorial per week
• Prior knowledge of subject not required

Accounting has acquired a new dimension in modern society. It goes beyond the traditional recording of transactions. There are two main branches: Financial Accounting and Cost and Management Accounting.

Financial Accounting involves the classical recording of transaction of business entities.

Cost and Management Accounting is mainly concerned with the future costing of products.

Subject Coordinator:

Mr M. Abela
e-mail: manoel.abela@um.edu.mt
Web page: http://www.jc.um.edu.mt/accounting
Today’s Accounting goes beyond keeping business records. A new branch of Accounting, ‘Cost and Management Accounting’ has evolved.

During the course, emphasis is given to the costing of the factors of production which make up a product. This enables the producer to know the final cost of the product, before producing it.

Subject Coordinator:

**Mr M. Abela**
e-mail: manoel.abela@um.edu.mt
Web page: http://www.jc.um.edu.mt/accounting
CLASSICAL STUDIES

ADVANCED

NOT OFFERED AT THIS LEVEL
Important details

- **2 hours of lectures per week**
- **Work is set on a regular basis**
- **Prior knowledge of subject not required**

It is the proud boast of classical civilization that it educated humanity. Schools, universities and every subject studied in the academic curriculum were originally started and defined by the Greeks and Romans.

Classical Studies seeks to make Classical culture and civilization accessible to the modern student by imparting a basic grounding in Latin and Greek grammar and a comprehensive knowledge of classical culture.

*Virtutem Docemus* - We teach excellence.

Subject Coordinator:

**Dr J.P. De Lucca**
e-mail: jean-paul.delucca@um.edu.mt
Web page: http://www.jc.um.edu.mt/classicalstudies
ECONOMICS

Important details

• 5 hours of lectures per week

• One seminar and one tutorial per week

• Regular assignments

• Prior knowledge of subject not required

Economics is the study of how best to utilise scarce resources to achieve economic prosperity and wealth.

It offers an insight into how prices and output of goods and services are determined under different market conditions. It examines how economies are managed for achieving price stability, full employment, growth and higher standard of living.

At the end of the course, students are expected to have the basic skills to analyse and interpret simple economic problems and issues.

Subject Coordinator:

Dr E. Azzopardi
e-mail: ernest.azzopardi@um.edu.mt
Web page: http://www.jc.um.edu.mt/economics
Economics is an interesting subject that deals with real life business issues.

It offers an insight into how economic systems function and how governments strive to achieve price stability, full employment, economic growth and development, higher standards of living and a fair distribution of income and wealth for their citizens.

At the end of the course, students are expected to have a basic understanding of how an economy works and be familiar with the basic tools that are used to analyse and interpret simple problems and issues.

Subject Coordinator:

Dr E. Azzopardi
e-mail: ernest.azzopardi@um.edu.mt
Web page: http://www.jc.um.edu.mt/economics
Geography bridges the natural and social sciences. It looks at phenomena from the spatial perspective. This science includes the main physical characteristics that make up the natural environment and the central themes that govern human beings and their actions on the planet. The study of Geography will enable students to use their acquired knowledge in real-life situations and as a basis for life-long education.

The range of learning skills includes the understanding of the diverse characteristics of people, places and environments and the solving of problems systematically using geographical methods.

Broad and sustained background reading is indispensable.

Important details

- **Strong emphasis is placed on fieldwork**
- **Guidance in research methods provided**
- **A pass at SEC level is considered an asset**

Subject Coordinator:

**Ms G. Borg Axisa**
e-mail: glorianne.borg-axisa@um.edu.mt
Web page: http://www.jc.um.edu.mt/geography
Important details

- Broad and sustained background reading is essential
- No fieldwork report required for final examination
- A pass at SEC level though not essential is considered an asset

Geography reflects on aspects of the world through a holistic approach.

The programme of studies addresses:

- The main physical characteristics that make up the natural environment.
- The central themes that govern human beings and their actions on the planet.
- The interrelation between the human and the geophysical environment.
- A range of learning skills to help appreciate these phenomena from a spatial perspective.

Students will go through a positive experience through an integrated approach towards life on Earth.

Subject Coordinator:

Ms G. Borg Axisa

e-mail: glorianne.borg-axisa@um.edu.mt
Web page: http://www.jc.um.edu.mt/geography

History seeks to understand women and men in their settings in order to make sense of their lives and experiences.

The syllabus is focused on the period 1789 to 2004, for both Maltese and International History. The emphasis is on depth and analysis. The syllabus is characterized by a number of compulsory and optional topics. Both compulsory and optional subjects deal with historical events that have shaped the modern world.

**Important details**

- **5 - 6 hours lectures per week**

- **Emphasis is laid on content, as well as on developing strong study and writing skills**

- **A pass at SEC level although not essential is considered an asset**

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**Subject Coordinator:**

**Ms G. Borg Axisa**

e-mail: glorianne.borg-axisa@um.edu.mt

Web page: http://www.jc.um.edu.mt/history
Important details

• 2 hours of lectures per week

• Emphasis is not only on content but also on effective essay writing

• A pass at SEC level although not essential, helps towards a better understanding of the subject


History seeks to understand women and men in their settings in order to make sense of their lives and experiences.

The Intermediate level syllabus covers aspects of Maltese and International history from 1789 to 1917. The themes dealt with will help the student understand the core elements of the nineteenth century. Unlike the Advanced Level, the Intermediate syllabus does not deal with the twentieth century.

Subject Coordinator:

Ms G. Borg Axisa

e-mail: glorianne.borg-axisa@um.edu.mt
Web page: http://www.jc.um.edu.mt/history
Marketing is a management process aiming to identify, anticipate and satisfy customer needs efficiently and profitably.

At Advanced level, the topics covered include: Marketing and the Societal Marketing Concepts, the Marketing Environment, Marketing Research, Consumer and Organisational Buying Behaviour, Market Segmentation, the Marketing Mix, Product and Pricing Strategy, Distribution, Integrated Marketing Communications, Sales, Direct Marketing, the Marketing Plan, International Marketing and Consumerism and Relationship Marketing.

Subject Coordinator:

Mr S. Schembri
email: stefan.schembri@um.edu.mt
Web page: http://www.jc.um.edu.mt/marketing
Important details

• 2 hours of lectures per week

• Regular assignments

• Prior knowledge of the subject not required

• Provides basic knowledge of the subject

Marketing is a management process aiming to identify, anticipate and satisfy customer needs efficiently and profitably.

At Intermediate level, topics covered include: the Marketing and the Social Marketing Concepts, Marketing Research, Markets, Market Segmentation, the Marketing Mix, Product and Pricing Strategy, Distribution and Integrated Marketing Communications.

The course involves a combination of theory and practical assignments.

Subject Coordinator:

Mr S. Schembri
email: stefan.schembri@um.edu.mt
Web page: http://www.jc.um.edu.mt/marketing
The goal of philosophy is to address the ‘big questions’ about who we are and the meaning of life. The study of philosophy as a discipline is a journey in two directions: it invites us to look outwards in an attempt to make sense of the reality around us, and it encourages us to look within us so as to understand, form and express ourselves and our own ideas better.

Philosophy is a fascinating subject that will help you develop valuable skills in reasoning, problem-solving and communication in order to help you succeed in life. It will offer you an excellent background for a broad variety of career paths.

Subject Coordinator:

**Dr J.P. De Lucca**

email: jean-paul.delucca@um.edu.mt
Web page: http://www.jc.um.edu.mt/philosophy
Philosophy deals with the fundamental questions and problems that are connected to all areas of human concern. The study of philosophy will (i) introduce you to the ideas of the great philosophers of the past, (ii) help you develop thinking skills to succeed in life, (iii) guide you to ask questions about the meaning of life and our personal identity, (iv) help you seek to understand controversial issues such as abortion, euthanasia, human sexuality, the environment and war.

The study of philosophy will help you think through difficult questions and will help you develop valuable skills which you will find useful in whatever you decide to do in the future.

Subject Coordinator:

**Dr J.P. De Lucca**
email: jean-paul.delucca@um.edu.mt
Web page: http://www.jc.um.edu.mt/philosophy
NOT OFFERED AT THIS LEVEL
Psychology is the study of human behaviour: how we think, develop, and behave, what is healthy and unhealthy behaviour.

The course is based on five major sections:

- What is Psychology?
- Major approaches in Psychology
- Development and observing human behaviour
- Psychological disorders
- Themes in Psychology: stress, aggression and gender

This course helps you to understand persons in a deeper way in practice and in theory.

Subject Coordinator:

Dr J.P. De Lucca
email: jean-paul.delucca@um.edu.mt
Web page: http://www.jc.um.edu.mt/psychology
RELIGIOUS KNOWLEDGE

ADVANCED

Important details

• 4 hours of lectures, 1 hour seminar and 1 hour tutorial per week

• A pass at SEC level is recommended

Religious Knowledge is the study of the main beliefs of the Catholic faith.

The Advanced level course covers certain themes from the Bible, the Creed, Liturgy, the Sacraments and Christian Morality.

Besides the basic teachings of the Church, certain important issues relevant to today’s life are discussed.

Subject Coordinator:

Fr J. DeBono ocd
email: jose.debono@um.edu.mt
Web page: http://www.jc.um.edu.mt/relknow
Religious Knowledge is the study of the main beliefs of the Catholic faith.

Although this course does not go into much detail with regards to the teachings of the Church, certain important issues which are relevant to today’s life are discussed. These include:

• Why does one believe in God?
• How does one show his faith through Liturgy and the Sacraments?
• Moral issues like Abortion, Euthanasia and Divorce
• Christian Prayer

Subject Coordinator:

Fr J. DeBono ocd
email: jose.debono@um.edu.mt
Web page: http://www.jc.um.edu.mt/relknow
Sociology is the study of societies. Students learn to look at social life from a new perspective.

Advanced level students will learn the origins of Sociology, the major theoretical perspectives as well as the methods used in social research.

The Advanced level course also covers the following themes: the family, education, religion, poverty and social exclusion, social stratification, social change and development.

Subject Coordinator:

Ms A. Deguara
email: angele.deguara@um.edu.mt
Web page: http://www.jc.um.edu.mt/sociology
Sociology is the study of social life.

Intermediate Sociology is meant to equip students with a basic knowledge of how society works by studying the major theoretical perspectives in Sociology as well as the research methods used to learn more about society.

Students also study three main themes: the family, education and religion.

Important details

- 2 hours of lectures per week
- Regular assignments
- A SEC pass in Social Studies is considered an asset, however Intermediate Sociology is NOT a higher level of SEC Social Studies

Subject Coordinator:

Ms A. Deguara
email: angele.deguara@um.edu.mt
Web page: http://www.jc.um.edu.mt/sociology
GROUP 3

APPLIED MATHEMATICS
BIOLOGY
CHEMISTRY
ENVIRONMENTAL SCIENCE
PHYSICS
PURE MATHEMATICS
Important details

- 6 hours of lectures per week
- Tutorials and assignments
- A SEC pass at Grade 3 or better is recommended

Advanced level Applied Mathematics is an intensive course with great emphasis on aspects of the Dynamics of a Particle and Statics.

At this level one covers also the following topics: Kinematics, Motion in a plane, Vectors, Relative Velocity and Rigid Body Dynamics.

Together with Advanced Applied Mathematics students are also advised to choose Pure Mathematics at Intermediate level as a considerable amount of Pure Mathematics is involved.

Subject Coordinator:

Mr F. Curmi
e-mail: francis.curmi@um.edu.mt
Web page: http://www.jc.um.edu.mt/maths
Important details

- 3 hours of lectures per week
- Tutorials and assignments
- Students get a basic knowledge of the subject

Intermediate level Applied Mathematics introduces the student to Classical Mechanics.

At this level one covers the following topics: Statics, Kinematics, Dynamics of Particles, Motion in a plane and Vectors.

Subject Coordinator:

Mr F. Curmi
email: francis.curmi@um.edu.mt
Web page: http://www.jc.um.edu.mt/maths
Important details

- 5 hours of lectures, 1 hour tutorial per week
- 2 hours laboratory sessions per week
- A grade 3 at SEC level is recommended
- Basic knowledge of Chemistry helps in understanding certain biological concepts

The main areas of study in Advanced level Biology include: cell biology, ecology, diversity of life, biochemistry, physiology, genetics and biotechnology.

During tutorials, classes are divided into small groups allowing you to discuss study problems with your tutors and get individual attention.

The practical aspect of the subject is given great importance since it carries 33% of the final mark in the Advanced level examination.

A good grade in Advanced level Biology requires regular study and maximum effort.

Subject Coordinator:

Mr R. Vassallo
email: roderick.vassallo@um.edu.mt
Web page: http://www.jc.um.edu.mt/biology
Important details

• 3 hours of lectures per week

• A pass at SEC level is recommended

• Basic knowledge of Chemistry helps in understanding some biological concepts

The main areas of study in Intermediate level Biology include: cell biology, biochemistry, ecology, physiology, diversity of life and genetics. Although these are similar to main areas in Advanced level, they are covered in less depth.

There are no practical sessions in this study programme.

Audio-visual resources are used regularly during lectures.

Subject Coordinator:

Mr R. Vassallo
email: roderick.vassallo@um.edu.mt
Web page:http://www.jc.um.edu.mt/biology
Chemistry is one of the fundamental sciences which has a profound effect on our planet. It is involved in every facet of everyday life.

The Advanced level is divided into physical, organic and inorganic Chemistry with strong links between them.

Two tutors are assigned for lecturing, one for physical and inorganic Chemistry and one for organic Chemistry.

Subject Coordinator:

Mr R. Camilleri
email: renato.camilleri@um.edu.mt
Web page: www.jc.um.edu.mt/chemistry
Intermediate Chemistry provides a comprehensive course in chemical literacy. It covers the core topics in a comprehensive yet concise manner.

The aim of the course is to give a good grounding in Chemistry without the depth and higher degree of commitment required at Advanced level.

One tutor is assigned for lecturing the whole academic programme.

Important details

- 2 hours of lectures per week, occasionally utilised for practical demonstrations

- Students are regularly assessed throughout their programme of studies

- Grade 4 or better at SEC level is recommended

Subject Coordinator:

Mr R. Camilleri
email: renato.camilleri@um.edu.mt
Web page: www.jc.um.edu.mt/chemistry
NOT OFFERED AT THIS LEVEL
Environmental Science explores the relationships between the dynamics of the natural world and the organisms that inhabit it.

The course introduces the science of the Earth, the structure and composition of the atmosphere and oceans and ecological interactions between organisms.

The effects of human activity, including pollution, waste management and loss of biodiversity are also treated.

Subject Coordinator:

Dr J. Doublet
email: joe.a.doublet@um.edu.mt
Web page: http://www.jc.um.edu.mt/envsci
Studying Physics is really quite exciting since the subject strives to understand the universe from the largest galaxies to the smallest subatomic particles.

The Advanced level syllabus builds on many areas that would have already been tackled at SEC level but it covers new ground and the level of study is much deeper.

One should note that the subject calls for an appropriate degree of mathematical competence, particularly in the fields of algebra and trigonometry.
Important details

- 2-3 hours of lectures per week
- A grade 4 or better at SEC level is recommended

The Intermediate syllabus is not excessively demanding in terms of depth of content and there are only a few areas that would not have been already tackled at SEC level.

It is an ideal choice for students taking other science subjects at Advanced level.

No difficult mathematics is involved at this level of study but a basic competence in the fields of algebra and trigonometry is definitely required.

Subject Coordinator:

Mr M. P. Farrell
email: martin.farrell@um.edu.mt
Web page: http://www.jc.um.edu.mt/physics
When one studies Pure Mathematics at Advanced level, one has the necessary tools that physicists, biologists, computer scientists and engineers need to solve real-world problems.

Topics on Calculus, Trigonometry, Coordinate Geometry and Algebra and their wide applications are treated thoroughly.

Pure Mathematics is the study of quantity, structure, space and change. Mathematicians seek out patterns, formulate new conjectures and establish truth by rigorous deduction from appropriately chosen axioms and definitions.

Subject Coordinator:

**Mr F. Curmi**

email: francis.curmi@um.edu.mt

Web page: http://www.jc.um.edu.mt/maths
Important details

- **3 hours of lectures per week**
- *Tutorials and assignments*
- *Students acquire a basic knowledge of the subject*

The emphasis of Pure Mathematics at Intermediate Level is on developing a sound mathematical knowledge which will help pupils acquire oral, written and practical skills which are required in problem solving. The course is much less intensive than that at Advanced level.

At Intermediate Level the following main topics in Mathematics are covered:

- Algebra
- Trigonometry
- Calculus
- Geometry

Subject Coordinator:

**Mr F. Curmi**
email: francis.curmi@um.edu.mt
Web page: http://www.jc.um.edu.mt/maths
GROUP 4

ART

COMPUTING

ENGINEERING DRAWING &
GRAPHICAL COMMUNICATION

HOME ECONOMICS &
HUMAN ECOLOGY

INFORMATION TECHNOLOGY

LEGAL STUDIES

MUSIC

PHYSICAL EDUCATION

THEATRE & PERFORMANCE
Important details

• 6 hours practical sessions per week

• 1 hour weekly in History of Art

• A SEC pass/ knowledge of the subject is recommended

The primary aims of the course are creativity, artistic processes and knowledge of History of Art.

The course focuses on drawing, painting, and other visual media in order to develop skills of representation and the appreciation of form in art.

Students have to present projects and keep a visual diary and a portfolio of works.

A high standard is expected in all areas.

Subject Coordinator:

Dr P. Caruana
email: philip.caruana@um.edu.mt
Web page: http://www.jc.um.edu.mt/art
**Important details**

- 2 hours of lectures per week
- Practical work and projects under supervision
- A SEC pass/knowledge of the subject is recommended

The primary aims of the course are creativity, artistic processes and knowledge of History of Art.

The course introduces drawing, painting and other visual media in order to develop skills of representation and the appreciation of form in art.

Students have to present projects and keep a visual diary and a portfolio of works.

A basic standard is expected in all areas.

Subject Coordinator:

**Dr P. Caruana**
email: philip.caruana@um.edu.mt
Web page: http://www.jc.um.edu.mt/art
The Advanced level course is focused on the theoretical aspects of hardware, software and JAVA programming.

This syllabus is ideal for those students who wish to further their knowledge on the various aspects of the Computing discipline, possibly with the intention of following any undergraduate degree programme through detailed knowledge of the technical aspects of ICT.

By the end of the course students will be expected to have mastered the JAVA language sufficiently well to submit a project, as specified by MATSEC.

Subject Coordinator:

Ms R. Galea
email: roberta.galea@um.edu.mt
Web page: http://www.jc.um.edu.mt/cit
Important details

• 2 hours of lectures per week
• 1 hour practical per week
• A project carrying 20% of MATSEC mark to be compiled by end of course
• A grade 3 or better at SEC level, preferably with a good background in programming is recommended

The Intermediate level course is intended to give a basic understanding of the theory and techniques used in Computing. It covers a good part of the MATSEC Advanced level Computing syllabus without going into much detail as is expected in the Advanced level.

The aim of the course is to provide students with a basic knowledge of the JAVA programming language.

Students will be able to use a programming language and basic application packages in practical situations.

Subject Coordinator:

Ms R. Galea
email: roberta.galea@um.edu.mt
Web page: http://www.jc.um.edu.mt/cit
Graphical Communication is a universal graphic language used by designers from all disciplines to describe accurately the size, shape and relationship of the physical components making up the technical world.

At Advanced level, the subject may be divided into three parts:

- Plane and solid geometry
- Creative design as applied to ideogrammatic images, packaging solutions, instructional leaflets, building illustrations and the communication of comparative information
- 2-D Computer Aided Draughting (CAD).

**Important details**

- 7 hours tuition per week.
- A pass at SEC level is recommended
- Subject covers 2-D Computer Aided Draughting (CAD)

**Subject Coordinator:**

**Mr F. Curmi**
email: francis.curmi@um.edu.mt
Web page: http://www.jc.um.edu.mt/graphcomm
At Intermediate level the subject represents a blend of the separate subjects of Engineering Drawing and Graphical Communication.

Both subjects share the same core knowledge but Engineering Drawing finds specialised applications whenever machines and structures are designed, described and built.

The subject may be divided into three parts:

- Core knowledge
- Engineering machine drawing
- Graphical representation of data, pictorial illustrations and the design process.
The course is multi-faceted and rigorous. It complements other subjects and contributes in preparing young people for life. The syllabus includes modules about food, nutrition and health, as well as the well-being of different individuals, family and household groups in society. The syllabus also comprises topics about housing, management of finances and resources, environmental issues and consumer education.

The MATSEC examination consists of two written papers and a coursework component. The coursework contributes 25% of the total mark.

Subject Coordinator:

Mr R. Vassallo
email: roderick.vassallo@um.edu.mt
Web page: http://www.jc.um.edu.mt/homeeconomics
The course prepares students for their MATSEC certificate in Home Economics and Human Ecology.

There is only one examination paper. The syllabus incorporates fewer topics and concepts are not developed at the same rigour and depth as the Advanced level. The main areas of study are: the family in society; food science and nutrition; food habits and needs; consumer issues and concerns.

Students should develop their abilities in transferring knowledge and skills between the areas of study.

Subject Coordinator:

Mr R. Vassallo
email: roderick.vassallo@um.edu.mt
Web page: http://www.jc.um.edu.mt/homeeconomics
The Advanced Level course aims at providing basic knowledge of:

- Computer Hardware and Software
- Introducing Information Systems
- Human Communication and Business Organisation

It also seeks to provide sufficient training in programming to enable the design, writing (coding) and documenting of a program using the JAVA programming language.

Practical projects, as specified by MATSEC should include databases, web design and also a JAVA programming project.

Subject Coordinator:

Ms R. Galea
email: roberta.galea@um.edu.mt
Web page: http://www.jc.um.edu.mt/cit
The Intermediate Level course aims at:

- Providing basic knowledge of Computing Principles and Hardware and Software;
- Familiarising students with the functions of Information Systems;
- Demonstrating how computers are integrated in an organisation including human communication principles based on various ICT applications with an outline of all the business organisation processes.

Practical projects, as specified by MATSEC, include spreadsheets, databases and web design and a separate assignment on business organisation including a power point presentation.

Subject Coordinator:

Ms R. Galea
email: roberta.galea@um.edu.mt
Web page: http://www.jc.um.edu.mt/cit
NOT OFFERED AT THIS LEVEL
Legal Studies introduces the concept of ‘legislation’ and its effect on human society with a particular focus on the implementation of law and the organisation of the Maltese court system.

Four modules are covered, relating to the definition of the law, the implementation of primary and secondary legislation, the legal profession and the judicial system.

Subject Coordinator:

Ms. A. Deguara
email: angele.deguara@um.edu.mt
Important details

• 5 hours of lectures per week

• Grade 6 or better in Practice and Theory (any board) or an Advanced 1 level at the National School of Music is recommended

Music is an art form whose medium is sound, and as such, it must be both emotionally appreciated and intellectually understood.

At Advanced level the following areas are covered:

• Principles of musicianship
• Harmony and counterpoint
• History of music and analysis
• The practical aspect of performance or the creation of composition

Students who play a musical instrument are encouraged to enrol with the Junior College Orchestra which enjoys success in Malta and abroad.

Subject Coordinator:

Dr P. Caruana
email: philip.caruana@um.edu.mt
Web page: http://www.jc.um.edu.mt/music
Music is an art form whose medium is sound, and as such, it must be both emotionally appreciated and intellectually understood.

At Intermediate level the following areas are covered:

- Principles of musicianship
- Harmony
- Counterpoint
- History
- Analysis
- Performance or composition.

Students who play a musical instrument are encouraged to enrol with the Junior College Orchestra which enjoys success in Malta and abroad.

Subject Coordinator:

**Dr P. Caruana**

email: philip.caruana@um.edu.mt

Web page: http://www.jc.um.edu.mt/music

Important details

- 2 hours of lectures per week
- Grade 5 or better in Practice and Theory (any board) or an Intermediate 3 level at the National School of Music is recommended
NOT OFFERED AT THIS LEVEL

Subject Coordinator:

Dr P. Caruana
email: philip.caruana@um.edu.mt
Intermediate Physical Education provides students with an opportunity to study both the theoretical and practical aspects of physical education and sport. It enables them to understand and analyse the major concepts and principles underlying sport and physical education.

Intermediate Physical Education is divided into 5 modules:
- Techniques, tactics and rules in team games
- Anatomy and physiology
- Acquiring movement skills
- Socio-cultural studies and the role and structure of international and local sport organisations
- Fitness tests.

Subject Coordinator:

Dr P. Caruana
email: philip.caruana@um.edu.mt
NOT OFFERED AT THIS LEVEL
**Important details**

- **2 hours of lectures/practical sessions per week**

- *Devising original performance material*

- *Study of Theatre Histories*

Intermediate Theatre and Performance explores the aesthetics of theatre arts and the performative nature of human behaviour.

It introduces students to a practical and theoretical study of theatre histories and performance practices.

Students examine major theatre milestones, starting from the Greeks to the twentieth century. They also engage with physical, vocal, and collective performance work.

**Subject Coordinator:**

**Dr P. Caruana**

e-mail: philip.caruana@um.edu.mt
SYSTEMS OF KNOWLEDGE
Important details

• 2 hours of lectures per week

• A college-based project carries 40% of the final MATSEC examination

Systems of Knowledge proposes to develop a body of knowledge following an interdisciplinary approach.

Thus, whilst it promotes an awareness of a number of selected values set within a Euro Mediterranean cultural and historical framework, it also refers to current events. It aims to do so by going beyond traditional limits of particular disciplines. This is meant to assist students’ ability to engage with ideas and situations from a wider angle from a local, national, European and global dimension.

Values are complemented by practice-oriented attitudes and skills necessary to transform knowledge into practice. Critical and creative thinking and communication skills are considered fundamental.

Subject Coordinator:

Dr P. Caruana
email: philip.caruana@um.edu.mt
Web page: http://www.jc.um.edu.mt/sok
Levels and Sessions of the Examination

3. 1 The Examination shall be held at two levels: Advanced (AM) Level and Intermediate (IM) Level.

3.2 There shall be two sessions of the Examination: the First Session shall be held during the period April to June, and the Second Session shall be held in September of each year.

Subjects of the Examination

4.1 The Examination is offered in a wide range of subjects as follows:

**Group 1**: Maltese, Arabic, English, French, German, Greek, Italian, Latin, Russian, Spanish;

**Group 2**: Accounting, Classical Studies*, Economics, Geography, History, Marketing, Philosophy, Psychology* (as from 2014), Religious Knowledge, Sociology;

**Group 3**: Applied Mathematics (Mechanics), Biology, Chemistry, Environmental Science*, Physics, Pure Mathematics;

**Group 4**: Art, Computing, Engineering Drawing, Graphical Communication, Home Economics and Human Ecology, Information Technology, Legal Studies* (as from 2015), Music, Physical Education* (as from 2014), Theatre and Performance*;

**Group 5**: Systems of Knowledge*.

* offered at Intermediate Level only.

4.2 No subject may be taken at both Advanced and Intermediate Levels, and SEC Levels in the same session of the examinations.

4.3 In the Second Session candidates shall be allowed to sit for a maximum of six subjects as follows: one subject at Advanced Level and a maximum of five subjects at Intermediate Level restricted to one subject from each of Groups 1, 2, 3, 4 and 5.

Award of the Certificate

5.1 To qualify for the Certificate, candidates must pass the examinations taken within a period of five years from the first sitting of any examination offered within the Examination.
5.2 The Certificate shall be awarded to candidates who:

a) sit for:

   i) one subject chosen from each of Groups 1, 2, 3 and 5 and two other subjects chosen from Groups 1, 2, 3 and 4 indicated in regulation 4; and

   ii) two of the six subjects must be at Advanced Level, three other subjects at Intermediate Level and the subject in Group 5; and

b) obtain:

   i) a pass in at least one of the subjects offered from each of Groups 1, 2 and 3, and a pass in the subject in Group 5; and

   ii) A minimum of 44 grade points as indicated in 5.5 of this regulation.

5.4 Candidates who satisfy all the criteria in this regulation shall be awarded the Certificate on the basis of the best results obtained. The Certificate shall be issued once only and it shall indicate that the candidate has satisfied the criteria for the award. Candidates shall also receive a transcript of the results obtained in individual subjects as established in regulation 6 below.

5.5 Grade points shall be awarded for all subjects passed, up to a total of 100 grade points as follows:

<table>
<thead>
<tr>
<th>Advanced Level</th>
<th>Intermediate Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade A – 30 grade points</td>
<td>Grade A – 10 grade points</td>
</tr>
<tr>
<td>Grade B – 24 grade points</td>
<td>Grade B – 8 grade points</td>
</tr>
<tr>
<td>Grade C – 18 grade points</td>
<td>Grade C – 6 grade points</td>
</tr>
<tr>
<td>Grade D – 12 grade points</td>
<td>Grade D – 4 grade points</td>
</tr>
<tr>
<td>Grade E – 6 grade points</td>
<td>Grade E – 2 grade points</td>
</tr>
</tbody>
</table>

Results
6.1 The results obtained in the individual subjects shall be given as grades A, B, C, D, and E in descending order of merit. F indicates Fail and ‘abs’ indicates Absent for the examination.

6.2 The results sent to candidates shall show the subjects in which a pass grade had been awarded as well as the subjects in which the standard required for the lowest grade was not reached.

6.3 The MATSEC Board shall issue certificates for each session showing the subjects in which a pass grade has been awarded.

The full regulations can be accessed from the MATSEC website at: http://www.um.edu.mt/matsec/regulations
Personal Notes