

Universitat Internacional de Catalunya
Faculty of Dentistry

UIC

Association for Dental Education in Europe

SCHOOL VISITATION

13-16 February, 2018



ADEE Visitor's Comments

LEADER

Leading European Academic Dental Education and Research

**THE DENTAL EDUCATION
EXCELLENCE PROGRAMME**

Dental School Information

Name of School: Faculty of Dentistry, Universitat Internacional de Catalunya

City: Barcelona

Country: Spain

Address: Campus Sant Cugat,

Josep Trueta, s/n

08195, Sant Cugat del Vallès (Barcelona – Spain).

Website: <http://www.uic.es/en/dentistry>

Dean of School: Dr. Lluís Giner Tarrida

Phone: +34935042000

E-mail: lginer@uic.es

Visitor Coordinator:

Dr. Marta Satorres Nieto

Phone: +34935042000

E-mail: msatorres@uic.es

Position: Academic Vice-Dean

Date of Visitation: 13 – 16 February 2018

ADEE Visitors

Chairperson: Prof. Heikki Murtomaa, Finland, email heikki.murtomaa@helsinki.fi

Rapporteurs: Prof. Jon Cowpe, Wales-U.K., email jonathancowpe@gmail.com

Dr. Argyro Kavadella, Greece, email akavad@dent.uoa.gr

Members: Prof. Gérard Levy, France, email gerard.levy@parisdescartes.fr

CONTENTS

	Page	
Section 1	Introduction and General Remarks	4
Section 2	Facilities	6
	2.1. Physical facilities	6
	2.2. Clinical facilities	6
	2.3. Teaching and learning facilities	7
	2.4. Research facilities	9
Section 3	Administration and Organisation	9
Section 4	Staff	13
Section 5	Curriculum in general; content and methods	14
Section 6	Medical and Biological Sciences	18
Section 7	Dental Public Health and Behavioural Sciences	19
Section 8	Restorative dentistry	20
Section 9	Orthodontics & Paedodontics	21
Section 10	Oral diseases of bone and soft tissues	22
Section 11	Scientific Education and Development	23
Section 12	Integrated dental care	25
Section 13	Student Affairs	26
	13.1. Undergraduate students	26
	13.2. Postgraduate students	30
	13.3. Young teachers and Researchers	31
Section 14	Research and Publications	32
Section 15	Quality management	34
Section 16	Summary of key recommendations	35

Section 1 - Introduction and General Remarks

The visitors are extremely grateful to the Universitat Internacional de Catalunya and in particular its Faculty of Dentistry for their wonderful welcome and hospitality during the ADEE visit. We wish to thank Dr. Lluís Giner Tarrida, Dean of the Faculty of Dental Medicine, Dr. Marta Satorres Nieto, the visit Coordinator and her team, as well as all the staff and students at the UIC Faculty of Dentistry for their honesty, openness and enthusiasm during the visit.

UIC Faculty of Dentistry is one of the 10 private Dental Faculties operating in Spain. Spain is one of the few countries that allow studying for a Bachelor's degree in Dentistry, in private Universities. A total of 23 Dental Schools exist in Spain (13 State and 10 private ones). According to the "El Mundo" ranking in 2016, the UIC Bachelor's Degree in Dentistry was included among the top 3 in Spain and UIC is one of the top Spanish universities for employment of their graduates. UIC encourages teaching in other subjects not directly related to the degree subject. This includes the teaching of Anthropology which is studied by all students across the university, training them to be good citizens and educating the students to be considerate to others.

UIC and the Faculty of Dentistry were founded in 1997 and have been expanded and improved continuously ever since. As of the 2008-2009 academic year, the University made all study programmes compliant with the regulations established by the European Higher Education Area (EHEA). UIC Dental School has a significant role in providing services for the local community, producing high quality and competent dental professionals. This ADEE visit provided the visitors with a better understanding of achievements and aspirations of UIC and its staff. The UIC Faculty of Dentistry is to be commended for aiming to develop holistic dental professionals through the cultivation of ethos and humanism across the curriculum.

The team feels that the self-evaluation document available to the visitors did not do justice to the work being undertaken in this Faculty. The information the team members obtained through the site visit contributed to a greater understanding of the Faculty of Dentistry and clearly showed the strengths of this Faculty.

The visitors strongly emphasise the importance of the **process** involved in the production of the self-assessment document to the Faculty of Dentistry. This actual process of self-assessment is the **most important aspect** of the ADEE review of any Dental Faculty. It is through the self-assessment exercise itself that the Faculty can

learn and advance the undergraduate programme towards excellence. The self-assessment report of a Dental School gives the Faculty the opportunity to reflect on and refine its curriculum and the education offered, so that:

- similarities, overlaps and contradictions among the sciences are identified
- areas of cooperation, sharing content and co-teaching are acknowledged
- weaknesses, omissions and challenges are discovered
- opportunities for development of modules and further integration among the different disciplines can be exploited,

This, in turn, supports improvement of the education process. The visitors hope that this ADEE review process, complemented by the site visit, has helped staff and students to acquire a better overview of their curriculum. This, in turn, should help interdepartmental integration, inter-professional collaborations and progress in all fields. It is recommended that the Faculty of Dentistry itself should repeat this self-assessment process periodically, ensuring that the process involves the entire faculty. This can engender a feeling of shared ownership and pride across faculty staff.

The observations included in this report are those of a team of four individuals from different countries, backgrounds and perspectives. The visitors' comments are offered for consideration and debate in the Faculty. It is important to remember that this ADEE visitation process is not part of any formal accreditation process. One of the main goals of ADEE is to promote convergence towards excellence and high standards in dental education. It is hoped that this peer review process will contribute towards this convergence.

The overall view of the ADEE visitors is that the UIC Faculty of Dentistry is committed to the education of competent graduates. The Faculty has a well-developed international profile, allowing opportunities for attracting international students and student exchange. In addition, the location of the Dental Faculty within the Health Faculties' campus facilitates opportunities for inter-professional education, cooperation and collaboration. The overall facilities for educational purposes are of high standard and, moreover, the up-to-date research laboratory within the Faculty is equipped with cutting-edge technology and is readily available to students and staff. The Dental Faculty is to be commended on these achievements.

Vision and mission

The objective of the Faculty is to equip students with the necessary knowledge and skills, which will enable them to tackle the professional challenges, based on their educational background. In parallel, they will have received a strong education in values based on Christian humanism.

Section 2 - Facilities

2.1. Physical Facilities

The UIC Faculty of Dentistry is located in the Campus Sant Cugat, in the suburbs of the city of Barcelona. The Faculty is located within the Health Faculties' campus, which facilitates opportunities for inter-professional education, cooperation and joint research projects.

Classrooms, auditoriums, meeting rooms and offices, student and staff cafeteria, open spaces for relaxation, computer rooms and study spaces are well-organised and suitable for the operation of a Dental School. Two spacious small group teaching rooms with 'mobile chairs' facilitate movement between parallel small group activities.

2.2. Clinical Facilities

The University Dental Clinic (CUO) is the place where patients are treated by the students and where the clinical teaching is performed. The dental clinics are up-to-date and of a high standard. They appear to accommodate the undergraduate and postgraduate students' needs. CUO has 88 latest generation dental chairs, situated within individual working booths, all equipped with cutting-edge technology. There

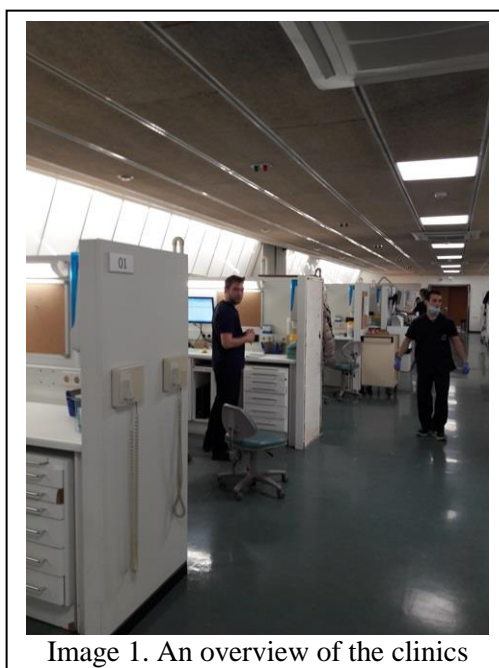


Image 1. An overview of the clinics

are 80 general booths, 2 booths adapted for special patient care, 6 booths for surgery and an Operating theatre.

Each student has their own working space/booth, equipped with all the recent modalities including a computer. The clinical sterilisation facilities are well organised and centralised. Each student purchases a specific number of instruments, necessary for the clinical work, including his/her personally owned handpiece and camera, whereas the dental materials and routine instruments are provided by the School.

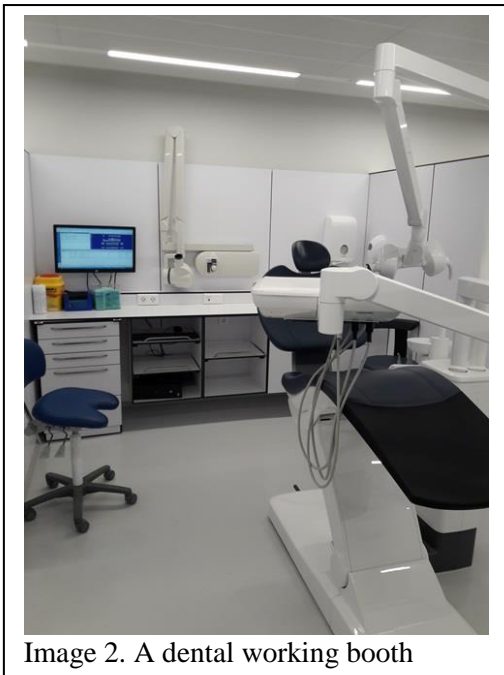


Image 2. A dental working booth

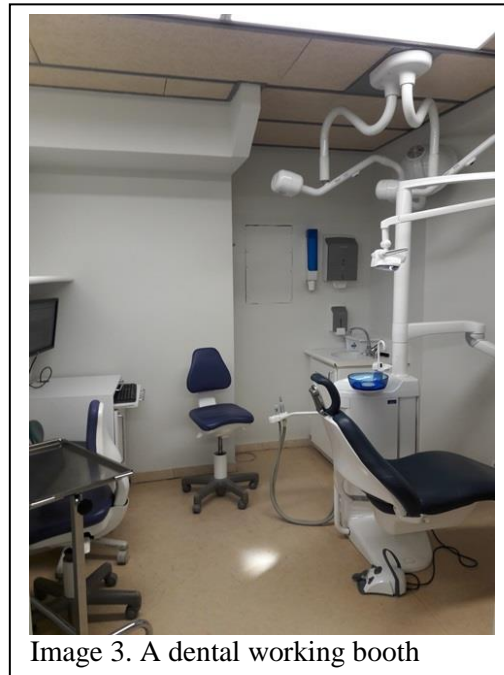


Image 3. A dental working booth

2.3. Teaching and learning facilities

The lecture halls and small classrooms, within the Dental School, are appropriate for the needs of the students and equipped with suitable IT support. The Library has a total of 1595 copies, including e-books and access to about 64,300 journals online. The Library also has access to electronic resources widely used by undergraduate and postgraduate students.

Radiographic imaging modalities are adequate and include, apart from the conventional radiography (periapical and panoramic radiographic machines), digital imaging as well, such as storage-phosphor periapical radiography, digital panoramic radiography and Cone-beam Computed Tomography. Sophisticated software for implant- prostheses design is also available.

The clinical simulation facilities have recently been expanded. The pre-clinical training laboratory houses 95 training simulators (phantoms) and digital x-rays to practice

dentistry using a simulator. This new laboratory allows students to train before beginning their clinical practice on patients. The laboratory is open at all times, so that students can use it to improve their skills autonomously and voluntarily.

The medical simulation unit is spacious and of an excellent quality. It is an impressive simulation of a hospital environment with individual wards equipped with hospital beds and mannequins of adults and children. There, students are trained to CPR and other medical and dental emergencies. The Faculty is encouraged to increase the use

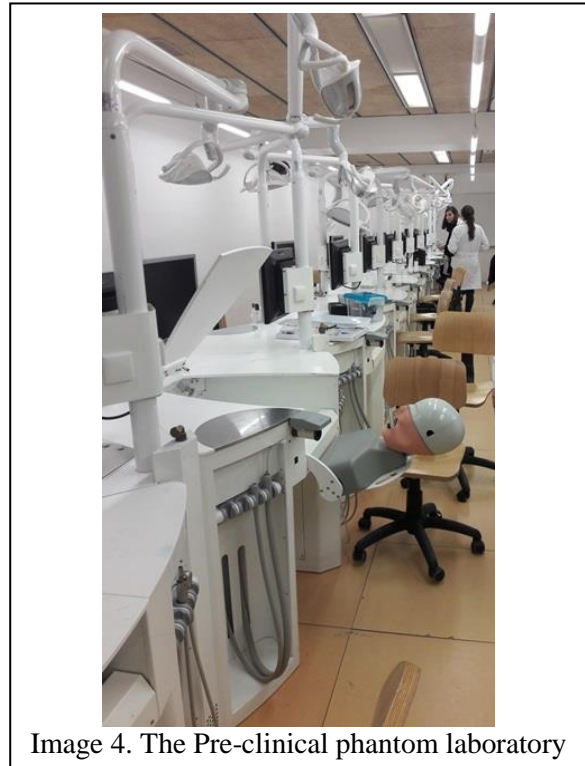


Image 4. The Pre-clinical phantom laboratory

of this unit and introduce a “dental clinic” environment. A manikin placed on a dental chair to simulate the environment of a dental clinic out in the community would be worth considering.

The in-school dental technology laboratory serves the patient treatment needs and is

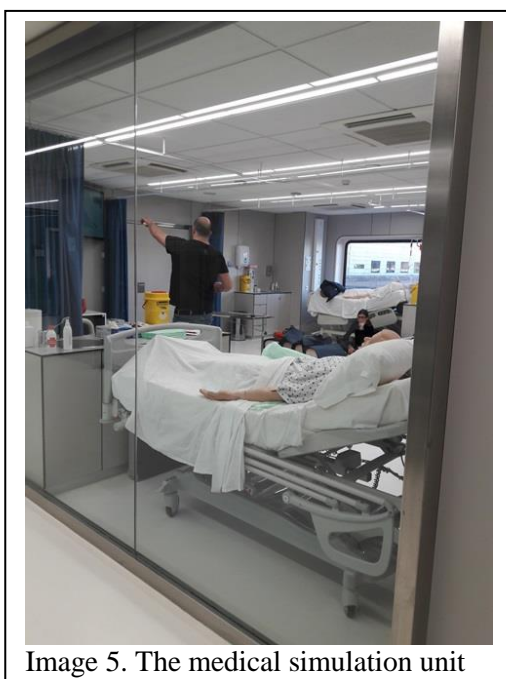


Image 5. The medical simulation unit



Image 6. The medical simulation unit

equipped with the latest CadCam technology. It allows students to perform all stages

LEADER

Leading European Academic Dental Education and Research

of the technical procedures of their patients' prosthetic restorations, thus enhancing their educational experiences. Although the technical laboratory adds to students' knowledge and skills, the amount of technical work undertaken by students is rather extensive and would be worth reviewing.

All laboratories and pre-clinical training units are spacious, clean, well-organised and maintained and suitable for preclinical education of the students, as well as for continuing education purposes. The cleanliness and tidiness in all areas was impressive. Visitors commend the Faculty on these impressive teaching facilities and new modalities.



Image 7. The technical laboratory

2.4. Research facilities

The Biomedicine Research laboratory is truly impressive. It is unusual for a Dental School to host a fully equipped in-school research facility, such as the one based in UIC, for scientific research. The research laboratory is used by all health faculties in-campus and is equipped with all necessary devices to perform scientific research, such as cell cultivation, PCR extraction, dental materials evaluation, etc. The laboratory is open to dental students (mostly postgraduate) and staff pursuing their research projects. The visitors commend the Faculty on this facility, which offers a unique opportunity for advancing the research output of the Faculty.

Section 3 - Administration and Organisation

The Dental Faculty offers a number of educational programmes, at undergraduate, postgraduate and continuing education levels. The undergraduate programme has a duration of 10 semesters and accumulates 300 ECTS. The Faculty operates a dual program, in Spanish and English language. There are 80 places each year for the Spanish programme and 40 places for the English programme. Students may choose between the full programme (minimum 60 ECTS per year) or the part-time programme (minimum 30 ECTS per year).

Educational programmes	Number of programmes
Bachelors Degree in dentistry	1 + (English programme)
Bachelor's Degree in Bioengineering	1
University Master's Degree	2
Master's Degree	7
On line Master's Degree	3
Postgraduate Degree	9
Continuing education	39

Table 1. Number of educational programmes in Faculty of Dentistry

The Faculty holds agreements for student exchange with European Universities (Erasmus agreements), as well as with a large number of South and North American Universities. It also holds agreements with NGO Associations and other institutions, with the aim to increase students' social awareness and responsibility.

3.1 Leadership & Management

Normally the Dean's term of office is for a period of 3 years. The Dean is appointed by the Rector. The Rector is appointed by the Board of Trustees of the University.

Faculty of Dentistry Board - manages all dental school activities and includes:

- Dean
- Vice-dean for Research
- Institutional vice-dean
- Academic Vice-dean
- General Manager for CUO
- Centre Officer

Academic Committee - coordinates the education (content, subjects, etc) and includes:

- Academic Vice-Dean
- Academic secretary
- Centre secretary
- Coordinators of each Department

3.2 Budget

The bulk of the School's budget is derived from the students' tuition fees. The central University allocates a specific budget to the Dental School. In addition, each Department within the Faculty offers Continuing Professional Development (CPD) activities and the faculty receives any surplus funds resulting from these activities. Income from patient treatment charges are accrued to the Faculty and are mostly utilised for purchasing new equipment.

The Faculty has a dual curriculum: one in Spanish for the Spanish students (n=80) and one in English for the international English-speaking students (n=40).

3.3 Aspirations, Strengths, Weaknesses, Opportunities, Threats

Some of the Dean's aspirations for the future include: more clinical simulation facilities; more equipment to support research activities and more emphasis on research; promote excellence in education; strengthen humanities teaching and the holistic approach to becoming a caring and professional dentist

The following strengths, weaknesses, opportunities and threats were identified by senior managerial staff

Strengths

- Personal development of students is underpinned by a holistic educational approach
- Internationality of the faculty – a third of students are from overseas
- Teachers are invited from overseas to contribute to student teaching
- Strengthening of the clinical competences achievement – go into clinic in year 1 and they continue to promote early clinical contact
- Erasmus agreements

Weaknesses

- Need more agreements and collaboration with dental Faculties across the world
- Always striving to improve different teaching methodologies – they aim to move this forward quicker

- Want to encourage staff to work on improving and introducing vertical and horizontal integration across the degree programme

Opportunities

- Need to increase the patient base to support increase in number of students
- Want undergraduates to place implants – they carry out restorative procedures at present
- Need to devise mechanisms for recruiting more patients – many have complex needs which may be too difficult for undergraduate students

Threats

- Recruiting and attracting new young teachers for the future. They identify the need for competent staff members and this is taken in the context that there are no financial incentives salary-wise to undertake teaching and research

The visitors' impression was that the major strengths of the Faculty included its holistic approach to the education of its students covering the important ethos of become caring dental professionals, and the international profile of the Faculty. The latter facilitates the integration of students from different countries, world-wide. In addition, overseas professors are invited to lecture UIC students from other European countries and further afield. Weaknesses of the Faculty could be addressed by strengthening the Erasmus agreements to attract more students from European countries. Equally, there is a need to strengthen the professional and personal development of the staff at all levels. Most of the staff are only part-time and have their own private practices, so there is limited time to devote to professional development activities. One of the main Faculty aspirations for the future is to recruit new competent teachers who can help to build on the strengths of the Faculty, to seize important opportunities as well as rising to the challenges of a 21st century dental educational institution. The visitors fully share this aspiration.

The visitors recommend the production of a schematic flow diagram which clearly demonstrates the lines of communication and roles and responsibilities of the managerial processes and procedures in the Dental Faculty at UIC.

Section 4 - Staff

At the present time, the Faculty has 68 staff members either with full-time or part-time contracts. They all perform a variety of duties, including teaching, research and management/administration. However, very few staff members have full-time contracts. Most are part-time teachers, as they work in their private dental offices as well. The visitors recommend that the Faculty reviews their recruitment and retention strategies in order to retain those staff considered to be conscientious and innovative and to attract new and enthusiastic staff, all of whom will take the Faculty forward in an upward trajectory. In support of the Faculty, the visitors recommend a more structured approach to pedagogical education for experienced staff and for their young teachers. This would be beneficial for the Faculty as a whole.

In addition, it is noted that all patients who attend the School are treated, under supervision, by undergraduate and/or postgraduate students. Consideration could be given for faculty staff to undertake their own clinical treatment sessions (they could still have students in attendance) in order to promote their own professional development and act in a specialist capacity in the oral health-care of patients.

The visitors were led to believe that there is compensation between research and teaching, internally, in that whilst contract teachers sign an agreement with the university, their roles and responsibilities in teaching, research, management are determined by the hours they do in each case. If they do more research they are allowed to do less teaching and vice versa. Understanding this practice, the visitors would like however, to emphasise that research and teaching are not mutually exclusive activities and in dentistry teaching should always be based on scientific evidence and research.

Section 5 - Curriculum in General; Content and Methods

In its stated mission, the Dental Faculty makes the following points:

- UIC Barcelona provides a university education focused on the individual with a strong academic and professional core.

- The function of the lecturers and professors, beyond guaranteeing the required education, is also oriented towards comprehensive monitoring of students during their time at university.
- The objective is to provide students with all of the knowledge and skills to gain the maximum performance from their chosen university studies and be able to face the professional world based on this background. Without forgetting the fact, they will have received a strong education in values based on Christian humanism as well.
- The curriculum offered by the UIC Barcelona highlights basic sciences, based on the objective that students will graduate with a solid scientific knowledge and will be able to tackle practical challenges before they graduate.
- The degree programme covers knowledge of the structure and function of the oral cavity and the teeth, the biomedicine of the normal and pathological dental apparatus, as well as the most innovative techniques and procedures for the treatment of these conditions.
- The University Dental Clinic (CUO) in the UIC Barcelona has the cutting edge technology required to practice dentistry in the 21st century.

5.1 Number of Semesters (years, trimesters) and Credit Points are as follows.

- 10 Semestres
- 300 ECTS
- 80 places + 40 (English programme)
- Students must choose between
 - Full enrolment: minimum of 60 ECTS per academic year.
 - Partial enrolment: minimum of 30 ECTS corresponding to the academic year covered by the curriculum.

5.2 Characteristics and General Philosophy of the Curriculum.

- Universitat Internacional de Catalunya offers to the student a highly personalised university education with a strong vocational element.

- The academic staff are also dedicated to providing students with advice and guidance throughout their studies.
- A high proportion (40%) of the teaching programme is set aside for practical based classes. Most teachers have professional backgrounds and the university nurtures a very close relationship with business via its work experience programmes.
- The international character of the university is a basic feature and a necessary one for students. In this respect, 10% of our alumni are from overseas.
- Students study English courses which are personalised to meet their academic and professional requirements
- There is an extensive international exchange programme.
- The UIC Barcelona organises a wide range of cultural, recreational and sport activities in an attempt to encourage the full personal development of students. In keeping with its ideals based on Christian Humanism.

5.3 Aims of the Curriculum in General

- The fundamental objective of the Bachelor's degree in Dentistry in the Universitat Internacional de Catalunya (UIC Barcelona) is to train professionals who are capable of applying the scientific knowledge and technical knowledge they have acquired to the diagnosis, treatment, and rehabilitation of oral diseases, ethically, efficiently, and safely.
- These professionals need to appreciate the need for professional development and lifelong learning

Structure and integration of the Bachelor's Degree in Dentistry at UIC consists of five courses (each including 2 semesters) and a series of three electives- see the figure below.

2.5. Structure and integration Bachelor's Degree in Dentistry																																																																															
<p>Course 1</p> <table border="1"> <thead> <tr> <th>TYPE</th> <th>ECTS</th> <th>SEMESTER</th> <th>COURSE</th> </tr> </thead> <tbody> <tr> <td>cc</td> <td>6</td> <td></td> <td>Anthropology</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Human Biology I</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Human Biology II</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Structure and Function of Head and Neck</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Structure and Function of the Human Body</td> </tr> <tr> <td></td> <td>30</td> <td></td> <td>Subtotal</td> </tr> <tr> <th>TYPE</th> <th>ECTS</th> <th>SEMESTER</th> <th>COURSE</th> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>English for Dentistry I</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Communication and Psychology</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Dental Structure and Function</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Physiology and Immunology</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Epidemiology and Statistics</td> </tr> <tr> <td>op</td> <td>3</td> <td></td> <td>Elective I</td> </tr> <tr> <td></td> <td>30</td> <td></td> <td>Subtotal</td> </tr> </tbody> </table>				TYPE	ECTS	SEMESTER	COURSE	cc	6		Anthropology	cc	6		Human Biology I	cc	6		Human Biology II	cc	6		Structure and Function of Head and Neck	cc	6		Structure and Function of the Human Body		30		Subtotal	TYPE	ECTS	SEMESTER	COURSE	cc	6		English for Dentistry I	cc	6		Communication and Psychology	cc	6		Dental Structure and Function	cc	6		Physiology and Immunology	cc	3		Epidemiology and Statistics	op	3		Elective I		30		Subtotal																
TYPE	ECTS	SEMESTER	COURSE																																																																												
cc	6		Anthropology																																																																												
cc	6		Human Biology I																																																																												
cc	6		Human Biology II																																																																												
cc	6		Structure and Function of Head and Neck																																																																												
cc	6		Structure and Function of the Human Body																																																																												
	30		Subtotal																																																																												
TYPE	ECTS	SEMESTER	COURSE																																																																												
cc	6		English for Dentistry I																																																																												
cc	6		Communication and Psychology																																																																												
cc	6		Dental Structure and Function																																																																												
cc	6		Physiology and Immunology																																																																												
cc	3		Epidemiology and Statistics																																																																												
op	3		Elective I																																																																												
	30		Subtotal																																																																												
<p>Course 2</p> <table border="1"> <thead> <tr> <th>TYPE</th> <th>ECTS</th> <th>SEMESTER</th> <th>COURSE</th> </tr> </thead> <tbody> <tr> <td>cc</td> <td>6</td> <td></td> <td>Pharmacology</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Clinical Introduction</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Dental Material</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Preventative Dentistry</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Dental Pathology</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>General Medical and Surgical Pathology I</td> </tr> <tr> <td></td> <td>27</td> <td></td> <td>Subtotal</td> </tr> <tr> <th>TYPE</th> <th>ECTS</th> <th>SEMESTER</th> <th>COURSE</th> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Applied Dentistry</td> </tr> <tr> <td>cc</td> <td>1</td> <td></td> <td>General Pathological Anatomy</td> </tr> <tr> <td>cc</td> <td>5</td> <td></td> <td>Anaesthetics in Dentistry</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Orsulation</td> </tr> <tr> <td>cc</td> <td>2</td> <td></td> <td>Preventative Dentistry II</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Dental Surgery</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>General Medical and Surgical Pathology II</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Basic Periodontics</td> </tr> <tr> <td>cc</td> <td>1</td> <td></td> <td>Public Health</td> </tr> <tr> <td></td> <td>33</td> <td></td> <td>Subtotal</td> </tr> </tbody> </table>				TYPE	ECTS	SEMESTER	COURSE	cc	6		Pharmacology	cc	3		Clinical Introduction	cc	6		Dental Material	cc	3		Preventative Dentistry	cc	3		Dental Pathology	cc	6		General Medical and Surgical Pathology I		27		Subtotal	TYPE	ECTS	SEMESTER	COURSE	cc	6		Applied Dentistry	cc	1		General Pathological Anatomy	cc	5		Anaesthetics in Dentistry	cc	3		Orsulation	cc	2		Preventative Dentistry II	cc	6		Dental Surgery	cc	6		General Medical and Surgical Pathology II	cc	3		Basic Periodontics	cc	1		Public Health		33		Subtotal
TYPE	ECTS	SEMESTER	COURSE																																																																												
cc	6		Pharmacology																																																																												
cc	3		Clinical Introduction																																																																												
cc	6		Dental Material																																																																												
cc	3		Preventative Dentistry																																																																												
cc	3		Dental Pathology																																																																												
cc	6		General Medical and Surgical Pathology I																																																																												
	27		Subtotal																																																																												
TYPE	ECTS	SEMESTER	COURSE																																																																												
cc	6		Applied Dentistry																																																																												
cc	1		General Pathological Anatomy																																																																												
cc	5		Anaesthetics in Dentistry																																																																												
cc	3		Orsulation																																																																												
cc	2		Preventative Dentistry II																																																																												
cc	6		Dental Surgery																																																																												
cc	6		General Medical and Surgical Pathology II																																																																												
cc	3		Basic Periodontics																																																																												
cc	1		Public Health																																																																												
	33		Subtotal																																																																												
<p>Course 3</p> <table border="1"> <thead> <tr> <th>TYPE</th> <th>ECTS</th> <th>SEMESTER</th> <th>COURSE</th> </tr> </thead> <tbody> <tr> <td>cc</td> <td>3</td> <td></td> <td>Dysfunction of the Masticatory System</td> </tr> <tr> <td>cc</td> <td>5</td> <td></td> <td>Periodontic Dentistry I</td> </tr> <tr> <td>cc</td> <td>7</td> <td></td> <td>Orthodontics I</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>General Medical and Surgical Pathology II</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Prosthodontics I</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Endodontics</td> </tr> <tr> <td></td> <td>33</td> <td></td> <td>Subtotal</td> </tr> <tr> <th>TYPE</th> <th>ECTS</th> <th>SEMESTER</th> <th>COURSE</th> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Introduction to Clinical Dental Restoration</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Oral and Maxillofacial Medicine</td> </tr> <tr> <td>cc</td> <td>5</td> <td></td> <td>Periodontic Dentistry II</td> </tr> <tr> <td>cc</td> <td>4</td> <td></td> <td>Orthodontics II</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Advanced Periodontics</td> </tr> <tr> <td></td> <td>27</td> <td></td> <td>Subtotal</td> </tr> </tbody> </table>				TYPE	ECTS	SEMESTER	COURSE	cc	3		Dysfunction of the Masticatory System	cc	5		Periodontic Dentistry I	cc	7		Orthodontics I	cc	6		General Medical and Surgical Pathology II	cc	6		Prosthodontics I	cc	6		Endodontics		33		Subtotal	TYPE	ECTS	SEMESTER	COURSE	cc	3		Introduction to Clinical Dental Restoration	cc	6		Oral and Maxillofacial Medicine	cc	5		Periodontic Dentistry II	cc	4		Orthodontics II	cc	3		Advanced Periodontics		27		Subtotal																
TYPE	ECTS	SEMESTER	COURSE																																																																												
cc	3		Dysfunction of the Masticatory System																																																																												
cc	5		Periodontic Dentistry I																																																																												
cc	7		Orthodontics I																																																																												
cc	6		General Medical and Surgical Pathology II																																																																												
cc	6		Prosthodontics I																																																																												
cc	6		Endodontics																																																																												
	33		Subtotal																																																																												
TYPE	ECTS	SEMESTER	COURSE																																																																												
cc	3		Introduction to Clinical Dental Restoration																																																																												
cc	6		Oral and Maxillofacial Medicine																																																																												
cc	5		Periodontic Dentistry II																																																																												
cc	4		Orthodontics II																																																																												
cc	3		Advanced Periodontics																																																																												
	27		Subtotal																																																																												
<p>Course 4</p> <table border="1"> <thead> <tr> <th>TYPE</th> <th>ECTS</th> <th>SEMESTER</th> <th>COURSE</th> </tr> </thead> <tbody> <tr> <td>cc</td> <td>6</td> <td></td> <td>Dental</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Periodontic Dentistry III</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Orthodontics III</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Oral Medical and Surgical Pathology II</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Prosthodontics III</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Periodontics Seminar I</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>English for Dentistry II</td> </tr> <tr> <td></td> <td>30</td> <td></td> <td>Subtotal</td> </tr> <tr> <th>TYPE</th> <th>ECTS</th> <th>SEMESTER</th> <th>COURSE</th> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Clinical Restorative Dentistry II</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Advanced Dental Material</td> </tr> <tr> <td>op</td> <td>3</td> <td></td> <td>Elective II</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Oral Medical and Surgical Pathology III</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Prosthodontics IV</td> </tr> <tr> <td>cc</td> <td>6</td> <td></td> <td>Dental Traumatology</td> </tr> <tr> <td></td> <td>30</td> <td></td> <td>Subtotal</td> </tr> </tbody> </table>				TYPE	ECTS	SEMESTER	COURSE	cc	6		Dental	cc	3		Periodontic Dentistry III	cc	3		Orthodontics III	cc	6		Oral Medical and Surgical Pathology II	cc	6		Prosthodontics III	cc	3		Periodontics Seminar I	cc	3		English for Dentistry II		30		Subtotal	TYPE	ECTS	SEMESTER	COURSE	cc	6		Clinical Restorative Dentistry II	cc	3		Advanced Dental Material	op	3		Elective II	cc	6		Oral Medical and Surgical Pathology III	cc	6		Prosthodontics IV	cc	6		Dental Traumatology		30		Subtotal								
TYPE	ECTS	SEMESTER	COURSE																																																																												
cc	6		Dental																																																																												
cc	3		Periodontic Dentistry III																																																																												
cc	3		Orthodontics III																																																																												
cc	6		Oral Medical and Surgical Pathology II																																																																												
cc	6		Prosthodontics III																																																																												
cc	3		Periodontics Seminar I																																																																												
cc	3		English for Dentistry II																																																																												
	30		Subtotal																																																																												
TYPE	ECTS	SEMESTER	COURSE																																																																												
cc	6		Clinical Restorative Dentistry II																																																																												
cc	3		Advanced Dental Material																																																																												
op	3		Elective II																																																																												
cc	6		Oral Medical and Surgical Pathology III																																																																												
cc	6		Prosthodontics IV																																																																												
cc	6		Dental Traumatology																																																																												
	30		Subtotal																																																																												
<p>Course 5</p> <table border="1"> <thead> <tr> <th>TYPE</th> <th>ECTS</th> <th>SEMESTER</th> <th>COURSE</th> </tr> </thead> <tbody> <tr> <td>cc</td> <td>3</td> <td></td> <td>English for Dentistry III</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Geriatric Dentistry</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Legal and Forensic Dentistry</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Periodontic Dentistry IV</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Orthodontics IV</td> </tr> <tr> <td>cc</td> <td>12</td> <td></td> <td>Integrated Dentistry Clerk</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Final Degree Report</td> </tr> <tr> <td></td> <td>30</td> <td></td> <td>Subtotal</td> </tr> <tr> <th>TYPE</th> <th>ECTS</th> <th>SEMESTER</th> <th>COURSE</th> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Director of the Radiodiagnostic Facilities</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Community Dentistry</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Dentistry</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Periodontics Seminar II</td> </tr> <tr> <td>op</td> <td>3</td> <td></td> <td>Elective III</td> </tr> <tr> <td>cc</td> <td>12</td> <td></td> <td>Integrated Dentistry Clerk</td> </tr> <tr> <td>cc</td> <td>3</td> <td></td> <td>Final Exhibition</td> </tr> <tr> <td></td> <td>30</td> <td></td> <td>Subtotal</td> </tr> </tbody> </table>				TYPE	ECTS	SEMESTER	COURSE	cc	3		English for Dentistry III	cc	3		Geriatric Dentistry	cc	3		Legal and Forensic Dentistry	cc	3		Periodontic Dentistry IV	cc	3		Orthodontics IV	cc	12		Integrated Dentistry Clerk	cc	3		Final Degree Report		30		Subtotal	TYPE	ECTS	SEMESTER	COURSE	cc	3		Director of the Radiodiagnostic Facilities	cc	3		Community Dentistry	cc	3		Dentistry	cc	3		Periodontics Seminar II	op	3		Elective III	cc	12		Integrated Dentistry Clerk	cc	3		Final Exhibition		30		Subtotal				
TYPE	ECTS	SEMESTER	COURSE																																																																												
cc	3		English for Dentistry III																																																																												
cc	3		Geriatric Dentistry																																																																												
cc	3		Legal and Forensic Dentistry																																																																												
cc	3		Periodontic Dentistry IV																																																																												
cc	3		Orthodontics IV																																																																												
cc	12		Integrated Dentistry Clerk																																																																												
cc	3		Final Degree Report																																																																												
	30		Subtotal																																																																												
TYPE	ECTS	SEMESTER	COURSE																																																																												
cc	3		Director of the Radiodiagnostic Facilities																																																																												
cc	3		Community Dentistry																																																																												
cc	3		Dentistry																																																																												
cc	3		Periodontics Seminar II																																																																												
op	3		Elective III																																																																												
cc	12		Integrated Dentistry Clerk																																																																												
cc	3		Final Exhibition																																																																												
	30		Subtotal																																																																												
<p>Electives</p> <table border="1"> <thead> <tr> <th>CLASSIFICATION</th> <th>ECTS</th> <th>COURSE</th> </tr> </thead> <tbody> <tr> <td>cc</td> <td>3</td> <td>Classrooms Ethics</td> </tr> <tr> <td>cc</td> <td>3</td> <td>Summer Voluntary Clinical Practice in Dentistry</td> </tr> <tr> <td>cc</td> <td>3</td> <td>Voluntary Clinical Practice in Dentistry - Saturdays</td> </tr> <tr> <td>cc</td> <td>3</td> <td>Multidisciplinary Surgery</td> </tr> <tr> <td>cc</td> <td>3</td> <td>Dental Aesthetics</td> </tr> <tr> <td>cc</td> <td>3</td> <td>Health Management</td> </tr> <tr> <td>cc</td> <td>3</td> <td>History of Dentistry</td> </tr> <tr> <td>cc</td> <td>3</td> <td>Implant Prosthodontics</td> </tr> <tr> <td>cc</td> <td>3</td> <td>Oculomaxillofacial Surgery for Dentists</td> </tr> <tr> <td>cc</td> <td>3</td> <td>Advanced Surgical Anatomy for Dentistry</td> </tr> </tbody> </table>				CLASSIFICATION	ECTS	COURSE	cc	3	Classrooms Ethics	cc	3	Summer Voluntary Clinical Practice in Dentistry	cc	3	Voluntary Clinical Practice in Dentistry - Saturdays	cc	3	Multidisciplinary Surgery	cc	3	Dental Aesthetics	cc	3	Health Management	cc	3	History of Dentistry	cc	3	Implant Prosthodontics	cc	3	Oculomaxillofacial Surgery for Dentists	cc	3	Advanced Surgical Anatomy for Dentistry																																											
CLASSIFICATION	ECTS	COURSE																																																																													
cc	3	Classrooms Ethics																																																																													
cc	3	Summer Voluntary Clinical Practice in Dentistry																																																																													
cc	3	Voluntary Clinical Practice in Dentistry - Saturdays																																																																													
cc	3	Multidisciplinary Surgery																																																																													
cc	3	Dental Aesthetics																																																																													
cc	3	Health Management																																																																													
cc	3	History of Dentistry																																																																													
cc	3	Implant Prosthodontics																																																																													
cc	3	Oculomaxillofacial Surgery for Dentists																																																																													
cc	3	Advanced Surgical Anatomy for Dentistry																																																																													

5.4 Educational Methods

From the School's self-evaluation document, the Curriculum Contents and Methods identify 93 defined competences to be addressed by the curriculum. These competences must be achieved by all undergraduate dental students across Spain. The Educational methods include the following:

- The design of each academic block is mainly based on the cross-disciplinary nature of the material and its eminently practical nature.
- Students start off in the area of knowledge in the healthcare field and begin to look more in-depth into the more practical terrain of the area of knowledge in dentistry.
- It is from this moment onwards that the student's practical experience will begin and this will ensure they are able to take the next module and undertake work

placements with patients in the university dental clinic, which will teach them about responsibility.

- The Bachelor's degree in Dentistry is based on the following aspects: Professional Values, Attitudes and Ethical Behaviour.
 - The scientific basis of dentistry, and the acquisition and critical evaluation of information and an interest in research. This interest in research is transmitted from the first academic year and during the rest of the programme, in such a way that the student receives training in research skills, to expand their knowledge and improve their skills as a professional.
 - The priority is attention the patient care globally and not only of the disease processes. There must be an interaction of global general medicine
 - Clinical skills, from diagnosis to planning dental treatment.
 - Clinical skills of the dental therapist.
 - Public health and healthcare systems.
- Educational activities and their learning methodology include: Lectures; Seminar-workshop; Scientific Laboratory classes; clinical simulation laboratories; tutorials; student self-directed learning and preparation; work placements in the University Dental Clinic.

The ADEE visitors made the following observations: the BDS Curriculum is discipline-oriented. Lectures are currently extensively used as a method of content delivery and efforts are made to include more clinically relevant content. There is a willingness by staff to improve vertical and horizontal integration throughout the program which the visitors would encourage the Faculty to progress as a matter of urgency. Strengthening earlier clinical introduction is recommended. Clinics run on a three-session basis – 8am-1pm; 1pm-5pm; 5pm-10pm and students are timetabled for all three sessions. In addition, the visitors would recommend a review of the Faculty's assessment processes. The introduction of Objective Structured Clinical Examinations (OSCEs) which are scenario based and the use of competence testing is highly recommended. At the present time, there is a lack of clarity on how competences are achieved and measured. There is a digital system for assessment of students in the clinics, however, the Faculty is encouraged to explore a more student-centred approach to assessment. Development of specific criteria to match the grading system would support

consistency in marking. It is recognized that course coordinators provide a valuable role in curriculum development and the visitors support the advancement and broadening of the existing collaboration among disciplines. The Faculty is encouraged to consider mapping their curriculum to the new ADEE publication “The Graduating European Dentist”, available online through open access (<https://onlinelibrary.wiley.com/doi/pdf/10.1111/eje.12307>). Equally it would be helpful to map the 93 defined competences, required of a Spanish dental graduate, to the individual areas of the curriculum. This would provide a valuable blueprint of activities to competence/learning outcome requirements and demonstrates evidence of good quality management of the degree programme. As well as mapping the competences to the subject areas it would be very valuable to map the assessment processes (including formal examinations) to ensure that all areas of the curriculum are appropriately assessed. A comprehensive on-line portfolio (record of achievement) for years 3, 4 and 5 of the undergraduate programme and for postgraduate students would be worth considering. This should include a record of their clinical work, their assessments and opportunities for self-reflection along with constructive critique and comment from their educators. Not only is this a comprehensive record but also acts as a valuable learning tool for future reference.

Section 6 - Medical and Biological Sciences

The Biological Sciences include Human biology (1&2); Microbiology & Immunology (1); and Epidemiology and Statistics. These are taught during the first year of the programme.

The Medical Sciences include: Structure & Function of the Head & Neck; structure and Function of the Human Body; General Surgical Pathology (1&2); Pharmacology; Anaesthesia in Dentistry; General Anatomical Pathology. These are delivered through the first two years of the programme.

The staff teaching the biological and medical sciences were clearly very committed and dedicated to their role in supporting the dental students. Up-to-date learning methods (problem-based, critical reading) are used. In anatomy, students operate on cadavers and these are also used to support the teaching of surgical techniques later in the programme. The students also use iPads accessing digital anatomy programmes. Further use of up-to-date learning methods is to be encouraged.

The main challenges were identified by staff representatives and included: explaining the relevance of the basic sciences to clinical practice and the importance of a sound research base in support of clinical practice. Basic sciences teachers cooperate with clinical teachers to develop the content of the lectures and what is useful for the students. Practical examples were provided - in Microbiology and Immunology the students prepare a case at home (problem-based) and Groups of 5-6 students work together. At present there appears to be no vertical integration throughout the course. In the biological sciences, students read articles and undertake a formal critique.

The visitors suggest that consideration be given to introducing student led small group seminars on a broad subject (trauma, oral mucosa, xerostomia) in year 5. Students could each present a topic within that subject and cover the basic sciences and clinical relevance. The seminars could be facilitated by one clinician and one basic scientist. The lines of communication between staff, line managers and senior personnel and decision-making committees in the Faculty is very good in both directions. This should enable improved vertical and horizontal integration across the programme and clearly staff are keen to engage with such an initiative.

Section 7 – Dental Public Health and Behavioural Sciences

The teaching of Public Dental Health & Behavioural Sciences includes: Communication & Psychology; Preventive Dentistry (1&2); Applied Bioethics; Public Health; Ethics. These are taught in years 1 and 2. Legal & Forensic Dentistry; and Community Dentistry are taught in year 5.

The visitors were informed that some laboratory work is undertaken in Preventive Dentistry which involves students registering the plaque index, use of sealants, and investigating the oral flora. In some instances, there is similar content within the Public Health and Preventive teaching. In the Community Dentistry component, students attend hospices, kindergartens and underprivileged places. It is understood that teachers in Public health and Community Dentistry are discussing and cooperating regarding the content of their courses and where there are overlaps. Public Health teaching promotes critical analysis in epidemiology and of dental publications There is a recognition that Dental Public Health is underdeveloped in particular in opportunities for interprofessional teaching but staff are trying to promote it more.

Meetings between heads of subject areas in this part of the programme are held on a three-monthly basis. There is a willingness to integrate preventive measures & guidance with teaching in the clinical setting later in the undergraduate programme. The Faculty is encouraged to increase the opportunities for students to work in communities where there is dental neglect and it would be of value to encourage more integration of preventive dentistry in every patient encounter. Equally the visitors would encourage more interaction between the Preventive Care, Community Dentistry and Dental Public Health components of the programme. It is important to recognise that the ethical aspect of the dental professional should permeate throughout all 5 years of the dental undergraduate programme.

Section 8 - Restorative Dentistry

Restorative Dentistry includes the following subject areas: Dental Structure & Function; Dental Pathology; Occlusion; Operative Dentistry; and Dental Materials – these subjects are taught in years 1 and 2. Masticatory system and dysfunction; Endodontics; and Prosthodontics (1&2) are taught in year 3. Prosthodontics (3&4); Restorative Dentistry (1&2); Dental Traumatology; and Advanced Dental Materials are taught in year 4.

The visitors met with representatives from Restorative, Prosthodontics and Endodontics – the latter has recently become its own separate department. It is understood that in the Faculty at UIC, Restorative Dentistry is essentially conservative dentistry. As conservation has moved more towards adhesive dentistry and minimally invasive dentistry, this has led to a split of departments along the lines of postgraduate specialization. This has been driven mainly by the need to support the postgraduate masters' programmes that take place at UIC.

The staff believe that this separation has not affected the efforts to ensure integration of the restorative areas of clinical practice as taught to the undergraduates. There are efforts being made to increase the teaching of digital dentistry in year 4 – producing onlays etc., and for the undergraduates to experience hands-on dental implantology. More sophisticated modern equipment like 3D printers would help their cause.

The visitors discussed the concept of 'teamwork training' and staff agreed with the concept of inter-professionalization and working with dental chairside assistants, but accepted that these opportunities were not in place in the dental clinic at the present

time. Opportunities to work in Africa – in the Ivory Coast – were described which allows good operative experience for undergraduates.

The staff believe that the environment within the UIC Dental Faculty is good to work in and they are proud of their achievements. They have external examiners for the examinations for all postgraduate programmes, but not for the examinations in the dental undergraduate programme.

During the visitation, it certainly appeared that undergraduate and postgraduate students displayed a good level of competency in Restorative Dentistry and Endodontics. The visitors were informed that the undergraduate students treat a patient comprehensively as soon as they see their first patient, however we would advise the Faculty to clarify that this is in fact the case at the present time. The visitors recognised that digital dentistry and new technological devices are acknowledged by the Faculty and that there is close cooperation between the staff in the different subject areas encompassed by Restorative Dentistry. Equally, it was noted that the student's education is in line with the European guidelines for undergraduate implant dentistry education and training.

Section 9 – Orthodontics & Paedodontics

Three sections of teaching in Paediatric Dentistry and Orthodontics take place through years 3,4 and 5.

The visitors encountered discussion with enthusiastic teachers from Orthodontics and Paedodontics. With regard to the teaching in Orthodontics, we were informed that, in year 3, the students learn about diagnosis and treatment planning and undertake clinical skills activities in the training laboratory. In year 4, they see how appliances function and in year 5, they see patients with postgraduate students. They may contribute to treatment through bracket placement etc. An aspiration is to identify more time for undergraduates to experience and work with postgraduate students. Orthodontics has a good relationship with the Oral and Maxillofacial Surgery department. Undergraduates get taught an understanding of the orthognathic surgery/orthodontics interface. Other Orthodontic aspirations were described as: refining the content of the undergraduate course and providing more clinical practice for undergraduate students; increasing the support for postgraduates to provide oral presentations. Another staff assistant and more patients would facilitate these

aspirations. The school might also wish to consider how the present heavy theoretical teaching in orthodontics serves clinical competences deemed appropriate to serve patients after graduation.

In Paediatric Dentistry, postgraduate students treat all types of child patients, whereas undergraduates only treat those children who are well behaved and thus do not present behavioural problems. Undergraduate students do assist and work alongside postgraduate students. All students have the opportunity to work on sedated children, using inhalation sedation. The sedation is provided by anaesthetists and oral midazolam is also utilised. The visitors were informed that it is illegal to use intravenous sedation for dental patients. There seems to be room for further integration between paediatric and preventive dentistry and a willingness from staff to engage with this initiative.

Section 10 – Oral Diseases of Bone and Soft tissues

This part of the programme includes Oral Surgery and Periodontics. Basic Periodontics is taught in year 2. Oral Surgical Pathology (1), Advanced Periodontics and Maxillofacial & Oral Medicine are taught in year 3. Medical & surgical Pathology and Oral Implantology (2&3) and Periodontics Seminars (1) are taught in year 4; and Periodontics Seminars (2) and Radio-diagnosis Facilities management take place in year 5.

There are four years of Periodontology teaching, commencing in year 2. In year 3 students treat simple cases. The representative for Periodontology was very enthusiastic and active and would value integration and collaboration in the teaching of preventive measures. Implant placement is performed in oral surgery and staff from the periodontology and prosthodontics departments place the superstructure. Final year undergraduates carry out the prosthetic component for single tooth replacements.

In year 3, students practice dental extractions on 'phantom heads' in the clinical training unit as well as suturing and flap procedures. As well as routine exodontia, students in years 4 and 5 may undertake impacted third molar removal and surgical removal of retained roots, but they will not undertake apicectomy or soft tissue biopsies

In the year 2, oral surgery staff teach local anaesthesia to students who perform infiltration anaesthesia on each other. This is a valuable experience, as some students may never have experienced an injection. This exercise enables them to explain the effects of local analgesia more clearly to their patients. Radiology is not taught as a separate subject, but it is embedded within different subject areas in the curriculum. The visitors noted evidence of a structured approach to the teaching of dental anaesthesia, pain and anxiety management and minor oral surgery. The staff are enthusiastic, display awareness of the opportunities and are prepared to embrace change. The visitors also noted limited exposure to oral mucosal diseases and would encourage the Faculty to identify ways to increase exposure, perhaps through defined Oral Medicine consultant-led clinics. It is important to ensure that the students understand the disease processes and can readily identify premalignant and malignant disease. The case-based seminars described by staff are to be commended and the visitors would encourage the Faculty to expand on these opportunities. As mentioned previously under the report on Basic and Medical Sciences, it would be useful for the Faculty to bring together the relevance of sciences learnt early in the course and their clinical relevance through reflective joint seminars in the later years – perhaps year 5.

Section 11 – Scientific education and development

As part of the holistic approach to the teaching of students at UIC the following subjects are taught: Anthropology and English for Dentistry in year 1. The second course for English for Dentistry takes place in year 4. The final course on English for Dentistry takes place in year 5. The end of degree examination and final year project/presentation occur at the end of year 5.

The visitors understanding is that there is an accreditation process applied to teachers who are contracted to UIC. Half of the teaching must be provided by a teacher with a PhD. 60% of these doctorate teachers must be accredited teachers. Accreditation is provided externally by the regional Quality Agency – a public administration – covering research, teaching, management. The teacher completes a portfolio with evidence of their achievements. Within UIC, internal quality assurance of teachers considers questionnaires completed by students, a report from the teacher's line manager and a self-assessment report from the teacher themselves. The result is graded as high

middle or low level. Low level can result in termination of their post. This assessment takes place every 5 years.

During the visitors' discussions with a variety of staff, it became clear that a small group of teachers had recently attended a series of pilot pedagogical seminars on methodology, evaluation, etc and they gave a very favourable feedback on this initiative. The visitors would encourage the Faculty to build on this opportunity and introduce more formal training opportunities for education and development for all their staff. This would strengthen the educational experience of existing and new staff which in turn will be advantageous to the Faculty, as it continues to develop into a leading-edge education and training institution for their undergraduate and postgraduate students. In addition, such formal training can only be of benefit in strengthening the already high-profile package of Continuing Professional Development (CPD) courses provided for graduate dentists, by UIC's Dental Faculty. There is evidence of engagement with Alumni through 'actualisation days' - training days available to all graduate dentists in the region, free. The significant continuing education portfolio of courses incur charges of the graduate dentists and the uptake is very good. This is despite there being no regulatory body requirement for Spanish dentists to undertake CPD. Attendance at these courses is to be applauded and to be encouraged further not least because it is a valuable source of funding for the Faculty, but also it provides a vehicle for advertising excellence within the Faculty, more widely.

Section 12 – Integrated Dental Care

Integrated care involves all treatments except orthodontics. There is a clinical introductory course in year 2; The introduction to restorative Dentistry takes place in year 3. This is all brought together through the concept of integrated dental care which underpinned in year 5 by teaching in General Dentistry, Dentistry for patients with special needs and Geriatric Dentistry.

During year 5 the Integrated Dental Care course includes a 'Clinical case book' – record of their clinical work. However, students document all their clinical cases through

years 3, 4 and 5 and this record is presented at the end of each year and counts 20% to their overall grade that year. Their communication skills with patients are also evaluated. For every student, the range of treatments they can perform is personalized, e.g. if the student failed the prosthodontics exam, they cannot perform crown preparations until they have passed that exam. Students' clinical work is recorded in Excel sheets: every patient, every clinical procedure (restorative, perio...) is accompanied by a grade. Students are familiarized with and perform new techniques e.g. CadCam. It is understood that clinical competences are not assessed and there are no minimum quotas for clinical procedures. Compulsory attendance on clinics is adhered to by the students who are always keen to have more clinical exposure. Patient recruitment for all student treatment sessions is initially achieved through a triage system. We understand that students do have access to emergency dental care for patients, for example patients attending with acute pulpitis, abscesses, trauma etc. The assessment grades recorded by supervisors/instructors include scales such as 1-10 or A+, A-, B, etc., but there is no standardization, no criteria for the grades. There is no feedback to students regarding their grades, so they do not know why they had the particular grade and what they did correctly or incorrectly.

The visitors would advise that the Faculty give consideration to defining descriptors or criteria for their numerical and alphabetical assessment grading system. It would also be of value to the students for staff to discuss the assessment grade with the student at the time and use this as an opportunity for reflection and a learning experience. The visitors would advise the introduction of other assessment processes such as OSCEs in formal summative examinations. This provides a useful assessment method covering a range of relevant subject matter which provides more consistency in the assessment of all students.

The visitors commend the application of Integrated Patient Care in UIC's curriculum, but suggest that as part of this, dental teamworking should be introduced. We suggest that there should be further enhancement of the portfolio concept to promote students' critical thinking and self-assessment. Ease of access for undergraduates to postgraduate students' support is considered beneficial for both parties.

Section 13 – Student Affairs

13.1 Undergraduate students

The visitors appreciated the opportunity to meet with undergraduate students from each year of the dental programme. These students and those we met when visiting the facilities were clearly enthusiastic, motivated and proud of their School.

The visitors observed an excellent staff/student relationship. The students believe that staff are very approachable. It appears that there is adequate student representation at relevant decision-making committee meetings and they do feel that they can make a difference. Staff are willing to do extra work to support student progression and the training laboratory is available for students to undertake additional practice. This model of student support works well and makes a difference. The students contribute to surveys/feedback on a voluntary and anonymous basis. Most of the surveys are on-line but sometimes they are requested to complete feedback at the end of a lecture session. The visitors would recommend a defined time such as a lecture slot for all students to provide feedback. They believe their feedback is taken on board and that they get adequate response to their feedback. 'Clinical Books' – The students believe that the Book/portfolio is a good record of their achievement. However, the visitors would recommend production of a more structured portfolio- record of achievement on-line containing a summary of their clinical cases, reflection on the treatment carried out and assessment being achieved as a result of consensus of opinion from both the staff and the student. This promotes the concept that the student has shared ownership of their progression through the training programme. This can be used to demonstrate their level of competence when applying for work on graduation.

Once a week they are involved with presentations and they very much appreciate the Faculty's excellent on-line facilities. In addition, they present every week on publications/papers to their group – for example on trauma, restorative dentistry, advanced materials etc.

The students reported that it is very good experience for them to work with postgraduate students. They find this a great learning opportunity. The educational and clinical facilities are excellent and they feel that they receive good clinical exposure to a wide range of patients. They value the opportunity to work together with their peers - students assisting students - but they do not have an opportunity to understand the concept of working in a dental team. They do not have times when they work assisted by a dental nurse.

We understand that appointments for patients range from one and a half hours to two. It may be possible to review this and consider 1 hour appointments which might allow additional clinical exposure and allow more patients to be seen and treated by each student throughout the clinical years. In year 3, they have the equivalent of 1 day in clinical practice and in years 4 and 5 the equivalent of 3 days in clinical practice with further opportunities for extra hours in year 5. They also have access to clinics on Saturday mornings. This provides an opportunity to see more paediatric patients (as this avoids missing school days for the children) and patients with different socioeconomic backgrounds.

Junior students – and this includes students from year 2 onwards - actively seek out the more senior students to get the opportunity to assist them in clinical procedures. Depending on the complexity of the procedure the senior student may mentor or coach the junior student. The students believe this is a valuable learning opportunity. The onus is on students to seek out these opportunities as they are not centrally timetabled for such activities. It does appear that students do actively take up these opportunities. Senior students, likewise seek out opportunities to refer patients to postgraduate students and take the opportunity to assist the graduate student. The graduate student likewise may act as a coach or mentor to the senior undergraduate student. All students believe this is a valuable learning opportunity. The visitors share this view.

They believe that the timetabling is satisfactory. The workload in the early years is quite extensive, but they understand the importance of learning the basic sciences and medical sciences. They believe their teachers do make every effort to make the subject matter relevant to clinical practice. They have time for self-directed learning and their teachers set them targets; for example, the need to work to produce a presentation, which might be laboratory-based or a case-based discussion in the near future which provides focus for their self-directed learning and preparation for future learning and teaching activities. However, the visitors found it difficult to understand how the periods of self-directed learning were planned throughout each weekly schedule and how the focus of this type of learning opportunity was conveyed to the students to ensure maximum learning experience. We would recommend a review of time set aside for extra-curricular activities and self-directed learning to ensure a good structure is in place.

Students report that the English course is very good. They also value the internationalisation of UIC and in particular they value studying together with colleagues from different countries and different cultures. They believe it strengthens the holistic approach to the dental programmes at undergraduate and graduate levels. Students may undertake work, outside the university, for which they are paid to financially support themselves through their undergraduate degree. However, they have to choose opportunities that allow flexibility given the variation in each weekly teaching schedule. The school may wish to review this and see if there is a way to reduce the variation week on week to help students hold down steady extra-curricular jobs in support of their financial arrangements. Other students take the opportunity, when they have free time, to observe and assist clinical activities in the local hospital (OMFS procedures) and in dental clinics in the local community. They find this of great value. The visitors would recommend the Faculty to review these opportunities and try facilitate all students taking up these activities to broaden their clinical and managerial experience of work carried out in a general hospital and work carried out within the general practice environment. The latter would be extremely valuable as the majority of dentists on graduating no doubt undertake their clinical practice in the community.

The students commented on the lack of clinical exposure to patients requiring orthodontic treatment. However, they recognised that additional training in the form of a masters' course was likely to be necessary for subjects such as orthodontics, surgery and implantology.

The students carry out their own technical work in the dental production laboratory supervised by three employed dental technicians. The school may wish to review their approach to the teaching of dental technology to the students. Some direct exposure to laboratory work is certainly of value to support student's knowledge and understanding so that they can have constructive discussions with their production laboratory on graduation. However, a reduction in the amount of time spent in the production laboratory could free up more time for the students to experience increase in clinical practice, procedures and conditions.

It was interesting to note that the students' cohort, both at undergraduate and postgraduate levels, include a wide range of nationalities and also a small number of students who are hygienists or have worked as dental technicians.

Whilst the students recognised that there was some repetitions of subjects and topics throughout the programme, they felt that the material was delivered in different contexts and helped to remind them about the subjects and also relate them to the clinical practice that they were now involved in at different stages of programme. However, they would value improved structure, in terms of vertical and horizontal interaction of the course subjects, throughout the degree programme. They felt there is evidence of revisiting basic and medical sciences throughout the clinical years of the course. Strengthening this would certainly be very valuable.

Radiology & Radiography is taught across the different clinical subject areas. The students learn to take radiographs and interpret their findings as soon as they start seeing patients on the clinic. They are also educated in radiation protection and management of x-ray machines, thus obtaining automatically the national license to operate dental radiographic equipment in their private offices.

In general, students in year 5 are very happy with the experience that they have obtained over the 5 years programme and feel that they are ready on graduation to work in clinical practice in the community. They also believe they know their limitations and when to refer on for specialist care. If they refer patients to a more senior student or to a graduate student they do take up opportunities to follow the patient's care pathway, in many cases, by assisting their senior colleague when the latter carries out more complex clinical procedures. They also value the access and experience to research methodologies and critical analysis of publications throughout the course. The final year projects may involve a literature review or laboratory based scientific research. UIC allocates mentors/teachers to each student to act as personal tutors and support and help them with problems.

13.2 Postgraduate students

The postgraduate students, who we met, included those on the following programmes of study: aesthetics and restorative; Periodontology (this programme is recognised by the European Federation of Periodontology); Prosthodontics; and those undertaking

internships in prosthodontics and restorative dentistry. It is understood that internships are available in the other specialties as well.

The postgraduate programmes in UIC's Dental Faculty are clearly highly respected by overseas students. They have a good reputation. The students have a lot of their own equipment but materials and some equipment are provided by the Faculty. Uniforms are provided but the students are responsible for laundry care.

The students feel there are plenty of patients to support their courses and clinical experience. They agree with their undergraduate colleagues that junior and senior students working on patients together is a valuable learning opportunity. They believe that assisting one another at undergraduate and postgraduate levels trains them to understand the roles and responsibilities of a dental assistant/nurse who they will work with in their future dental clinical practice.

They do almost all their laboratory work, although some of this work is carried out in outside facilities. They believe that doing this is a useful learning opportunity which facilitates them negotiating and discussing laboratory work in the future. Particularly if work is not up to sufficient standard, having the practical knowledge helps them as clinicians negotiate and have a constructive discussion with staff in the laboratory. However, they would value a change in the balance in clinical exposure and laboratory work in favour of more clinical exposure.

Clinical presentations take place, led by a master's student, either to their peers in their own specialty but there are also presentation sessions where all masters' students are present and contribute. Students from different specialties compile case treatment plans on the same patient together and then the treatment is carried out by different specialties. They have a substantial workload (clinical work, research, exams), exams (open-ended questions) case presentations and a thesis. Although there were a feeling the there is no life outside of the dental school the post graduate students expressed clearly their positive motivation towards learning and having even more clinical exposure.

They undertake clinical trials, systematic reviews and in vivo and in vitro studies. They strongly believe that the research that they undertook as undergraduates gave them a good grounding in research methodologies and techniques as well as attracting them to undertake research in the future careers. The majority of these students had

graduated from UIC. They reported limited support financially for attending and presenting at conferences.

They engage in the student surveys and they believe their comments are scrutinised and they do see changes as a result of their feedback. The students would like to send more laboratory work to outside laboratories. This would reduce their hands-on commitment to laboratory work. They believe that all postgraduate programs should be a minimum of three years in duration. This and a reduced commitment to laboratory work would allow more focus on clinical practice, a notion that the visitors also share.

13.3 Young teachers and researchers

The visitors welcomed the opportunity to meet with teachers and researchers with varied backgrounds and experience who are clearly dedicated and highly motivated. The visitors were informed that Internal and external accreditation relies heavily on the individual's research profile and that their contract is on annual review. They believe that there is good engagement at all levels across the Faculty. There are occasions when they may receive a contribution for expenses to attend and present at conferences.

They value the variety of being on a part-time contract which enables them to boost their clinical expertise in dental clinics in the community. There are opportunities for teacher-training. Some teachers have been able to take part recently in a teaching methodologies pilot programme. The visitors would suggest that the Faculty embraces this and expand such opportunities for all their academic staff.

There is evidence of a significant contribution to research themes and the research facilities by staff and students in the Dental faculty. They recognise the values of UIC having integrated university research laboratory facilities. There is demonstrable motivation, commitment and enthusiasm amongst the staff that we met. They are proud of their School and have enjoyed working there as undergraduates, postgraduates and academic teachers & researchers.

The accreditation process takes into account the evaluation of teaching by the students and by the Course Director. Teachers are accredited by two organisations - Spanish and Catalan accreditation agencies.

The majority of teachers work part-time at the Faculty, because salaries of academic teachers are low in Spain. Part-time contracts vary from 1 -2 days/week. Young teachers feel they contribute to the School's decision-making processes. The staff in the Faculty demonstrate a good numbers of research publications. Substantial resources are available from the University to support their research activities: a statistician is available, English corrector, devices, etc. They feel well-supported by their teachers and professors and this situation is to be commended.

Section 14 – Research and publications

An overview of research publications and the extended masters' degrees is described below.

16. Research and Publications	
Number of publications Faculty of Dentistry from 01-01-2007 to 31-12-2016	288
JCR - Science Edition	229
JCR - Social Sciences Edition	1
SCOPUS-SJR-SCImago Journal Rank	36
Latindex	20
MIAR	2
Other articles in magazines	207
Text in congress events	137
Books	8
Chapter of books	44
Other scientific and technical documents	2
Academic work: thesis, PFC	532
Manual-notes	7
Grants awarded last 10 years Faculty of Dentistry	2
Prizes awarded last 10 years Faculty of Dentistry	53

Table 8. Research and Publications (publications, grants, prizes)

16.1. Extended Master Degrees

	Duration Years	ECTS
University Master's Degree in Aesthetic Restorative Dentistry	2	120
International Master's Degree in Oral Surgery (IMOS)	3	180
European Master's Degree in Endodontics	3	180
Master's Degree in Endodontics Online	2	120
Online Master's Degree in Dental Aesthetics	2	120
Online Master's Degree in Comprehensive Odontopediatrics Paediatric Dentistry	2	120
Master's Degree in Comprehensive Paediatric Dentistry	2	120
Master's Degree in Orthodontics and Dentofacial Orthopedics	3	180
Master's Degree in Periodontology	3	180

The staff informed us that they endeavour to include evidence-based within their research, teaching and learning, particularly in the final year project. Students review articles and produce posters and attend the research laboratories in year 1. In year 2, they will review articles for example on restorative dentistry and poster presentations are facilitated through the English courses. Evidence-based dentistry are also taught within several subjects in the curriculum (in Biology- year1, Restorative-year 2, Perio-year 5, etc). "Research Methodology" and "Statistics" are taught transversally. All students have to develop a final research project. Postgraduate students, in year 1,

learn about transferable skills, research methodologies and statistics which facilitate their final year project.

The Vice-Dean for Research, in his presentation, described an increase in publications and particularly published in higher impact journals. The school has a limited amount of external grant funding for their research activities. There is an increase in external accreditation of staff activities. There is an increased focus on the defining research lines across the different subject areas. This is to be encouraged and the Faculty may wish to define research themes into which staff from the different subject areas contribute. The visitors were informed that for example there are specific research lines in Periodontology: biomaterials; links between periodontal disease and systemic conditions; surgical techniques; and peri-implantitis.

The challenges identified to progress in research include: bureaucratic delays (e.g. Ethics Committee); availability of devices; and patient recruitment. Recently there have been less clinical studies carried out and more in-vitro and cross-sectional studies. All research projects that are currently taking place are followed closely through an Excel sheet and their progress is monitored, so that decisions are taken on whether they will continue, require modification or be terminated.

Recent evidence suggests a significant improvement in research output (increase in publications in high-indexed journals). It is to be commended that Faculty focuses on specific research lines - a coherent research strategy. The Faculty's 2016-17 brochure demonstrates a healthy annual output of postgraduate degrees and publications. In the past, much time has been lost waiting for ethics committee approval. However, the ethics process continues to be refined which has improved the speed of decision making. It is recognised that efforts are made to take advantage of the Schools pool of patients when considering plans for clinical research projects. There is a big effort made to recruit patients into a variety of clinical based studies many of which receive funding support from outside organisations – this should continue to be pursued. Each chair of a subject area has a designated amount to devote to research activities.

The visitors would encourage further involvement of students in research projects. A valuable opportunity which the School may wish to consider is that the student's final year projects be presented to a wider audience. We suggest identifying a 'final year project presentation day(s)'. This could be structured like a conference where students provide a short oral presentation of their work and field questions from their

peers and teachers. The whole year should attend and contribute, an excellent learning opportunity for all concerned. The large number of patients attending the dental clinic offers ample opportunities for research and there is evidence that this is happening already.

Section 15 – Quality Management

There are different quality assurance processes in place, both internal and external, which appear robust. An annual QM report is produced by the chair of each subject area – summarising the achievements of the year and listing the actions needed for the next year. These reports are scrutinised by the Faculty's Quality Assurance Committee. They evaluate these reports and prioritise actions to be addressed over the following year. External scrutiny is provided by the Catalan Quality Agency (AQC). This occurs every 6 years. The most recent one was last year and we understand that the Faculty received a favourable report. By additionally asking for an ADEE external visitation (LEADER Program), the Faculty increases the opportunities for high-quality dental education which has strong external validation.

The visitors would recommend that the Faculty produces a schematic diagram, of the Faculty's Quality Management Process, which outlines and defines the lines of communication which lead to both internal and external accreditation of the undergraduate and postgraduate programmes that they are responsible for.

Section 16 – Summary of Key Recommendations

1. Greater vertical and horizontal integration is highly recommended throughout the program
2. Review the weekly schedules to facilitate self-directed learning and extra-curricular activities (e.g. work placements)
3. The recruitment and retention strategies could be reviewed by the Faculty to attract and retain new staff
4. A more structured pedagogical educational programme, for staff and young teachers, would be beneficial

5. External examiners are recommended for all formal undergraduate examinations as is already in place for the Masters' programmes. This strengthens externality
6. A more structured approach to outreach student activities in support of the local community would be advantageous
7. Further development of assessment methods and meaningful feedback systems would contribute to students learning
8. Develop interprofessional program within health sciences and consider a novel initiative to develop educational programs for dental auxiliaries
9. The Faculty is encouraged to produce schematic diagrams which clearly outline communications (including committees and their structure) for the decision-making processes and the quality management processes and procedures
10. Review the Book – clinical record for students. Develop an on-line reflective portfolio which includes a record of the procedures undertaken, their assessments and their reflection.
11. Consider a curriculum 'blueprint' by mapping their curriculum and assessments to
 - ▶ the 93 defined Spanish competences
 - ▶ the learning outcomes in ADEE's publication – 'The Graduating European Dentist'.

Examples of good practices already in place in the Faculty and proposals for

expanding them

<u>GOOD PRACTICE</u>	<u>PROPOSAL FOR FURTHER EXPANSION</u>
Undergraduate students may refer and follow their patients to postgraduate students, if they wish	Obligatory follow-up of a certain number of such patients
Students are assessed in multiple ways (on-clinic, exams, case presentations, projects, thesis), but the relation of grades with the level of performance seems unclear	A structured multi-assessment, where the grades reflect specific levels of performance (development of criteria)
A group of young teachers attended a pedagogical seminar on an optional basis	A structured pedagogical development of all staff on a regular basis – teacher training
A fully-equipped research laboratory exists within the School	Expansion of research lines and cooperation with other Faculties for joint research projects
Undergraduate students perform a small research project before graduation (mostly a literature review)	Undergraduate students may be more actively involved in the postgraduate students and staff research projects. They may present their research projects to a broader audience during a dedicated weekend of the year entitled “Students scientific Conference”
Students organise their personal portfolio and present it at the end of the year to their clinical teachers	A more structured and open presentation of student’s treatments (to their peers and instructors), with emphasis on interesting /rare cases (which may be presented to the Students’ Conference, as well)
The feedback on students’ grades is optional	Development of structured feedback system, which is an important learning opportunity
Basic sciences teaching is different between the dental students and other health sciences students, although the teachers are frequently the same	Opportunities for inter-disciplinary education
UIC has a state of the art medical simulation unit. The Faculty has ready access to this facility	A manikin placed on a dental chair simulating a dental clinic environment would be beneficial for all dental students