

## 17. MT: Malta

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### 17.1. General information

This description commences with a summary of the conventional Higher Education system in Malta. This is then followed by an overview of some of the variations on the theme that can occur.

#### **School System**

Based on 5 years primary and 5 years secondary education leading to the SEC (secondary education certificate as managed by the matriculation board (MATSEC).

#### **Post Secondary**

Sixth form for two years leading to the Matsec certificate which comprises two advanced level subjects and three intermediate level subjects or higher secondary for students who do not attain the grades required for sixth form.

#### **University or Polytechnic**

After obtaining their Matsec certificate plus attaining the required grades as demanded by the Faculty of Engineering or the Faculty of ICT students are admitted to the first cycle of studies leading to the B.Eng (honours) degree or the BSc (ICT) degree normally at the age of 17 or 18.

FCDs are typically graded using pass, ordinary, third class, lower second class, upper second class and first class classifications.

Until the year 2006 most degrees were based on a four year first cycle followed by a 12 month cycle to obtain an MSC or a Master of Engineering degree but in line with the Bologna guidelines degrees are being standardised as well as harmonised to a 3 + 2 system.

The second cycle leading to a MSc or an M(Eng) is normally of two years duration and is considered as being the second cycle of tertiary education . Second cycle courses are of three types. Master by research through a thesis, masters through taught courses and a dissertation and a conversion Masters.

Second cycle courses are classified as with distinction, merit Pass or Fail.

After the second cycle students can register for a three year doctoral program. However upon completion of an undergraduate programme and subject to the student achieving a first class honours, a student can register directly to a four Doctoral programme. Normally students are accepted for a

M.Phil degree which is then transferred to a Phd. Doctorate programmes after satisfactory progress in the research after one year.

A wide range of variations is possible. Students can defer entry to higher education after school/college in favour of employment, returning to the academic system at any stage. In a similar way, a break can be taken between the FCD and the SCD. Both the FCD and SCD can be taken part time normally then requiring twice the duration for completion.

#### 17.1.1 *Electrical and Information Engineering in Malta, boundaries of the field of study*

One of the definitions possible for EIE lies in the way in which a student would select a course within an academic institution. The source for this information is the Admissions office of the University of Malta

##### Course offered

- Digital electronics
- Electronic / electrical engineering
- Electronic and information communications
- Computer engineering systems
- Electronic control
- Mechanical electronic systems engineering (1 course)
- Power engineering
- Computer Science
- Business systems engineering
- Computing
- European computer science
- Information systems
- Information technology (ICT)
- Informatics
- Information systems engineering
- Nanotechnology engineering
- Telecommunications

##### **Notes:**

The above list is a reduced list to include only those subjects considered to be directly of interest to the EAEEIE.

### 17.1.2 Content, degrees and accreditation

The Maltese higher education system consists of three main cycles, undergraduate, graduate Masters and graduate doctorate.. FCDs are typically of 3-year and classified as Bachelor of Science(ICT) or Bachelor of Engineering usually, but not always, indicative of a scientific or engineering basis. SCDs are typically of 1-year or 3-year duration classified as Master of Science (MSc) or Master of Philosophy (MPhil) for the 1-year duration degrees and Doctor of Philosophy (PhD) for the 3-year degrees.

The 'value' of the FCDs is defined by the Quality Assurance Agency (APQRU) in terms of ECTS credits. A FCD consists of 3 years of studies where each year must comprise 60 credits. A 3-year BSc or BEng therefore comprises 180 ECTS credits. One ECTS credit normally comprises five to seven lecturer contact plus an additional student workload of about 20 student hours. This time comprises lectures, laboratories, assessments, lecture preparation, assessment preparation, assignments, etc.

Masters level degrees are now standardising on a two year cycle of 120 ECTS credits although student who followed a four year honours degree can so far obtain a Masters in 12 months equivalent to 90 ECTS credits.

Basic studies in engineering include mathematics, basic sciences and computer technology. After two years the studies become more subject-related. Students can choose specific study options within the degree programme. A Master's thesis is usually written during the final year of the studies.

## **17.2 Degrees in EIE in Malta**

The general requirements for entry to a first cycle degree in a higher education institution are the acquisition of the required Matsec certificate at a higher secondary school or sixth form college. The value of this tariff will depend on the programme selected. Normally each Faculty imposes its own specific additional requirements based on subjects included and grades achieved in the MATSEC examination.



## Doctoral

## Studies

### **17.3. Doctoral Studies in Malta**

#### **17.3.1. Supervision**

##### ***Scientific Board or Supervisor***

Principal Supervisor - personal supervisor for the student's thesis work on an active/new research area of the department.

Co-Supervisor Appointed where nature of work requires the role of a consultant on a regular basis

Advisers Appointed where occasional consultation with experts is required.

##### ***Subject Assignment***

Subject assigned at the beginning of the doctoral studies, by agreement between student and supervisor. Head of department must recommend that the topic is acceptable. The Faculty Doctoral Committee must recommend approval to the PhD sub-committee of Senate.

##### ***Who can be a Supervisor***

Any professor/lecturer in the department.

##### ***Tasks of Scientific Board/Supervisor***

- |    |                                    |     |
|----|------------------------------------|-----|
| 1. | General management                 | YES |
| 2. | Deciding/advising layout of course | YES |
| 3. | Assigning a thesis subject         | YES |

##### ***Duration***

Three years for students who have a Master and four years for First cycle students with a first class honours.

## **17.3.2. Development**

### ***Courseware?***

No.

### ***Course Work***

The students don't have to take course work during their doctoral degree preparation.

### ***Contribution to Teaching***

1. Supervision of undergraduate laboratory work (typically 4/6 hours per week).
2. Tutoring of undergraduate groups.

### ***Presentation of Work***

1. In the department.
2. At national conferences.
3. At international conferences.

### 17.3.3. Thesis Work

#### Submission of Doctoral Written Thesis

1. Language normally used: English. Alternative languages: provided the University has necessary language expertise and an Abstract in English is provided.
2. No credits allocated to the doctoral thesis.
3. The doctoral thesis is a previously unpublished substantial written report.

#### Oral Presentation of Thesis Work

1. Language normally used: English. Alternative languages: provided the University has necessary language expertise and an Abstract in English is provided.
2. Oral presentation to an open audience. Examination is a 2 stage process: first thesis is examined by the Board of examiners individually and if approved an oral examination will take place at another set date.
3. Duration: typical duration of 3 hours with no upper time limit.

### 17.3.4. Examination

#### Thesis Examination Board

1. Composition: two internal examiners and one external examiner (3 members). When the student is a member of the University an additional external examiner is required.
2. Selection: by the Senate on the recommendation of the PhD Committee.

#### Evaluation

1. Result based on the reading of the thesis and the oral examination of the candidate, with no grading system for the doctoral degree.
2. If the student fails, he/she may resubmit a revised thesis or may also do further work as specified by the examination board within six months. He or she may not resubmit for doctorate.

## 17.4. Questionnaires

### *MALTA*

#### 3 – ACTIVITIES DURING DOCTORAL STUDIES

##### 3.1- SUPERVISION OF DOCTORAL STUDIES

|                |   |        |
|----------------|---|--------|
| <b>3.1.1</b>   | Are the doctoral studies supervised by a Scientific Board/supervisor? If no, please proceed to 3.1.5.               | YES    |
| <b>3.1.2</b>   | <b>How many members are in the Scientific Board?</b>  | 3 to 5 |
| <b>3.1.3</b>   | How are the members of the Scientific Board chosen? By Faculty  |        |
| <b>3.1.3.1</b> | Elected by the Faculty, Department?   | YES    |
| <b>3.1.3.2</b> | Chosen by the student?  | NO     |
| <b>3.1.3.3</b> | Chosen in another way? Please specify:  | N/A    |
|                | Elected by Faculty on recommendation of the Head of Department.   |        |
| <b>3.1.4</b>   | Which are the main tasks of the Scientific Board/ Supervisor?   |        |
| <b>3.1.4.1</b> | General management of the doctoral studies.   | YES    |
| <b>3.1.4.2</b> | Deciding the layout of the course, advising the students on their coursework.                                       | YES    |
| <b>3.1.4.4</b> | Assigning the thesis subject.   | NO     |
| <b>3.1.4.5</b> | Other. Please specify:  | YES    |
|                | Faculty Doctoral Committee which acts as the scientific Board monitors progress of students in their research work. |        |
| <b>3.1.5</b>   | Does the student need a personal supervisor during her/his studies?   | YES    |
| <b>3.1.5.1</b> | Does the same person supervise her/his thesis work?   | YES    |
| <b>3.1.6</b>   | Must the subject of the doctoral thesis be an active research area in the department?                               | YES    |

3.1- SUPERVISION OF DOCTORAL STUDIES

3.1.7 The doctoral thesis subject is normally assigned:

3.1.7.1 At the beginning of the doctoral studies? YES

3.1.7.2 After a specified period of coursework? No

3.1.7.3 Other. Please specify:

3.1.8 The thesis supervisor of a doctoral student can be:

3.1.8.1 Any professor or lecturer in the department? YES

3.1.8.2 Any researcher in the department? NO

3.1.8.2.1 In this case, is there a need for a second supervisor who is a professor or lecturer in the department? N/A

3.1.8.3 Any researcher in another institution? NO

3.1.8.3.1 In the latter case, is there a need for an internal supervisor? N/A

3.1.8.4 Other methods. Please specify:

**An external academic can be appointed as a co-supervisor.**

3.1.9 The thesis subject is assigned by:

3.1.9.1 Agreement between the student and the proposed supervisor? YES

3.1.9.2 Other methods. Please specify: NO

3.2- COURSE WORK

3.2.1 Do the students have to take coursework during their doctoral degree preparation? If no, please proceed to 3.3. NO

3.2.2 **Extension and assessment.**

|         |   |        |        |        |        |
|---------|---|--------|--------|--------|--------|
| 3.2.2.1 | What is the number of contact hours spent in coursework in each year? | Year 1 | Year 2 | Year 3 | Year 4 |
|         |   | hrs    | hrs    | hrs    | hrs    |



3.2- COURSE WORK

**3.2.2.2 In which form is this coursework offered?**

- As specialist graduate course units.
- As course units taken from the undergraduate programme.
- Other. Please specify.

**3.2.2.3** Is the coursework assessed by examinations?  
If not, please give details: N/A

**3.2.3 Credit system**

**3.2.3.1** Is the coursework in your institution described by a credit system? N/A

**3.2.3.2** Is it the ECTS system? N/A  
If not, what is the relationship with ECTS?

**3.2.3.3** How many credits are allocated to coursework? **credits**

**3.2.4 Monitoring**

**3.2.4.1** Do you monitor the performance of the doctoral student taking coursework? N/A

**3.2.4.2 What regulations apply in case of failure in one or more course units?**

- Retake the exam.
- Take a different course unit.

3.3- PRESENTATION OF WORK RESULTS:

**3.3.1** In the department. YES

**3.3.2** At national conferences. YES

**3.3.3** At international conferences. YES

3.4- CONTRIBUTION TO TEACHING:

**3.4.1** Supervision of undergraduate laboratory. YES

**3.4.2** Teaching undergraduate courses. YES

**4 - AWARDING OF DOCTORAL DEGREE**

4.1- SUBMISSION OF DOCTORAL THESIS

|         |  |         |
|---------|--|---------|
| 4.1.1   | Which language is normally used for the thesis?  | English |
| 4.1.2   | Are alternative languages used for the thesis?<br>Please Specify:<br><br><b>Provided the University has necessary language expertise and an Abstract in English is provided.</b> | Yes     |
| 4.1.3   | Which language is normally used for the oral presentation and/or examination?  | English |
| 4.1.4   | Are alternative languages used in the oral presentation and examination?<br>Please Specify:<br><br><b>As in 4.1.2</b>  | YES     |
| 4.1.5   | Are credits allocated to the doctoral thesis?  | NO      |
| 4.1.6   | <b>The doctoral thesis is:</b>   |         |
| 4.1.6.1 | A previously unpublished substantial written report.   | YES     |
| 4.1.6.2 | A collection of individual or co-authored scientific papers with an introduction and/or commentary.  | N/A     |
| 4.1.6.3 | Other. Please specify:   | N/A     |

4.2- THESIS EXAMINATION AND DEGREE AWARDING

|         |  |       |
|---------|--|-------|
| 4.2.1   | Is there an oral presentation of the thesis work for an open audience as part of the evaluation procedure? | YES   |
| 4.2.2   | Composition of the thesis examination board. Please, give the typical number of:                           |       |
| 4.2.2.1 | Internal examiners.  | TWO   |
| 4.2.2.2 | External examiners.  | ONE   |
| 4.2.2.3 | TOTAL.   | THREE |
|         | <b>When the student is a member of the University an additional external examiner is required.</b>         |       |

4.2- THESIS EXAMINATION AND DEGREE AWARDING

|                |   |         |
|----------------|---|---------|
| <b>4.2.3</b>   | How is the examination board chosen?  |         |
| <b>4.2.3.1</b> | By the supervisor.  | NO      |
| <b>4.2.3.2</b> | By the scientific committee of the institution.   | YES     |
| <b>4.2.3.3</b> | By the rector or equivalent.  | NO      |
| <b>4.2.3.4</b> | By the national ministry.   | NO      |
| <b>4.2.3.5</b> | Other. Please specify:  |         |
|                | <sup>1</sup> (4.2.3.1) By Senate on the recommendation of the PhD Committee.  |         |
| <b>4.2.4</b>   | Do the examiners base their evaluation mark on:   |         |
| <b>4.2.4.1</b> | Reading the thesis.   | YES     |
| <b>4.2.4.2</b> | The oral presentation of the thesis work.   | YES     |
| <b>4.2.4.3</b> | Both.   | YES     |
| <b>4.2.4.4</b> | What is the typical duration of the oral part of the thesis examination, if applicable?   | 3 hours |
| <b>4.2.4.5</b> | Is there an upper limit to the duration of the thesis examination?  | NO      |
| <b>4.2.5</b>   | Is the oral part of the examination taken behind closed doors?  | YES     |
|                | Examination is a 2 stage process: first thesis is examined by the Board of examiners individually and if approved and oral examination will take place at another set date. |         |
| <b>4.2.6</b>   | What happens if the student fails?  |         |
| <b>4.2.6.1</b> | May not resubmit for doctorate.   | YES     |
| <b>4.2.6.2</b> | May resubmit revised thesis.  | YES     |
| <b>4.2.6.3</b> | May do further work as specified by examination board.  | YES     |
| <b>4.2.6.4</b> | If the thesis is to be re-submitted is there a time limit for this to occur?<br>Please specify:<br>Usually SIX months.  | YES     |
| <b>4.2.7</b>   | Is there a grading system for the doctoral degree based on the quality of the work?   | NO      |