

**UNIVERSITY OF WALES
COLLEGE OF MEDICINE**

CARDIFF

DENTAL SCHOOL



DentEd VISITATION

CARDIFF

12 - 16 FEBRUARY 2000

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6. College Undergraduate Prospectus (for year 2000 entry).

* available on request from the Dental School

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SECTION 1

INTRODUCTION AND GENERAL DESCRIPTION

1. INTRODUCTION & GENERAL DESCRIPTION

1.1 Overview

The Dental School in Cardiff is a constituent School of the University of Wales College of Medicine (UWCM); it is the only dental school in Wales, and one of 13 dental schools in the UK. It is also the youngest dental school in the United Kingdom, with its first cohort of 22 students graduating in 1968. The current intake is approximately 55 undergraduate students per annum, recruited from the United Kingdom, European Union and other parts of the world. UWCM is one of the six constituent institutions of the federal University of Wales and is the largest healthcare complex in the UK, comprising the Dental School, Medical School, School of Healthcare Studies, School of Nursing and Midwifery Studies and School of Postgraduate Medical and Dental Education. It is located on a purpose built 50 acre (20 hectare) campus.

Undergraduate students undertake the Bachelor of Dental Surgery degree scheme which is normally of five years duration; however, a small batch of students who cannot meet the standard course requirements follow a one-year foundation course before entering the main scheme. Most students are exempted from this foundation year and consequently enter the scheme in the second year (referred to as 2nd BDS). Formal examinations are held at the end of 2nd, 3rd, 4th and Final (6th) BDS and students graduate with the degree of BDS and gain dental registration with the General Dental Council.

The School has 4 departments: Basic Dental Science, Dental Health and Development, Adult Dental Health, and Oral Surgery, Oral Medicine and Oral Pathology. The course has a largely 'traditional' UK pedagogy comprising: lectures, seminars, laboratory instruction and chairside supervision, with Problem Based Learning being introduced recently in two departments, and competencies being piloted in one department. The foundation (1st BDS) and preclinical (2nd BDS) years are spent at Cardiff University, which is a fellow constituent of the University of Wales.

The Dental School and Hospital also trains Professionals Complementary to Dentistry (PCDs), and runs a taught Masters degree course in Orthodontics leading to qualification for admission to the specialist list. Staff also contribute to the taught Master in Public Health course, and offer MSc, MPhil and PhD degrees across all dental disciplines.

1.2 MISSION STATEMENT AND PRIMARY AIMS AND OBJECTIVES

1.2.1 College Mission

The broad aims of the College are threefold:

- The provision of high quality undergraduate and postgraduate education and training in medicine, dentistry, nursing and the several disciplines allied to medicine, consistent with the College's aspiration to become a broadly-based university institution in the health sciences in which intellectual and professional development is stimulated through guided learning in a research setting.
- The pursuit of excellence in research, both basic and applied, in which the encouragement of individual endeavour is balanced by the development of strong collaborative research groups able to take full advantage of the particular environment within which the College of Medicine operates.

- The provision, with our partners, of first-rate clinical services to the people of Wales.

1.2.2 Dental School Mission

To remain an internationally and nationally recognised leader of academic excellence in dentistry by:

- Achieving and retaining a reputation for high quality teaching and research
- Fostering an environment which stimulates intellectual and professional development.

1.2.3 Primary Aims and Objectives:

The overall curriculum aims of the Dental Degree scheme are:

- To provide a high quality, university based education in dental health science appropriate to modern dentistry
- To provide clinical and laboratory instruction based on the application of scientific principles
- To foster a spirit of ethical practice and enquiry
- To stimulate an individual's desire and capacity for professional self assessment and life-long learning
- To equip the student with mental and practical flexibility to enable them to be responsive to the changing dental needs of the population which he/she will serve
- To be compatible with the needs of a licence to practice and to exceed the minimal requirements for an undergraduate dental course laid down by the General Dental Council

The overall objectives of the undergraduate course in Dentistry in Cardiff are:

(a) Academic

The student should:

- have a broad knowledge of the theoretical basis of modern dental science, including the appropriate bio-medical sciences and human disease
- be aware of the means by which health can be maintained within the individual and within the population
- be capable of applying logical and scientific reasoning, based on sound evidence, to manage problems
- understand the diversity of approach to problems

(b) Clinical

The student should:

- have sufficient skills to render them competent to deal to a high standard with the routine practical problems presented in dental practice
- understand the limitations of his/her knowledge and practical skills, and be able to ensure that appropriate onward referral occurs

- be able to integrate the needs of his/her patients into a scheme designed to promote dental and general health and social well-being
- be conversant with modern methods of management of dental disease and disorders
- have a commitment to continuing education to further enhance their professional knowledge and clinical skills
- be aware of mechanisms to retrieve and store information

(c) Professional

The student should:

- understand the requirements of sound ethical practice, and possess the highest levels of professional and personal integrity
- be aware of the legal requirements affecting the practice of dentistry
- understand the requirements of effective team-work, and appreciate the professional approach required to be both a team member and team leader
- be aware of their personal limitations, and know the means by which help can be obtained

1.3 Achievement of Primary Aims & Objectives

This is monitored in a variety of ways:

- 1.3.1 Through the School committee structure. The development of effective quality assurance procedures at School level is a pivotal requirement in the College approach to quality management. DAQAC (Dental Academic Quality Assurance Committee) is responsible for advising and making recommendations to the Board of Dental Studies on matters relating to the establishment and maintenance of mechanisms sensitive to aims and objectives. The Board of Dental Studies reviews quality issues as a standing item on its agenda.
- 1.3.2 External Validation:
- .1 The use of external examiners at Degree Examinations.
 - .2 Regular periodical course review by the General Dental Council (GDC), and compliance with the GDC publication 'The First Five Years' that describes the minimum requirements for a dental course in the UK.
 - .3 Teaching Quality Assessment review - Assessment of provision of Teaching Quality by the Higher Education Funding Council for Wales.
 - .4 Research Assessment Exercise - Review of research activity conducted within the School by the Funding Council on a five yearly basis.
 - .5 Continuation Audit - Evaluation by the Quality Assurance Agency (QAA) of the extent to which the College has discharged effectively the responsibilities for the standard of awards granted in its name and the quality of education provided to enable students to attain these standards.
 - .6 Senior staff members acting as external examiners at other institutions.

- .7 Staff attendance at continuing professional development meetings and courses.

1.4 Specific Characteristics of Teaching Programme, Features and Innovations

1.4.1 BDS Programme

- .1 Pre-Dental Year for students who do not have the traditional school science background.
- .2 Linking of the Basic Science and the clinical course by shared staff appointments and teaching duties between the Dental School and Cardiff University.
- .3 At the end of the second year an Intercolated BSc Honours degree course is run jointly by the Dental School and UWC.
- .4 All students must undertake the 'European Computer Driving Licence' course, and achieve proficiency.
- .5 All students take part in 'Outreach' clinical practice.
- .6 All students undertake a 6-week Elective project. This project must be reported back at a school meeting, and is marked by a panel of school staff. Prizes are awarded for a variety of categories.
- .7 An innovative method of electronic recording and grading of clinical work performed on child and orthodontic patients has been in operation for 4 years.
- .8 Some Problem Based Learning is employed by two Departments.
- .9 Reflective Clinical Log-Books are used by students who undertake an Erasmus exchange.
- .10 The School is undergoing substantial refurbishment and extension.
- .11 The School is in the process of profound curriculum change.

1.4.2 BSc Programme

At the end of their first clinical year (3rd), a small group of undergraduate students are given the opportunity of pursuing a one-year BSc Honours Degree in Dental Science. The aims of the course are:

- .1 To enable students to study in depth a selected range of areas of important, and developing, research within dental sciences.
- .2 To provide students with a broad knowledge of the techniques used, and their applications, in modern dental research.
- .3 To help students develop the ability to think critically, to compare and analyse, and to present their thoughts scientifically and in both speech and writing.
- .4 To sustain students' enthusiasm for dental science so as to enable them to continue to approach their careers with initiative, confidence and scientific understanding.

The course is delivered by Basic Dental Science and Oral Pathology staff from the School and the Anatomy Department of Cardiff University. Funding for the course has been secured from both the College and external bodies such as the Wolfson Foundation. Students have attained a consistently high level of academic achievement and research potential on the course.

On completion of the BSc degree, students undertake a refresher course which prepares them for recommencement of the BDS programme.

1.5 Resources

Departmental Staff as listed in Section 3. The School is further supported by an administrative office headed by the Assistant Registrar who is reportable to the Registrar of the College. A Dental Computer Support Officer employed by the College's Department of Information Services provides both strategic and day-to-day assistance to staff and students in relation to IT.

Funding for teaching within the context of the provision of dental services is shared between the Trust (approximately £13-14m per annum) and the Higher Education Funding Council for Wales (approximately £4-5m per annum recurrent funding).

1.6 Overview of Research

A Research Strategy Committee co-ordinates 3 main areas of activity:

- .1 Physical Dental Sciences
- .2 Biological Clinical Sciences
- .3 Health Services Research

The Committee's task is to ensure that there is a coherent and co-ordinated direction for research within the school, and to strive to upgrade our research rating in the next Research Assessment Exercise in 2001.

1.7 Continuous Quality Improvement

1.7.1 Teaching

- The Dental Academic Quality Assurance Committee (DAQAC) monitors the activity of academic committees within the Dental School.
- The Higher Education Funding Council for Wales (HEFCW) has recently undertaken a Teaching Quality Assessment (December 1997) and awarded the School the highest possible rating, 'worthy of recognition and reward', across all key areas of undergraduate provision. This result has been rewarded by additional resources from the Funding Council which are being invested in IT-based information management schemes and curriculum enhancement.
- Teaching courses are run regularly for new and established staff. Staff are also encouraged to join the Institute for Learning and Teaching in Higher Education.
- The School is currently involved in an innovative and wide-ranging curriculum review which will involve substantial changes to the existing course.

1.7.2 Research

Quality and Ethics

- All research protocols are scrutinised by the Dental Clinical Research Committee (which is also an advisory panel to Bro Taf Health Authority, Local Research Ethics Committee (LREC). This also considers changes in clinical procedures involving patient care for the purpose of teaching.
- The Trust Management Committee before submission to the LREC must approve all newly commissioned clinical research. The LREC uses the Dental Clinical Research Committee to provide scientific scrutiny of all dental research submissions. The Heads of Divisions ensure where appropriate that research projects have ethical approval.

- Research activity in the School and Trust is monitored by the Chair of the Dental Research Strategy Committee
- Information on new projects and grant successes is recorded centrally and logged according researcher, Department, Research Theme etc.
- The outcome of research projects is also monitored through staff appraisal, attendance at research meetings, presentation of abstracts, publications and attainment of grant money. In addition, the citation of published work is monitored on 2 yearly basis.
- Mentoring of research.
- Research support through Theme leaders.

1.7.3 Patient Services

- Clinical facilities are provided by the Dental Hospital, which is part of the Cardiff and District Community NHS Trust.
- All staff take part in the monthly clinical audit meetings. The Dental Hospital is meeting the new challenge of Clinical Governance. Students are taught by clinical academic staff who are themselves clinically active. The students also receive clinical instruction from visiting general dental practitioners who have honorary teaching contracts with UWCM.

1.8 Significant Aspects of the School's Programme.

The School is particularly pleased with the seamless arrangements for the management of the Dental School and Dental Hospital and Community Dental Services. This was achieved by the combined appointment of the chief executive of the Trust and the Dean of the Dental School. Following NHS reorganisation, the situation continues with the Dean also acting as Lead Clinical Director of the Dental Services Group of the new NHS Trust. Staff from the Hospital are contracted to participate in undergraduate education, and all clinically qualified Dental School staff have an Honorary NHS contract to cover their clinical activities. There is a written Memorandum of Understanding between the Dental School and the Dental Services Group defining all aspects of the relationship

The school is currently engaged in its most profound curriculum review since the inception of the course in the mid-1960s. It is anticipated that the new curriculum will run in 'shadow' form from October 2000, and be actively implemented from October 2001. Opinion on the design and management, as well as the content has been taken widely. The aim is to build on our existing perceived strengths and bring the Cardiff dental course to the forefront of dental education in the UK. (See Appendix 2)

VISITORS COMMENTS (Section1)

The Dental School in Cardiff is a school with an open, friendly atmosphere. Both staff and students show a high level of engagement. The contents of the constituent parts of the curriculum are of a high standard. The programme is based on the latest state of the art in dentistry, supported by an extensive, broad programme of research. At the moment the school is in a transition to a programme based more strongly on student oriented education. This results in a programme that is partly traditional and more teacher-oriented, typified by the large numbers of lectures in the theoretical part of the course. On the other hand, developments already underway include OSCEs, first introductions of tutor groups and small group teaching, integration in clinical teaching and other modern approaches. The school has the ambition to be in the forefront of dental education in the UK. The education is of high

European standard and the school has links to many dental institutions in other European countries. The school participates in frequent staff and student exchanges through programmes such as the Erasmus/Socrates programme. The school wish to extend the co-operation with other European countries and it is currently very actively sharing ideas of education with some non EU-countries which are currently applicants for EU membership. The visitors recommend that the school continue the curriculum change and change to a more student-directed learning curriculum and integrate different basic and clinical subjects. An earlier introduction to clinics for students is also strongly advised.

We recommend that the school should include in its mission statement a definition of the dentist that they wish to produce, with an emphasis on methods to enhance student-oriented learning with both horizontal and vertical integration between disciplines. This may also require a rearrangement of the time made available to each subject (although it should be noted that time allocations are always difficult to ascertain in integrated teaching). Such a definition would need to take into account changes in oral health, demographics and social and economic development.

SECTION 2

FACILITIES

- ❖ **2.1 Clinical Facilities**
- ❖ **2.2 Teaching Facilities**
- ❖ **2.3 Teaching Laboratories**
- ❖ **2.4 Research Laboratories**
- ❖ **2.5 Library and IT**

2. FACILITIES

2.1 CLINICAL FACILITIES

2.1.1 General Explanation

The Dental Hospital and School constitute a separate building on the University Hospital of Wales site in Cardiff. It has a total floor area of 120,000 sq ft, and includes 130 operatories in 8 separate clinical areas. Amongst these is one large oral health clinic which is committed to whole care for the patient during the 4th and 5th years of the six year course. There are also a number of outreach facilities including 10 adult community dental clinics throughout South Wales which receive dental students and there is in addition a special attachment to a small Dental academic unit at Wrexham in North Wales.

2.1.2 Strengths

Have good capital investment in clinical facilities with a rolling re-equipment programme. There is a new dental academic unit with 12 operatories due to open at St David's Hospital close to a socially deprived area of Cardiff in 2001.

2.1.3 Weaknesses

Current feeling that there is insufficient dental nurse support for the students and there is a need for more close working with professions complementary to dentistry during the course. Both of these issues are under discussion with representatives of the Welsh Assembly.

2.1.4 Innovations

The 'outreach' teaching programme, together with the bar code marking and competency system for undergraduates.

Another innovation is the establishment of a purpose-built 'conscious sedation suite' and also a 'close support unit' to reflect and prepare students during their final year for working in general dental practice.

VISITORS COMMENTS

The school is in the middle of a major refurbishment of clinical facilities. Some clinics have already been refurbished and others are housed in temporary accommodation pending the completion of building work.

The new clinical facilities are of a high standard.

2.2 TEACHING FACILITIES

There are two purpose-built lecture theatres which can accommodate 225 and 76 people respectively. There is a purpose-built multidisciplinary laboratory and six teaching seminar rooms. In addition, the Dental School has one of the few separate dental libraries in the UK, the quality of which has been recognised with independent awards and prizes.

2.2.1 Strengths

The quality of the traditional teaching facilities and library.

2.2.2 Weaknesses

The small area committed to IT and CAL teaching support within the Dental School itself.
The limited number of seminar rooms and space available for PBL style teaching in the new curriculum.

2.2.3 Best Practices

The development of the library and computer network system.

2.2.4 Innovations

The current building of a purpose-built library and combined IT learning centre on the fourth floor with network links to outreach teaching facilities.

The building of a state-of-the-art new multidisciplinary laboratory to hold the increased number of students.

VISITORS COMMENTS

While the lecture theatre accommodation is adequate, we have concerns that the more widespread introduction of small group self directed learning will require much greater provision of seminar rooms if the availability of seminar space is not to become the major consideration in timetabling.

2.3 TEACHING LABORATORIES

There are numerous teaching laboratories associated with the pre-clinical years of the course in University College, Cardiff. In the Dental School there are laboratories on the fourth floor which are largely committed to research, but these are also used during the elective project part of the teaching programme and also extensively used during the intercalated BSc.

2.3.1 Strengths

There is a new purpose-built multidisciplinary laboratory being built currently in the south wing of the fourth floor

2.3.2 Weaknesses

A weakness of the main multidisciplinary teaching laboratory has been the lack of modern audio visual aids and resource support. This matter is now being addressed within the newly designed multidisciplinary laboratory.

VISITORS COMMENTS

The teaching laboratories for clinical simulation are not suited for skills-training alternating between pre-clinic and clinic, an application of the methods of more student-oriented learning. The teaching laboratory for dental biological sciences is about to be replaced with a new facility.

2.4 RESEARCH LABORATORIES

2.4.1 General Explanation

The main laboratory facility within the Dental School and Hospital exists in the North and South wings of the four floors of the building. Having said that, there are also some laboratory facilities situated on the second floor, one of which is primarily dedicated to the area of dental materials. The laboratories support the two main research themes of Biological Science and Physical Science as both pertain to Clinical Dentistry. Specific areas of interest are Oral Pathology, Biochemistry and Hard Tissue Research, Microbiology, Dental and Biomaterials and Biomechanics. The latter area has a separate facility within the Medicentre building on the other side of the site and all linked closely to the very strong Dental Health Services Research Unit which is also based at the Medicentre.

2.4.2 Strengths

Defined research themes – recent successes in competitive research funding – development of non-clinical research and teaching posts – large investment in upgrading research laboratory facilities. We are constantly upgrading and expanding molecular biology techniques in each of the biological sciences.

The School has been very successful in attracting postgraduate and post-doctorate staff.

2.4.3 Weaknesses

Some of the facilities are still a little scattered across the site and might be better focussed.

2.4.4 Best Practices

The development of theme based research across the School linking to both themes and facilities within the School and College.

2.4.5 Innovations

A recent innovation is the development of a fourth floor management group to streamline the planning and organisation of the research laboratory facilities.

VISITORS COMMENTS

Very clever use has been made of the existing laboratory space. However, the use of certain rooms both as laboratories and as offices is not to be encouraged. We understand that expansion of the research laboratories will make this unnecessary.

2.5 LIBRARY & IT

2.5.1 General Explanation

The Dental School contains one of the best free-standing dental libraries in the UK. This statement can be supported by the awards that the Library has received in recent years. It has an extensive collection of books and journals and receives a large number of journals on a regular basis. IT facilities include 18 networked PCs giving access to word processing, statistics packages, spreadsheets, Internet, e-mail, literature searching facilities, Computer-Assisted Learning, etc. There is a scanner and microfilm and microfiche-reading facilities are also available.

2.5.2 Strengths

It is a separate dental library but is also closely linked to the College facility which provides the line of functional management. A particular strength is that the library, IT and media facilities are all run as one division within the College of Medicine.

2.5.3 Access to Other Library Resources

There is extensive and regular access to other library resources, both traditional and IT based.

2.5.4 Information Service

There are regular induction courses for members of staff and students on how to use the library and the IT facility that supports it. There are four dedicated library staff.

2.5.5 Best Practices

Relate to the seamless integration of library, IT and media resources and the access mechanisms to information, both within the School and to other facilities on the site.

2.5.6 Innovations

A significant investment has been made in a new west wing on the fourth floor, part of which will be dedicated to a new library with a linked IT based teaching and information centre which will include 40 networked PCs.

From the academic year 1999/2000, first clinical year students are undertaking a course in computer competence which leads to the award of the 'European Community Driving Licence'. The licence is a European technology certificate and is designed to ensure that citizens in the widest sense have attained competence in information management and competency skills. The course involves a significant element of self-directed learning and the syllabus covers basic concepts of IT, word processing, use of databases and spreadsheets and information network services.

VISITORS COMMENTS

The existing library, which seems to be adequate, is about to be replaced with a new facility. We would encourage the dental school in its determination to maintain a separate dedicated dental library with a good collection of important periodicals. The library should be developed to become a "study-landscape" in combination with available IT and with cubicles for individual study. Group work requires opportunities for searching together for information, group discussion of findings and other interactions frowned on in conventional libraries. The student learning area available to the dental students while in Cardiff University is an example of one such learning landscape.

The infrastructure for IT is quite impressive. Each student has an account and an individual email address. While there is access from certain halls of residence, we recommend that students should be able to access all material from home and we understand that this development is being considered. We would further recommend that the school should pursue policies and strategies for the use of IT as part of the overall methods for teaching and instruction.

SECTION 3

ORGANISATIONAL AND ADMINISTRATIVE STRUCTURES

3. ORGANISATIONAL AND ADMINISTRATIVE STRUCTURES

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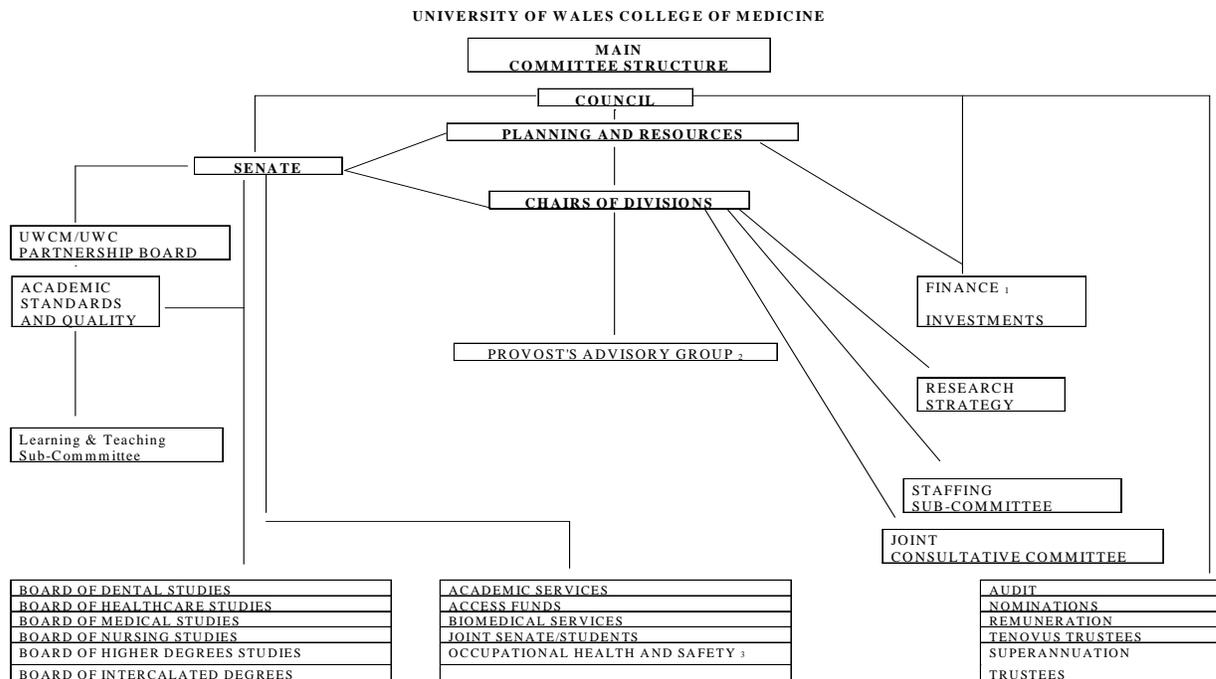
3.1 ORGANISATIONAL STRUCTURE OF THE SCHOOL

3.1.1 Overview

The School Committee structure seeks to ensure that all contributors to the academic process are represented within appropriate forums. In addition, the structure seeks to ensure that the objectives of both the School and the College in general are achieved.

As an integral part of the College, the Dental School's Committee structure shares many common features with the other Schools. Each School has a Board of Studies which reports directly to the College Senate:

DIAGRAM 1



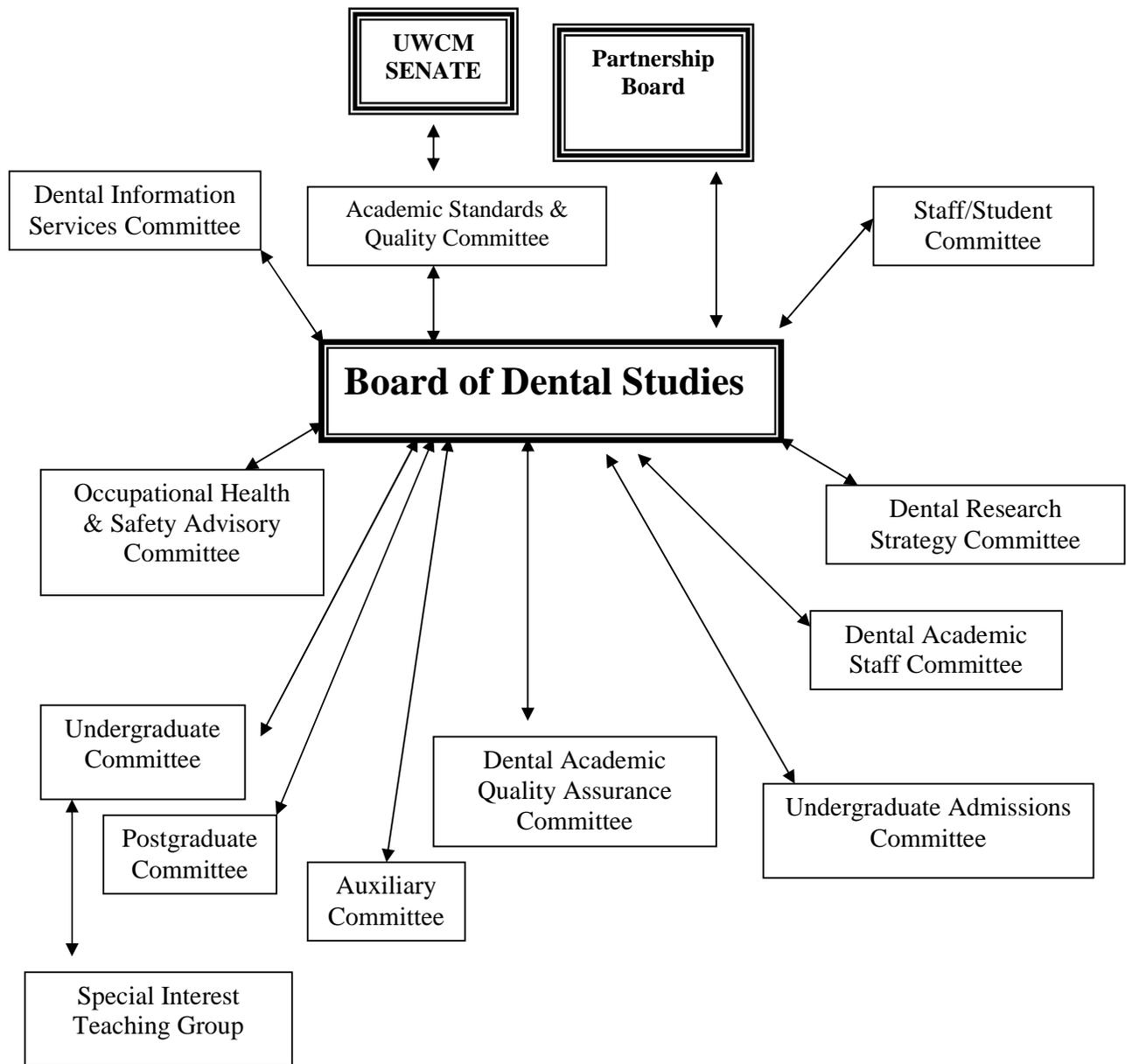
1 The Finance Committee reports to Planning and Resources Committee and Council
 2 In respect of Estates matters the Provost's Advisory Group reports directly to Planning & Resources
 3 The Occupational Health and Safety reports to Council in addition to Senate

The Board of Dental Studies meets four times a year and includes membership from senior academic and administrative staff, representatives of lecturing staff, Chairs of Examination Boards and representation from the NHS Trust and external statutory bodies. The Board is empowered to devise, regulate and review the academic content, structure and assessment for undergraduate degree schemes in dentistry and any other such academic courses for which the School is responsible at pre-degree level (At present, responsibility for Postgraduate courses falls within the remit of the Board of Higher Degree Studies).

The Board is supported by a number of Sub-Committees. Sub-Committees meet on a regular basis and the Chairs of these groups present reports on activity to the Board. Each Sub-Committee has an agreed membership and defined terms of reference.

DIAGRAM 2

SUB-COMMITTEES OF BOARD OF DENTAL STUDIES



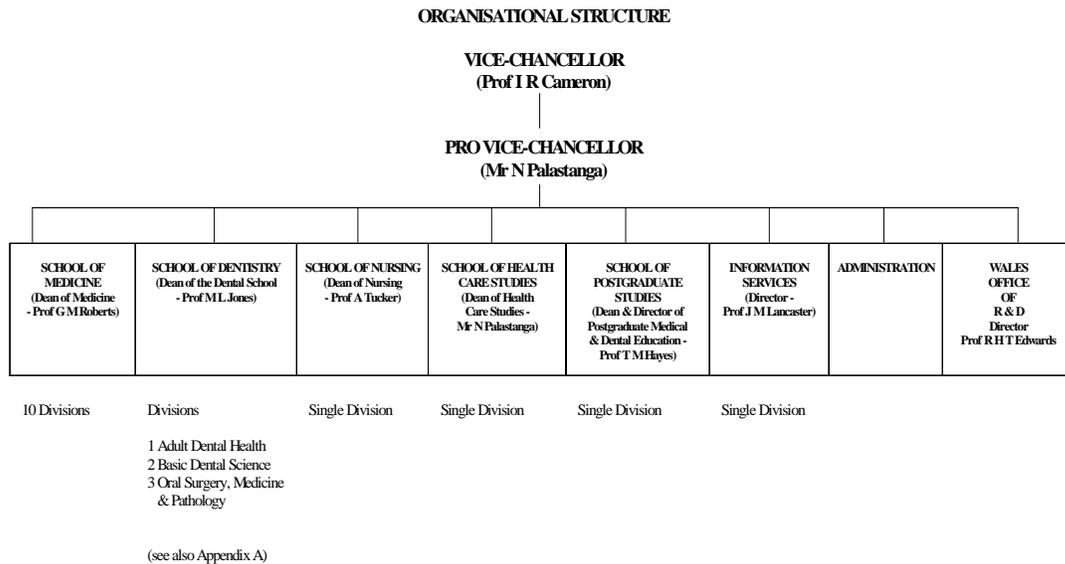
3.1.2 Divisional Structure

For the purpose of the allocation and maintenance of budgets within the College, departments within the Schools of Medicine and Dentistry are grouped together within 'Divisions'. The four Dental departments are grouped into three divisions as follows:

Each Division presents an annual report for consideration within the College which lists:

- Targets achieved in the previous year
- Internal SWOT analysis of the Division
- Teaching, research and service commitments of staff within the Division
- New initiatives planned within the Division and related financial bids for the implementation of these initiatives.

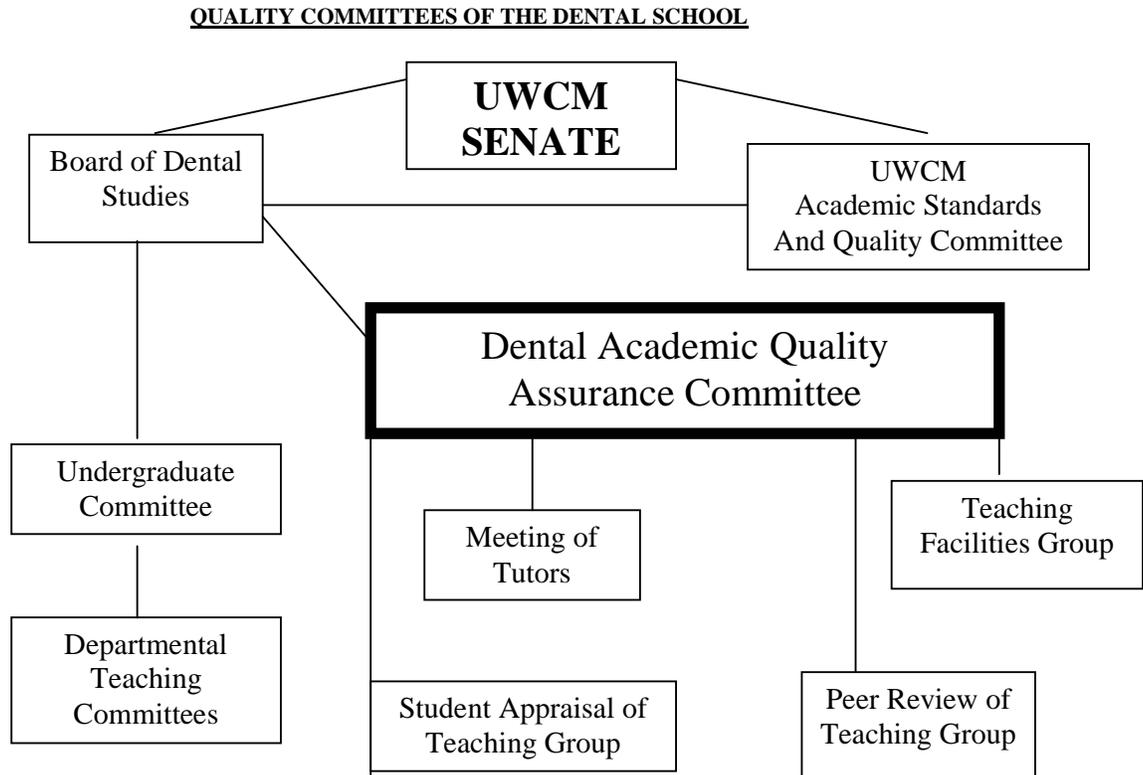
DIAGRAM 3



3.1.3 Quality Assurance

The Dental Academic Quality Assurance Committee (DAQAC) meets on five occasions each year and is responsible for making recommendations to the Board of Dental Studies on quality issues. DAQAC has taken responsibility for conducting annual course reviews in accordance with an action plan agreed by the Board.

Reports of activity at the Board of Dental Studies in relation to quality matters are passed routinely to the College's Academic Standards and Quality Committee for consideration.

DIAGRAM 4**3.1.4 Student Representation**

There is wide student representation within the School and College committee structure. The current and past Student President are invited to attend the Board of Dental Studies, and the president is also a member of the Dental Information Services Committee. Two student representatives are elected from each year of the course, and these sit on the Undergraduate Curriculum Committee and the Staff / Student Committee. The latter is a particularly effective forum for students to air their views regarding the course and the working environment. Each Department also has a Teaching Committee which invites student representation.

The Student Appraisal of Teaching Committee meets to analyse and discuss the questionnaires which are issued to students on aspects of the course provision. Student representatives of each year meet with the Vice-Dean to devise a formal written overview of the outcomes of the appraisal process which is then considered by the Board of Studies. The appraisal system has recently been reviewed and it is intended to introduce questionnaires which can be processed via an optical mark reader to allow for a quicker response and a more comprehensive analysis of student opinion.

3.1.5 Links with Cardiff University

Responsibility for, and the management of, the Dental undergraduate course lies jointly with UWCM and Cardiff University. The close and multi-faceted partnership between the two institutions is formalised through the Partnership Board which comprises academic staff from both institutions and is chaired alternately by the Vice-Chancellors of the two institutions.

At a lower level, senior members of academic staff from Cardiff University involved in the delivery of the pre-clinical dental course have membership of the Board of Dental Studies and

the Undergraduate Curriculum Committee. There has also been significant involvement of these staff in the planning of a new dental curriculum, as this will involve greater interaction between the two institutions in relation to teaching.

3.1.6 Links with the NHS Trust

The School benefits from a seamless committee and management structure in partnership with the NHS Trust. There is a memorandum of understanding that exists between the Dental Hospital and School which is unique in the UK. The relationships of the Hospital committees to the main Dental School committees are shown in the attached diagram.

COMMITTEE STRUCTURE OF SCHOOL IN RELATION TO NHS TRUST

DIAGRAM 5

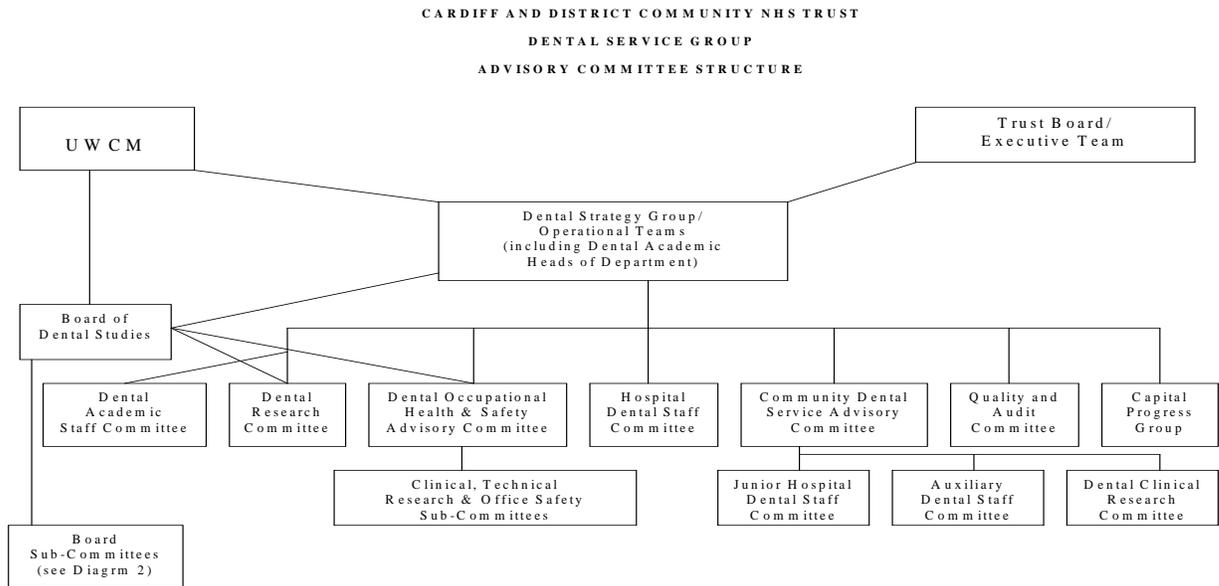
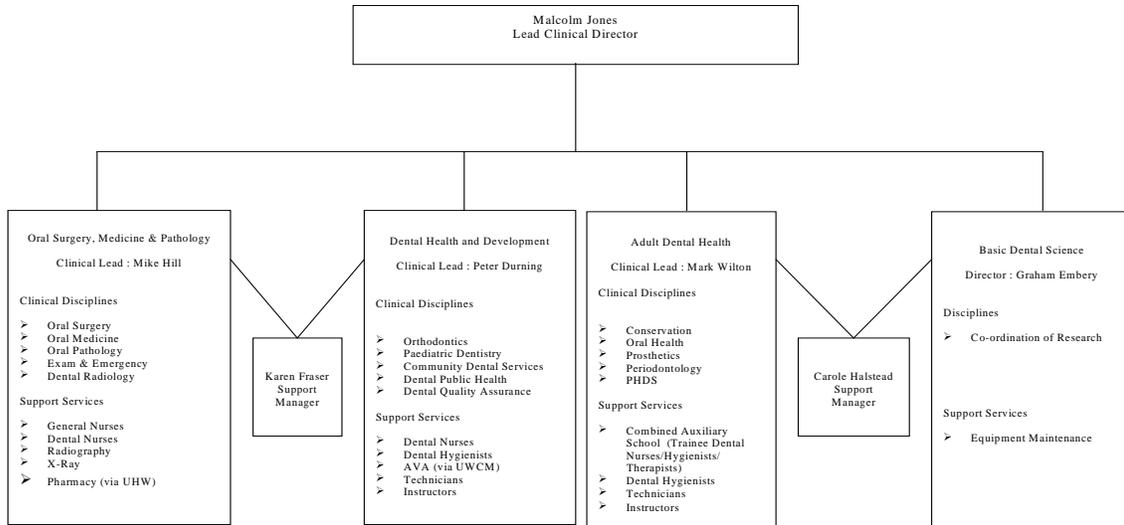


DIAGRAM 6

**DENTAL SERVICE GROUP
UNIVERSITY DENTAL HOSPITAL DIRECTORATE/DENTAL SCHOOL
SUMMARY ORGANISATION CHART
DISCIPLINES/SUPPORT SERVICES**



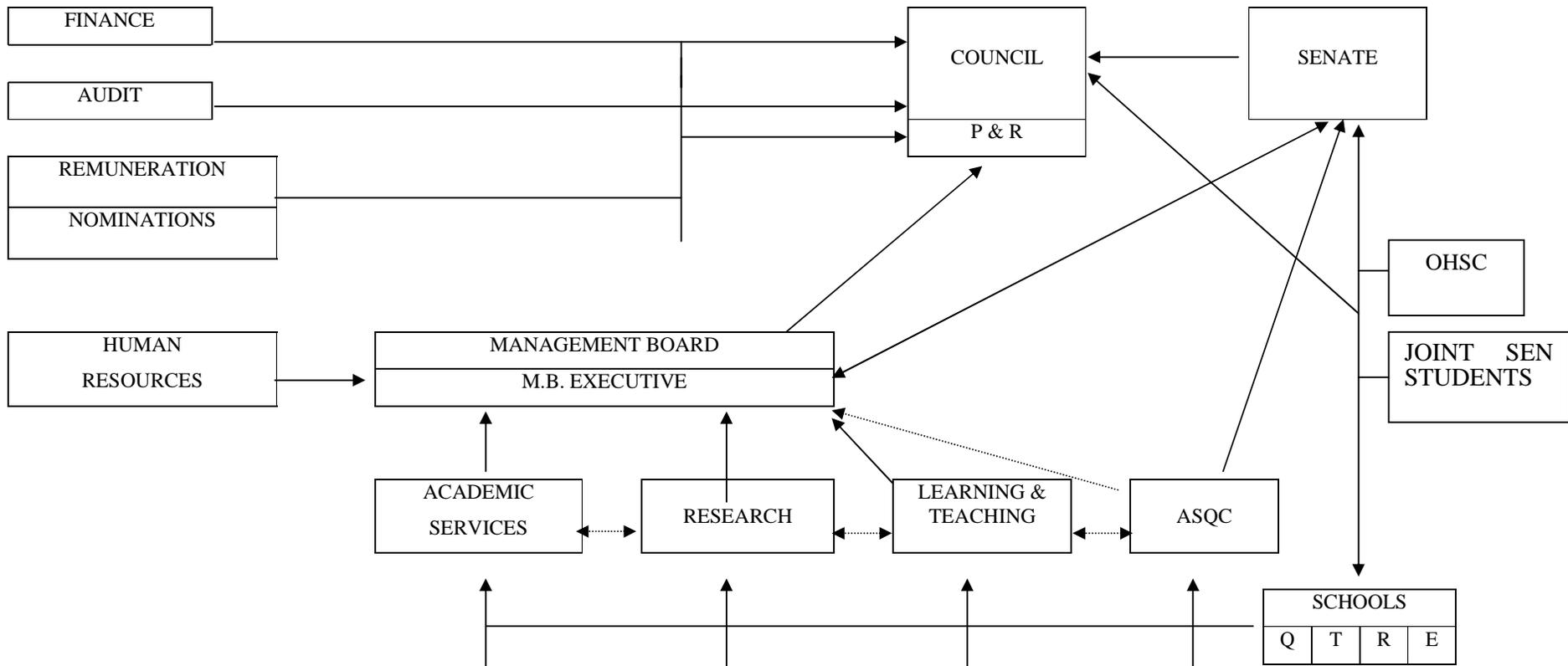
3.1.7 FUTURE DEVELOPEMENTS

During the academic year 2000 the College has undertaken a wide-ranging review of its Committee structure in order to ensure greater clarification of roles and responsibilities. A clearer definition of the responsibilities of the Dean and Heads of Department within each School has also been drafted.

The proposed College structure is represented as follows and provides a simplified (and modified) version of Diagram 1 above.

DIAGRAM 7

COMMITTEE STRUCTURE



VISITORS COMMENTS

The administrative structures appear to be very complex and difficult to understand. We had an impression that there is a large bureaucracy. We understand that this arises partly from the dual nature of the institution as an academic facility and as the principal tertiary referral centre for dentistry in Wales and partly from the need to be prepared for the large number of assessments and audits carried out by a variety of government agencies. It would seem that some staff, at least, must spend an inordinate amount of time on committee work. The college has recently undertaken a wide-ranging review of its Committee structure in order to ensure greater clarification of roles and responsibilities. A clearer definition of the responsibilities of the Dean and Heads of Department within each School has also been drafted. In order that the refined structure of governance within the College is clearly understood by all staff, a review of communication strategies is also being undertaken.

The current structure is long standing and all staff are used to it. The necessary informal structures (internal communication) to support the formal structure are working well. It is recommended, however, that clear organisational and administrative structures be created to facilitate the introduction of, and to support, the revised curriculum. The goals of the changes and the identity of the decision makers should be clear and accepted.

3.2 INFORMATION TECHNOLOGY

The School is currently reviewing its systems for the recording and analysis of data related to student and patient records. In relation to academic performance, the School administration is given network access to a College-wide computerised student record system which records general information on students' personal details and their sources of funding. Examination and assessment results are not, however, recorded on this system and separate records of academic performance are kept by the School administrative office. In order to provide more accessible and diverse information for both staff and students in relation to teaching and learning requirements, the College has purchased a new student records system which it is hoped will become 'live' from the next academic year. The system will incorporate financial and timetabling packages to provide all administrative and academic departments with consistent records of data.

The Department of Dental Health and Development has developed an innovative bar-coding system for recording the quality and quantity of clinical work undertaken by students within both the Dental Hospital and during outreach placements across Wales. The recording of information is overseen by a senior member of academic staff.

The School has recently piloted a student response system which allows students to give responses to questions on keypads. The system will assist the process of course evaluation by providing instant and accurate data.

The NHS Trust maintains a central record of all patient activity via a computerised database. However, this system provides only the most basic requirements of patient administration at the Hospital and it is intended that the Trust IT strategy will seek to develop a long-term plan for the management and enhancement of record systems in order to satisfy the needs of both patients and practitioners.

SECTION 4

STAFFING

4.1 INNOVATIONS AND GAINING MAXIMUM BENEFIT FROM STAFF AVAILABLE

Amongst the University staff there has been in existence a properly structured staff appraisal system for the last five years. This deliberately occurs before the business planning cycle for the Departments and the Dental School within the College framework. Such an approach facilitates a bottom up approach to planning in matters related to teaching, research and clinical service. The staff appraisal mechanism allows appropriate targets to be set and personal development goals to be developed with the members of staff. On the Trust side an Investors in People award was recently made to the Dental Hospital in recognition of its work and communications systems with the staff in the NHS Trust.

4.2 DENTAL SCHOOL - ACADEMIC STAFF

* *Honorary Titles*

DEPARTMENT OF ADULT DENTAL HEALTH

Professors	WILTON, J.M.A., BDS PhD <i>Lond</i> FRCPath (<i>Head of Department</i>) DUMMER, P.M.H. BDS MScD Phd <i>Wales</i> MACKENZIE, I.G., BDS Phd <i>Lond</i> FDSRCS
Honorary Professor	GLANTZ, P-OJ., BDS OdontDr <i>Lund</i> HonDrOdont <i>Oslo</i> Hon FDSRCSEd
Readers	EDMUNDS, D.H., BDS <i>Brist</i> Phd <i>Wales</i> FDSRCS (<i>Vice-Dean of Dental School</i>) JACOBSEN, P.H., MDS <i>Lond</i> FDSRCS
Senior Lecturers	GILMOUR, A.S.M., BDS PhD <i>Edin</i> FDSRCSEd JAGGER, R.G., BDS MScD <i>Wales</i> FDSRCSEd ROBB, N.D., BDS <i>Edin</i> PhD <i>Lond</i> FDSRCS
Lecturers	* CRONIN, E.H. BDS <i>Manc</i> LLM <i>Wales</i> HAYES, S.J., BDS <i>Wales</i> FDSRCPS LEWIS, S, BDS <i>Lond</i> * LLEWELLYN, J.H., BDS <i>Wales</i> OWENS, J.S., BDS <i>Wales</i> FDSRCS SWEET, J., BDS <i>Wales</i> MSc <i>Lond</i> WILLIAMS, G.J., MPhil <i>CNA</i> (Dental Technology) WILSON, J., BDS MSc <i>Lond</i> FDSRCS
Part-time Lecturers	ASH, P.J., BDS <i>Wales</i> BROWN, M., BDS <i>Wales</i> EVANS, J.J., BDS <i>Wales</i> * GOODWIN, D.M.W., BDS <i>Wales</i> HALL, N., BDS <i>Wales</i> HICKS, R., BDS <i>Wales</i> JENKINS, Susan M., BDS MSc PhD <i>Wales</i> FDSRCS SHADWELL, G.D., BDS MSc <i>Wales</i> WILLS, D.K. BDS <i>Wales</i>
Senior Research Fellow	KORSZUN, A.K., BDS PhD MB BS <i>Lond</i>

Clinical Teachers

BECK, C.B., BDS *Glas* MScD *Wales*
 * DALTON, C.H., BDS *Wales*
 * DOWELL, P., BDS *Lond* MScD *Wales*
 * FUGE, R.A., BDS *Wales*
 * GEDDES, Barbara A., BA BDS *Edin*
 * GERRISH, J.S., BDS *Wales*
 * HOWELLS, D., BDS *Wales*
 * JONES, P., BDS *Wales*
 * McLAUGHLIN, W.S., BDS MSc *Edin* FDSRCSEd
 * O'DONOVAN, T.J. , BDS *Wales*
 * PRIOR, Josephine M. , BDS *Lond*
 * ROLL, J.R.S., BDS *Wales*
 * SEAMAN, R.W., BDS *Wales*
 * SUGAR, A.W., BChD *Leeds* FDSRCS
 * THOMPSON, Patricia A., BDS *Wales*
 * THOMPSON, Shelagh A., BDS MPhil *Wales*
 * TOWNSON, M., BDS *Newcastle* (UK)
 * WILLS-WOOD, M., BDS *Wales*

Clinical Tutor

* FUGILL, M.J., BDS *Newcastle* (UK)

Senior Instructors

ALLEN, S.M.,
 BRIGHT, R.C. (Dental Technology)

Instructors

GREENHALGH, C.M., (Dental Technology)
 MILWARD, P.J., MPhil *Wales* (Dental Technology)
 STONE, D.C., (Dental Technology)

DEPARTMENT OF BASIC DENTAL SCIENCE**Professor**

EMBERY, G., PhD DSc *Wales*
 (Head of Department)

Readers

MIDDLETON, J., MSc *Wales*
 WHITTAKER, D.K., BDS *Manc* Phd *Wales* FDSRCS
 (Sub-Dean of Clinical Studies)
 WILLIAMS, K.R., BSc PhD *Wales* (Dental Materials)

Senior Lecturers

HALL, Rachel C., BDS PhD *Wales*
 ROONEY, P., BSc *Glas* Phd *Lond*
 WADDINGTON, Rachel J., BSc *Birm* Phd *Liv*

Lecturers

WATERS, M., BSc *Kingston* PhD *Wales* (Dental Materials)

Visiting Scientist

OZAZAKI, J., DDS PhD *Japan*

DEPARTMENT OF DENTAL HEALTH AND DEVELOPMENT**Professors**

JONES, M.L., BDS PhD *Wales* MSc *Lond* FDSRCS

	(Dean of the Dental School) RICHMOND, S., BDS <i>Sheff</i> MScD <i>Wales</i> PhD <i>Manc</i>
FDSRCSEd	(Head of Department) TREASURE, Elizabeth T., BDS PhD <i>Birm</i> FRACDS (Dental Public Health)
Honorary Senior Lecturer	* DURNING, P., BDS <i>Manc</i> FDSRCS
Senior Lecturers	CHADWICK, Barbara L., BDS <i>Lond</i> MScD PhD <i>Wales</i> FDSRCSEd CHESTNUTT, I.G., BDS MPH PhD <i>Edin</i> FDSRCSEd * HUNTER, B., DDS FDS <i>Edin</i> KNOX, J., BDS MScD <i>Wales</i> FDSRCSEd OLIVER, R.G., BDS <i>Lond</i> MScD PhD <i>Wales</i> FDSRCSEd STEPHENSON, P.A. BDS MSc <i>Lond</i> FDSRCS
Lecturers:	BLAKYTNY, Claudia., BChD <i>Leeds</i> FDSRCSEd HUNTER, L., BDS MScD <i>Wales</i> FDSRCS JONES, Gillian M., BDS <i>Lond</i> MORGAN, M.Z. MPhil <i>Wales</i> ROBSON, Kate, MScEcon <i>Wales</i> (Behavioural Sciences)
Part time Lecturers	GYTON, Jennifer J., BDS <i>Lond</i> MScD <i>Wales</i> FDSRCSEd TOPPING, Celia, BDS <i>Wales</i> (Orthodontics)
Clinical Teachers	* DAVIES, E.M., BDS <i>Lond</i> * JONES, R., BDS <i>Wales</i> MONAGHAN, N., BDS MSc <i>Lond</i> FDS (DPH) RCPS <i>Glasg</i> <i>LIM Wales</i>
Honorary Clinical Teachers	* NICHOLSON, P.T., BDS <i>Liv</i> FDSRCSEd * TAYLOR, H., BDS <i>Birm</i> FDSRCS * WIGGLESWORTH, S., BDS <i>Newcastle</i> (UK) FDSRCSEd
Research Staff	* JONES, Rhiannon, BA MSc KRALJ, B., DipIng FCE <i>Zagreb</i> * ROLFE, B., BScEcon <i>Wales</i>

DEPARTMENT OF ORAL SURGERY, MEDICINE AND PATHOLOGY

Professor	SHEPHERD, J.P., BDS <i>Lond</i> MSc <i>Oxf</i> Phd <i>Brist</i> FDSRCS HonFDSRCSEd (Oral and Maxillo Facial Surgery) (Head of Department)
Reader	LEWIS, M.A.O., BDS <i>Dund</i> Phd <i>Glas</i> FDSRCPS <i>Glas</i> FDSRCSEd (Oral Medicine)
Senior Lecturers	* ABSI, E.G., DDS <i>Damascus</i> MScD <i>Lond</i> MScD PhD <i>Wales</i> * HILL, C.M., BDS <i>Brist</i> MSc <i>Leeds</i> MSc <i>Glam</i> FDSRCSEd POTTS, A.J.C., BSc BDS <i>Manc</i> (Oral Pathology)

THOMAS, D.W., BDS MScD *Wales* PhD *Brist* FDSRCSed
(Oral and Maxillo Facial Surgery)

Lecturers

BRICKLEY, M.R. BDS *Brist* MScD PhD *Wales*
OLIVER, S., BDS *Wales*
SIVARAJASINGAM, V., BSc BDS *Dund* FDSRCS
STEPHENS, P., BSc PhD *Leeds*
WILLIAMS, D.W., BSc PhD *Wales*
WILSON, M.J., BSc BDS *Belf* PhD *Wales* FDSRCS

Clinical Teachers

* BISSON, J.I., BM *S'ton*
* FARDY, M.J., BDS MB BS *Lond* FFDRCSI FRCS
* HOLLAND, C.S. MDS *Sheff* FDSRCS
* LLEWELYN J., BDS *Wales* FDSRCS FRCS
* NASH, E.S., BDS *Brist* MSc *Wales* FDSRCS
* PATTON, D., BDS *Lond* FDSRCS FRCS
* SUGAR, A.W. BChD *Leeds* FDSRCS

Honorary Instructor

* CRADDOCK, M.E.J., BSc *Wales* (Dental Radiography)

Research Staff

CALDER, L.D., MSc *Aberd*
GOODEY, R.D., BSc MPhil *Wales*
JOY, D., BA *Wales*
McLEAN, W., BSc BDS *Wales*
SEAGER, J., Phd *S'ton*
SMITH, A.W., BSc *Glam* MA *Wales*
SUTHERLAND, I., BSc *Plym* PhD *Wales*
WARBURTON, A., BSc *Keele* MSc *Liv* PhD *Wales*

VISITORS COMMENTS (Section 4)

Staffing is generally adequate but there is an ageing staff profile which must cause the school some concern. However, there are a number of vacancies which are proving difficult to fill. Staff shortage means that delivery of part of the curriculum in para-clinical sciences cannot be carried out. We recommend that the school should clearly identify current vacancies and those projected in the foreseeable future and should develop strategies to solve the resulting problems e.g. attracting extra staff now, or considering combining departments, or working in collaboration with other schools to share some position.

There is a good programme of staff development concentrating on areas which cross the majority of areas and disciplines.

SECTION 5

THE BIOLOGICAL SCIENCES

- ❖ **5.1 Biochemistry**
- ❖ **5.2 Molecular Biology**
- ❖ **5.3 Genetics**
- ❖ **5.4 Oral Biology**

5.1 BIOCHEMISTRY incorporating:
5.2 MOLECULAR BIOLOGY
5.3 GENETICS

NAME: Dr Jean Assender and Dr Rachel Waddington

EMAIL: AssenderJW1@cardiff.ac.uk, waddingtonrj@cardiff.ac.uk

5.1.1 INTRODUCTION

The majority of the Biochemistry course is taught at the Cardiff School of Biosciences, Cardiff University, which is located about 1 mile away from the Dental School. The course also covers principles of molecular biology and the genetic basis of disease.

Students enter the course at 2nd BDS level with either three Science 'A' levels or having successfully completed the 1st BDS Foundation course. Some advanced elements of Biochemical teaching, particularly relating to connective tissue are taught in conjunction with the integrated Oral Biology/ Oral Biochemistry Course during 3rd BDS.

5.1.2 PRIMARY AIMS

The course aims to give the student knowledge of the basic chemistry of the major components of living tissue and an understanding of their metabolic interrelations. The course also aims to introduce students to the theoretical and practical use of molecular biology techniques in scientific research. The attention of students is drawn to those aspects of fundamental biochemistry and molecular biology, which relate directly to saliva, teeth and the surrounding soft tissues. As such the course provides a substantial foundation for the teaching of the applied clinical science subjects within the Oral Biology / Oral Biochemistry course in 3rd BDS.

5.1.3 MAIN OBJECTIVES

By the end of the course the student should have:

- .1 A basic knowledge of the biochemical aspects of cell structure,
- .2 An understanding of the relationship between structure and function for the major categories of biochemicals with particular reference to those with relevance to dentistry,
- .3 An understanding of the relationships of these biochemicals through the major metabolic pathways,
- .4 An understanding of how metabolic processes are integrated and regulated,
- .5 Studied the molecular aspects of genetics and the principles of modern molecular biology,
- .6 Developed an ability to relate experimental results obtained in the laboratory and the conclusions derived from them.

5.1.4 HOURS IN THE CURRICULUM

The course currently involves 121 hours of contact teaching time and occupies approximately one third of the 2nd BDS timetable. Students are expected to spend approximately 100 hours in self-directed learning. To try and ensure that this is done through out the course, students are given regular assessed tasks to complete which are aimed at encouraging them to read textbooks in addition to their lecture notes.

5.1.5 METHODS OF LEARNING/TEACHING

The primary mode of teaching on the course is the lecture. Apart from imparting factual information, the lecturers aim to indicate where recent research has led to a re-evaluation of "textbook" concepts and provide a personal view of a topic. The former point is especially important in molecular biology, which is a rapidly evolving subject where many of the topics are at the forefront of current research. The lectures are supported by practical experimental sessions aimed at re-enforcing the material taught and offering examples of direct relevance to dentistry. Student learning is facilitated by small group tutorial sessions held regularly throughout the course. These sessions tend to use a problem based learning approach and offer the students the opportunity to improve their communication and presentation skills. The students also have the opportunity to ask their tutors direct questions about material they haven't understood or about examination technique. Past examination papers are made available to all students through the tutorial sessions and tutors are able to give their students feedback on their performance in in-course assessments.

5.1.6 ASSESSMENT METHODS

All aspects of the course are assessed and the pass mark for the year is 50 %. During the year there are four in-course assessments, which together contribute 30 % of the overall Biochemistry/ Molecular Biology assessment mark. Each test has one essay-style question from a choice of two (36 min) and several short factual questions (14 min). Primarily however these are formative assessments allowing the students to receive direct feedback from the lecturers on their examination technique, essay writing skills and level of understanding to date. At the end of each practical assignment, students are asked to complete a pro-forma indicating their experiment results, their methods of analysis and interpretation of the data generated. More extensive questions relating to the topic of the practical are also included to encourage students to read around the subject area and demonstrate their understanding of the subject matter. Each student has 11 of these tasks to complete within the year and together these account for 20% of the year's mark. The course in its totality is be examined during the Summer term in a three hour written examination during which the students are required to write five essay-style answers from a list of eight possible topics. Their mark from this examination contributes 50 % of your overall assessment grade. Students who perform particular well during the year will be awarded a distinction grade. Any student on a pass/fail or merit/ distinction borderline will be given the opportunity to improve their grade in a voce viva examination with the external examiner.

5.1.7 STRENGTHS

The course has a number of strengths to its credit. Firstly the course is taught as a dental course and students are not grouped together with students of other courses such as medicine. This allows the course to be taught with greater relevance to dentistry. In addition, there is a high level of tutorial support throughout this course, with each student assigned both a personal and an academic tutor (the latter dedicated to problems relating to the biochemistry

course). Regular staff/student meetings and student questionnaires also provide an opportunity for student feedback and course improvements.

5.1.8 WEAKNESSES

Within the current dental course students do not see patients until 4th BDS. This lack of clinical exposure during the early years may be perceived as a weakness in providing dental-related examples and in emphasising the true relevance of biochemistry to dentistry. The current redevelopment of the curriculum and re-evaluation of the learning outcomes for the 2nd BDS Biochemistry course and the Oral Biology and Biochemistry course taught in 3rd BDS, has highlighted a limited number of areas of repetition (a noted example being salivary amylase). Such incidences of repetition are being addressed as they arise, facilitated by the excellent links between the basic science teachers at Cardiff School of Biosciences, Cardiff University and the Department of Basic Dental Science, University of Wales, College of Medicine.

5.1.9 INNOVATIONS AND BEST PRACTICES

- .1 Dental students are taught as an independent group.
- .2 Curriculum feedback from the students is used as a positive motivator for change.
- .3 Small group teaching, in the form of tutorials, enables the development of a good rapport between staff and students.
- .4 The Biochemistry course is taught within a research active department, ensuring students receive information which is both relevant and topical.
- .5 The appointment of a new member of staff has enabled improvements to the course's IT provision and the introduction of teaching via CAL programmes.

5.1.10 PLANS FOR FUTURE CHANGES

As part of the curriculum redevelopment, Biochemistry, Molecular Biology and Genetics teaching will be a major component of the Foundation Theme. The proposal to expose students to a clinical environment from the start of the course, will help in illustrating the clinical relevance of biochemistry. Within the Foundation Theme, anatomy, physiology and biochemistry teaching will be fully integrated in a number of topic areas, e.g. molecules, cells and tissues; the GI tract and metabolism; the blood and immunological systems. This should allow for better horizontal integration of the teaching of these closely related subjects. In addition, the course will provide a substantial science background, vertically integrating with other Themes, in particular Oral Ecosystems and Human Diseases.

5.4 ORAL BIOLOGY

NAME: Dr D K Whittaker

EMAIL: whittaker@cardiff.ac.uk

5.4.1 INTRODUCTION

Year 2 (leading to the 3rd BDS Examination) The course continues at the Dental School, University of Wales College of Medicine. It is divided into Blocks 2 to 7 which integrate the development, structure, biochemistry and function of all aspects of the oral cavity. Teaching is by means of lectures, practical classes and seminars.

Commencing in October in the second year Oral Biology continues in the Dental School in the form of 47 lectures and practicals covering *Tooth Development, Structure of the Teeth, Biochemistry of the Teeth and Supporting Structures, Enamel and Mineralisation, Saliva and Integuments* and the *Periodontium*. The biochemistry and physiology of these tissues is covered and there is a series of lectures on the *Forensic Dental Implication* of the subject.

5.4.2 PRIMARY AIMS

- .1 To instil an understanding of the detailed structure and function of the oral tissues underpinning the management decisions required in modern day quality patient care
- .2 To implant principles and a critical approach to dental science and to provide a basis for the intercalated honours BSc course.

5.4.3 MAIN OBJECTIVES

Our objectives are to ensure that students have a competent grasp of the principles underlying tooth morphology, the development and design of the occlusion, the development of the teeth and surrounding structures, the structure of the hard and soft tissues of the teeth and periodontium, the biochemistry of connective tissues in particular and the theories and mechanisms of mineralisation. The concepts of extracellular matrix, synthesis, turnover and metabolic control, the markers of tissue destruction and the interaction between biological and dental materials, the role of fluoride and dentifrices, the physiology, biochemistry and functions of the environment of the mouth in health and disease, the nature and function of salivary secretion, the neurophysiology of swallowing, speech and mastication, ageing of dental tissues and the applications of this information to the solution of problems in Forensic Dentistry.

In addition an important aim of the course is to provide part of the academic basis and encouragement for those students wishing to intercalate an Honours BSc at the end of the second year of their dental studies.

5.4.4 HOURS IN THE CURRICULUM

The course currently involves 104 hours of lectures and practicals and extends over terms 1, 2 and the first part of 3 in year 2.

5.4.5 METHODS OF LEARNING/TEACHING

The subject is regarded as part of the clinical course and hence is learnt initially by formal lecture then by personal experience of microscopy and laboratory investigation. The students are also expected to complete a project on broad topics related to oral science on clinically related problems and there is opportunity for weekly consultations with members of both academic and technical staff as required. Students are given reading lists and these are locally produced VHS video tapes available for self-learning exercises.

5.4.6 ASSESSMENT METHODS

Assessment is carried out on a class wide basis each term using spotter type practical tests, and multi-choice papers. Project work is assessed and at the year end there is a formal degree examination consisting of written papers in oral histology and biochemistry, a practical examination including a section on scientific logic, and borderline candidates sit a viva voce examination in the presence of the external examiners.

5.4.7 STRENGTHS

This course has been planned and is taught by experienced clinicians and basic scientists, all of whom have developed their teaching and research careers in the field of clinically based oral biology. They are all recognised leaders in both research and development of their specialisation and the course is fully integrated and continuous with the biological sciences courses which commences at Cardiff University. It is recognised as one of the leading courses in the UK.

5.4.8 WEAKNESSES

Although attempts are made to integrate this teaching fully with clinical practice, staff limitations render this difficult. The approach to this discipline in the new curriculum is addressing this area as far as possible. Teaching of Oral Physiology is limited by staff expertise and interests.

5.4.9 INNOVATION AND BEST PRACTICES

- .1 Taught in the environment of the Dental School and Clinical areas.
- .2 Planned and taught by clinicians and scientists dedicated to the integration and quality of service required in a para-clinical discipline.
- .3 Course includes practical implications such as local anaesthesia, forensic dentistry and oral surgery.
- .4 Well produced student handbooks and handouts covering all aspects of the course.

5.4.10 PLANS FOR FUTURE CHANGES

The oral ecosystem theme will succeed this course in the new curriculum and will seek to extend integration with clinical disciplines.

VISITORS COMMENTS (Section 5)

The biological sciences, including oral biology, could benefit from both horizontal and vertical integration using clinical problems as the basis of the courses (see comment on integration in Section 7). The courses are otherwise well planned.

SECTION 6

PRE-CLINICAL SCIENCES

- ❖ 6.1 Anatomy**
- ❖ 6.2 Histology**
- ❖ 6.3 Physiology**

6.1 ANATOMY incorporating:**6.2 HISTOLOGY****NAMES: Professor BJ Moxham, Dr RC Hall****EMAIL: moxham@cardiff.ac.uk, hallrc@cardiff.ac.uk****6.1.1 INTRODUCTION**

The Anatomy Course at Cardiff incorporates human topographical (gross anatomy), histology, craniofacial development, and the first part of the oral biology course which concentrates on tooth morphology, dental radiographic anatomy and occlusion. The course takes place throughout the second year of the 6-year BDS course culminating in specified professional examinations (2nd BDS examinations) at the end of the year. The course has as its Director, the Professor of Anatomy, who is also Sub-Dean for preclinical studies and is dentally-qualified. In addition, there are two other teachers on the course who are dentally-qualified. The preclinical anatomy course, in common with other preclinical disciplines in the course is part of the portfolio run by Cardiff University prior to students conducting their clinical studies at the University of Wales College of Medicine.

6.1.2 PRIMARY AIMS

- .1 To provide the student with core information relating to the structure of the human body necessary for the practice of good dentistry.
- .2 To introduce the student to scientific principles, accepting that students are in the early years of training.

6.1.3 MAIN OBJECTIVES**(a) Anatomy**

- .1 The student will show adequate knowledge of the gross anatomy of the head and neck as assessed by answers to essay examinations and by practical 'spot' tests.
- .2 The student will show adequate knowledge of the anatomy of the thorax, particularly in relation to the other elements taught in the course relating to the cardio-respiratory system. This is also assessed by answers to essay examinations and by practical 'spot' tests.

(b) Histology

- .1 To understand and recognise basic histological tissues as assessed by essays and practical examinations.
- .2 To gain an understanding of organ histology and organisation
- .3 The student will show basic knowledge concerning embryogenesis and the principles of organogenesis but will have a more detailed knowledge and understanding of craniofacial development (excluding tooth development).
- .4 The student will be able to recognise and describe each tooth within the human dentition (both deciduous and permanent teeth).

- .5 The student will understand and have knowledge of the chronology of human tooth development and eruption.
- .6 The student will have knowledge of the normal alignment and occlusion of the permanent dentition and will have an introductory fundamental knowledge of malocclusion.
- .7 The normal anatomical structures should be recognised by the student in a dental radiograph (both extra oral and intra oral).

6.1.4 HOURS IN THE CURRICULUM

The course currently involves 198 hours of contact teaching time, 17 hours of timetabled project time and 51 hours of timetabled student directed learning

6.1.5 METHODS OF LEARNING/TEACHING

Anatomy is regarded as a visual subject and the teaching wherever possible involves practical experience by the students. Thus, there is a decrease in reliance in lectures and an increase in dissecting room work and laboratory work where the students are required to show the development of student-directed learning. During the year and independent of tuition, the students work in groups on projects. These projects are given as poster presentations and enable the students to extend their knowledge beyond the syllabus boundaries as well as to introduce clinical applications. The importance of teamwork is a primary objective. Because much of the teaching in the laboratory involves the students working in small groups, consultation with members of staff can occur on a regular basis and therefore, other than the personal tutors, there are no other formal tuition provided in anatomy.

6.1.6 ASSESSMENT METHODS

25% of the 2nd BDS exam mark come from exam assessments. The projects count for 10% of the marks and the viva 5%. An oral examination in the year accounts for 5%. At the end of the year, essay papers provide 30% of the marks and the practical examinations a full 30%. For those students who are near the borderline, an oral examination with the external examiner is conducted to ensure that they are not unfairly treated. The overall pass mark is 50%.

6.1.7 STRENGTHS

- .1 A dental course designed by dentists for dentists.
- .2 Staff who have written major textbooks in dental sciences.
- .3 Practical tuition.
- .4 Project work.
- .5 Personal tutor schemes and buddy schemes to help student settle and caring staff.
- .6 Good co-operation with dental science staff at UWCM.

6.1.8 WEAKNESSES

All weaknesses are recognised in the need to integrate basic science and clinical disciplines which is led into the planned new integrated course commencing in October 2001.

6.1.9 INNOVATIONS AND BEST PRACTICES

- .1 Significant project in year 1.

- .2 Dedicated practical manuals produced by the staff specifically for the courses.
- .3 Dedicated courses for the dental students and independent to the medical and science courses.
- .4 Integrated teaching of the oral biology course across the practical and clinical divide. Willingness of staff to contribute to new integrated course.
- .5 Well versed and established quality audit procedures, eg. student questionnaires, staff/student panels.

6.1.10 PLANS FOR FUTURE CHANGES

All of these are catered within the dental courses.

6.3 PHYSIOLOGY

NAME: Dr R M Rose

6.3.1 INTRODUCTION

The whole of the Physiology course is taught at the Cardiff School of Biosciences, Cardiff University, which is located about 1 mile from the Dental School.

Students enter the course at 2nd BDS level with either 3 science 'A' levels or having successfully completed the 1st BDS Foundation course.

6.3.2 PRIMARY AIMS

The course aims to give the student an understanding of the different systems in the human body. Some emphasis is given to those aspects of physiology which are more directly relevant to dentistry than the general part of the course.

6.3.3 MAIN OBJECTIVES

At the end of the course the student should have:

- .1 Some understanding of the physiology of excitable cells and of synaptic transmission.
- .2 A knowledge of the role of the autonomic sensory and motor nervous systems in co-ordinating and controlling bodily function. Some emphasis is given to taste and olfaction.
- .3 A knowledge of the cardiovascular system, the transport of blood gases, and the respiratory system.
- .4 A knowledge of the gastrointestinal system, with emphasis on salivation, swallowing and mastication. This is supplemented by a short course on nutrition.
- .5 A knowledge of the endocrine and renal systems.
- .6 The ability to explain experimental results in terms of the principles discussed in the lecture course.

6.3.4 HOURS IN THE CURRICULUM

The course currently involves 50 lectures, 24 hours of practical work and 8 tutorials, giving 82 hours of contact teaching time.

The practicals have to be written up and essays are set at regular intervals in the tutorials.

6.3.5 METHODS OF LEARNING/TEACHING

The lecture course is the primary mode of teaching, and this is supported by the practical course. The lecture course shares much in common with the BSc Part I course and the two groups are taught

together for 33 of the 50 lectures. In the practicals the whole class do the same practical together. The course is examined by two in-course assessments which together account for 30% of the year's mark and include a true/false component. The remaining 70% of the year's mark comes from a three hour written examination in the Summer term, during which students are required to write five essay answers from a list of eight possible topics. Students who perform well during the year, with marks of 70% or more are awarded a distinction grade. Any student on a pass/fail or merit/distinction borderline is given the opportunity to improve their grade in a viva examination with the external examiner.

6.3.6 STRENGTHS

The course is a traditional dental physiology course. Although it retains many of the features of the course given twenty years ago, certain aspects, such as the cardiovascular and renal systems, have been reduced to make way for topics which may be of more relevance to dentistry. Therefore within the constraints of the timetable and staff availability we think that we have a good balance between basic science and its relevance to dentistry. The course has a relatively high level of tutorial support with experienced tutors.

6.3.7 WEAKNESSES

The fact that the dental students share much of the course with the BSc Part I students could be perceived as a weakness, but we do not think that any great improvement would result if the two groups were separated.

6.3.8 INNOVATIONS AND BEST PRACTICES

There are regular staff/student meetings and feedback from students in tutorials.

- .1 The practical classes have undergone a major re-investment allowing efficient teaching of the class as a whole using modern equipment.
- .2 Although current trends in higher education have tended to lead to a division between teaching and research active staff this does not seem to have damaged the dental course. In fact the injection of new ideas from research active staff of which the practical class reorganisation is an example, has benefited the course.

6.3.9 PLANS FOR FUTURE CHANGES

As part of the development of the curriculum, Physiology will be a major component of the Foundation Theme. The general comments made with respect to Anatomy and Biochemistry also apply to Physiology, including the vertical integration with other Themes such as general medicine.

VISITORS COMMENTS (Section 6)

The fact that the professor of anatomy is a qualified dentist must be a major advantage to the school. The course is well planned and the projects which students are required to carry out from the very start are an interesting idea. While there is horizontal integration, we would suggest vertical integration of preclinical sciences with clinical studies, again using clinical problems as the basis for study (see comment on integration in Section 7). To achieve this the school will need critically to examine the time allocation to the preclinical sciences.

Functional anatomy of the masticatory system is taught partly in physiology and in the clinical course in dental occlusion.

SECTION 7

PARA-CLINICAL SCIENCES

- ❖ 7.1 Pharmacology**
- ❖ 7.2 Microbiology**
- ❖ 7.3 General Pathology**

7.1 PHARMACOLOGY

NAME: Dr J F Wilson
EMAIL: wilsonjf@cardiff.ac.uk

7.1.1 INTRODUCTION

Teaching in Pharmacology is one of the components of an integrated course in Human Diseases provided by the 3 College of Medicine departments of Medicine, Surgery and Pharmacology, Therapeutics & Toxicology. It commences in year three of the dental course where the major systematic teaching in pharmacology occurs and continues in year 4 when more clinically-orientated topics are dealt with and integration with teaching in Medicine and Surgery takes place.

7.1.2 PRIMARY AIMS

- .1 To provide a core of pharmacological knowledge which will aid students to develop safe and effective drug use in dental practice.
- .2 To provide a firm scientific base on which dental students can found and develop their practice of therapeutics.

7.1.3 MAIN OBJECTIVES

On completion of the formal teaching and prescribed reading, you will be able to:

- .1 describe, in detail, the mechanisms of action, therapeutic uses and side effects of the major groups of drugs used in dentistry.
- .2 outline the pharmacology of the major groups of therapeutic drugs.
- .3 critically evaluate the implications of pre-existing drug therapies when planning dental treatment.
- .4 describe the role of drugs in the precipitation and treatment of medical emergencies during dental treatment.
- .5 correctly write prescriptions for dental materials and describe the legal responsibilities associated with prescribing.

7.1.4 HOURS IN CURRICULUM

Year 3:	Lectures	24 hours
	Tutorial	1 hour
	Practical class	3 hours
Year 4:	Lectures	12 hours
	Tutorials	2 hours

7.1.5 METHOD OF LEARNING/TEACHING

The course presents material by means of a sequence of lectures backed up with reading lists that give details of appropriate pages or chapters in recommended textbooks. There is a formative class examination and 3 tutorial sessions to provide support and feedback on examination technique. A practical session is used to introduce the concepts of clinical trial design, methods of quantifying drug action in man, and the principles underlying statistical analysis of data derived from such trials.

7.1.6 ASSESSMENT METHODS

There is an integrated 4th BDS examination for the course in Human Diseases. The examination has four components.

- .1 An unseen written examination paper of short essay titles of 2½ hours duration. The question paper is divided into three sections; Medicine, Surgery and Pharmacology. Each section contains 3 questions. Two questions are to be attempted from each section; a total of 6 questions. The total marks for the paper is 25.
- .2 An unseen Multi-Choice Question (MCQ) paper of 60 questions of 2 hours duration. Each question has a stem and 5 independent statements to be marked as true or false. Marks are added for correct answers but deducted for incorrect answers. No mark is added or deducted if either both or neither true/false option is selected. The total marks for the paper is 25.
- .3 An Objective Structured Clinical Examination (OSCE) examination. The examination has 12 stations to be attempted with 4½ minutes allowed at each station. Each station typically has a clinical scenario to be identified and 3 follow-up short answer therapeutic questions. If the student is unable to identify the clinical scenario, they can request this information. A negative score is entered for the first section which results in the maximum score for the station being half marks if all remaining 3 station questions are answered correctly. The total marks for the OSCE is 50.
- .4 Two categories of student may receive a *Viva Voce* examination. Candidates will receive a pass/fail viva if they fail to obtain 50 marks out of 100 in the written, MCQ and OSCE examinations or should they fail (<50%) in any two parts (written, MCQ and OSCE) of the examination. Candidates who obtain in the region of 70 marks out of 100 and who have passed (≥50%) all 3 components of the examination will be invited to attend a viva examination good performance in which will lead to the award of a pass with distinction. N.B. Any candidate who has obtained at least 65 marks out of 100 and passed all 3 examinations (≥50%) will be awarded a pass with merit.

7.1.7 STRENGTHS

The course is provided specifically for Dental students by a range of clinical and non-clinical members of academic staff who are experts in their field.

7.1.8 WEAKNESSES

The bulk of the pharmacology teaching occurs in year 3 when full integration with topics in Medicine & Surgery, which are taught in year 4, is not possible. The timetable slots are rather

scattered and spread through the curriculum lessening the coherence of the course for students.

7.1.9 INNOVATIONS AND BEST PRACTICES

The Objective Structured Clinical Examination (OSCE) was pioneered by the Department of Pharmacology, Therapeutics & Toxicology and has proved invaluable in promoting the integration and application by students of the information, concepts and working practices presented in the Human Diseases course.

7.1.10 PLANS FOR FUTURE CHANGES

The current radical overhaul of the undergraduate dental curriculum will be used as an opportunity to fully integrate the teaching of the Human Diseases course.

7.2 MEDICAL MICROBIOLOGY

NAME: Dr R Barnes

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7.2.1 INTRODUCTION

Medical Microbiology is part of the Pathological Sciences Course occurring in the second year of the course and examined as part of the 3rd BDS. The subjects of microbiology, immunology, general pathology and haematology are integrated as a clinically based course taught by members of the College of medicine and their clinical colleagues from the various hospital departments. The course consists of a series of lectures tutorials.

7.2.2 PRIMARY AIMS

The aims are to provide:

- .1 An appropriate scientific background to understand the mechanisms of disease to augment the study of oral pathology and microbiology
- .2 An understanding of the treatment, prophylaxis and prevention of infection relevant to dentistry

7.2.3 MAIN OBJECTIVES

- .1 To have a working knowledge of the range of medically important human pathogens and understand the modes of spread and routes of transmission
- .2 To have knowledge of the normal flora of the mouth and virulence and pathogenicity associated with these agents
- .3 To understand the ability of the human host to resist infection and mount an immune response to an infective insult
- .4 To have knowledge of the causes and consequences of immune deficiency states

- .5 To understand the mechanisms of action and the range of antimicrobials commonly used in dentistry and to appreciate the adverse events that can occur with their usage. To appreciate the difference between prophylaxis and therapy
- .6 To understand the mechanisms and rationale for the prevention of infectious disease by public health measures and immunisation schedules
- .7 To have a more detailed knowledge of infections involving the oropharynx and adjacent structures and infections that can arise following dental treatment (eg endocarditis)
- .8 To have knowledge of systemic infections that may have local manifestations in the mouth
- .9 To understand the principles of sterilisation and disinfection and their application to the prevention of cross infection and infection control.

7.2.4 HOURS IN THE CURRICULUM

30 hours of lectures. 4 hours of tutorials. (4 hours of practical teaching were held up until 2000 and withdrawn due to lack of enthusiasm from students and poor attendance)

7.2.5 ASSESSMENT METHODS

The Pathological sciences examination is held at the end of the first clinical year (3rd BDS). A mock examination is held approximately eight weeks before the examination.

The examination covers the subjects of Pathology, Microbiology and Haematology.

There are three parts to the written examination:

- .1 multiple choice questions marked out of 25
- .2 Short answer questions marked out of 25 candidates must attempt two out of three parts of each question
- .3 Essay questions marked out of 50 three out of six essays (one from each section) must be attempted

A "narrow marking" system is employed with full instructions given to all examiners (enclosure 2)

Scripts are independently double-marked and "model answers" are provided wherever possible

Any candidate failing to achieve 50% in the written examination receives a pass/fail viva.

A candidate obtaining 70% or over and who passes each section of the written examination will also receive a viva and a good performance may result in the award of a distinction.

A merit is awarded to candidates obtaining more than 60% and passing all individual sections

7.2.6 STRENGTHS

Integration into human diseases theme panel.

7.2.7 WEAKNESSES

7.2.8 INNOVATIONS AND BEST PRACTICES

7.2.9 PLANS FOR FUTURE CHANGES

Revision of dental curriculum.

7.3 GENERAL PATHOLOGY

NAME: Dr B Jasani

EMAIL: wptbj@cardiff.ac.uk

7.3.1 INTRODUCTION

The General Pathology is taught as part of the Pathological Sciences Course run in the second year of the Dental Course (Oct-April) and is examined as part of 3rd BDS-May.

7.3.2 PRIMARY AIMS

The primary aims are essentially two-fold:

- .1 to provide an appropriate scientific basis for understanding the mechanisms of disease;
- .2 to provide principles underlying pathological investigations, as means for facilitating the student's understanding of oral pathology, medicine and surgery.

7.3.3 MAIN OBJECTIVES

- .1 To define the basic characteristics of disease including aetiology, pathogenesis, epidemiology with reference to atherosclerosis, thrombosis, necrosis, infarction, neoplasia and metabolic and endocrine defects such as diabetes and acromegaly.
- .2 To teach the basis of acute and chronic inflammation.
- .3 To teach the concepts of carcinogenesis and pathology of benign and malignant tumours and describe their histological routes to diagnosis and prognosis.
- .4 To orientate towards the fundamentally important clinico-pathological features of diseases at the systemic level.

7.3.4 HOURS IN THE CURRICULUM

43 Hours

7.3.5 METHODS OF LEARNING/TEACHING

One hour lectures supplemented on most days by 2 hour long practical classes including microscopic and macroscopic demonstrations and small group tutorials.

Students are also exposed to computer aided learning of basic pathological principles, and given a revision lecture on the examination technique, as well as taken through practice MCQ and viva examinations.

7.3.6 ASSESSMENT METHODS

A short MCQ paper combined with a choice 1 out of 2 long and two out of three short written essay questions

7.3.7 STRENGTHS

The students are given a fairly in depth appraisal of individual subject items by expert practising pathologists, over a sufficient period to allow the students to appreciate and grasp the value of general pathology as the fundamental basis for understanding of oral pathology, medicine and surgery.

7.3.8 WEAKNESSES

The teaching is unfortunately poorly co-ordinated with the learning of other relevant basic subjects including oral biology and biochemistry. The course is also introduced too early for a productive link up with the clinical components of the course.

7.3.9 INNOVATIONS AND BEST PRACTICES

- .1 A structured problem based approach in smaller groups.
- .2 Use of the latest advances in computer aided learning of pathology.
- .3 Introduction of Specialist Study Modules for in depth learning.
- .4 Continual appraisal and auditing of the course to leading to improved teaching and learning techniques and efficiency.

7.3.10 PLANS FOR FUTURE CHANGES

To introduce an integrated subject panel based approach to teaching of human disease similar to the one currently successfully adopted for teaching of the Medical Students.

VISITORS COMMENTS (Section7)

The para-clinical sciences made a strong impression. The teachers are confident and the content of the programme meets high standards. Both theoretical and practical instruction is given. Although students sometimes seem to be less interested, electives are sought after by the students. It is of great benefit that many patients are referred to the oral medicine department, giving students' ample opportunity to see the different diseases.

A lack of integration is felt, especially with other relevant basic subjects. We would suggest that integration should be taken even further than envisaged by the teachers. Most of the subjects will be of more relevance to the students if they are integrated with clinical training.

SECTION 8

HUMAN DISEASES

- ❖ **8.1 General Medicine**
- ❖ **8.2 General Surgery**
- ❖ **8.3 Anaesthesiology**
- ❖ **8.4 Conscious Sedation**

8.1 GENERAL (INTERNAL) MEDICINE COURSE

NAME: Dr J Alcolado

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8.1.1 INTRODUCTION

General (Internal) Medicine is taught in the 4th year of the Dental Course as part of a programme that also includes Surgery and Clinical Pharmacology (therapeutics). Together these subjects represent a course in Human Diseases and are examined at the end of the Spring Term in the 4th BDS Examination. Students must pass the examination in order to continue with their studies. The course ensures that students in Cardiff qualify with a good understanding of how general medicine interfaces with dental practice and is designed to exceed the requirements set by the General Dental Council.

8.1.2 PRIMARY AIMS

- .1 To give Dental Students a grounding in the common general (internal) medical conditions that affect the population with particular emphasis on those disorders that impinge on the practice of dentistry.
- .2 To give Dental Students an indication of the breadth of medical knowledge and to facilitate self-directed learning in those aspects that might interest students throughout their professional lives.

8.1.3 MAIN OBJECTIVES

- .1 To understand the importance of taking and recording a medical history in patients with dental problems. To appreciate those symptoms that warrant referral to a medical practitioner and elements of the physical examination that may point to specific a medical diagnosis.
- .2 To appreciate the clinical presentation of patients with heart disease, including medical emergencies such as myocardial infarction and cardiac arrest. To have some understanding of the medical investigation and treatment of these disorders.
- .3 To understand the importance of valvular heart disease, including the prevention and treatment of infective endocarditis.
- .4 To understand the clinical presentation, investigation and treatment of patients with chest disorders including asthma, bronchitis, emphysema and lung cancer. To have a working knowledge of the treatment of acute respiratory emergencies such as asthma and pulmonary embolus in the dental surgery.
- .5 To appreciate the common gastrointestinal conditions that affect patients including peptic ulceration, inflammatory bowel disease and neoplasia.
- .6 To understand the types of liver disease that may affect patients attending a dental surgery and the precautions required when managing them.

- .7 To be aware of the common neurological conditions that may cause disability including stroke, multiple sclerosis, Parkinsons Disease and motor neurone disease. To understand how these may present in dental practice and to be aware of the signs of a neurological emergency such as meningitis.
- .8 To recognise common childhood disorders and have knowledge of normal development in children. To have an awareness of child abuse.
- .9 To understand the presentation, investigation and treatment of endocrine problems with particular emphasis on the management of diabetes in dental practice.
- .10 To appreciate the differences between mental handicap and mental illness and understand the major presenting features of neuroses and psychoses.
- .11 To have a broad knowledge of how sexually transmitted disorders, including HIV may present to the dentist and the precautions required when dealing with such cases.

8.1.4 HOURS IN THE CURRICULUM

The Course consists of 25 hours of lectures, 8 hours of bed-side clinical teaching and 4 hours of revision.

8.1.5 METHOD OF LEARNING/TEACHING

The curriculum is divided into 25 topics and each is covered in a student-handout that contains all the core information. Each week of the Autumn term, students are asked to read the relevant portions of the course booklet before attending a 2-hour session where the material for 2 topics is taught. These sessions take place in a Lecture Theatre as group teaching for the entire year. The core information is covered but, since it is assumed that students will have reviewed the content prior to the session, time is spent illustrating important points with clinical material, e.g. slides, case histories or “props” (e.g. insulin delivery devices and glucose meters in the session about diabetes).

In the Spring term, students are divided into groups of 10 and attend a District General Hospital on at least two occasions. During these visits, the previous term’s information is illustrated by bedside teaching with patients. Students are encouraged to take medical histories and perform relevant medical examinations. Opportunities also exist to witness procedures such as endoscopies.

8.1.6 ASSESSMENT METHODS

Students are formally examined at the end of the Spring term as part of 4th BDS (with surgery and pharmacology). Students answer a written paper, a multiple-choice paper and an OSCE (objective structured clinical examination). The examination is overseen by an External Examiner in Medicine appointed by the University of Wales.

8.1.7 STRENGTHS

The course has well-defined aims and the core material is clearly presented to students in a course booklet. Students enjoy the course and the chance to study areas of health outside dentistry. The majority of the course is planned and delivered by a single member of the

Department of Medicine and hence can be directly tailored to the needs of dental students with rapid implementation of any changes that are required.

8.1.8 WEAKNESSES

The course relies on lectures and clinical teaching to relatively large groups of students. This is primarily related to time constraints within the curriculum and manpower difficulties (with increasing clinical workload of hospitals and teachers). The course-booklet is now 4 years old and needs updating.

8.1.9 INNOVATIONS AND BEST PRACTICES

- .1 Core material is clearly presented to students in a course booklet
- .2 Course is planned and delivered in close association with needs of Dental Students
- .3 Course material illustrated with medical cases relevant to dentistry
- .4 Bedside clinical teaching flexible and geared to needs of individual groups of students

8.1.10 PLANS FOR FUTURE CHANGES

- .1 Course booklet will be thoroughly revised and updated next year
- .2 Greater integration with surgery and pharmacology teaching.
- .3 Consideration to be given to replacing course with 1-week medicine block.

8.2 GENERAL SURGERY

NAME: Mr D J T Webster

EMAIL: websterdjt@cardiff.ac.uk

8.2.1 INTRODUCTION

The general surgery, better called surgery in general, component of the dental course at the University of Wales College of Medicine takes place in the third year. It is an integral part of the human diseases course and is planned in conjunction with the courses in medicine and pharmacology. The surgical course plans to give a broad picture of the nature of surgical interventions and their relevance to the general dental practitioner. General principles are illustrated by specific examples of conditions more commonly seen in the head and neck area. The broad topics covered include general surgery, orthopaedics, neurosurgery, plastic surgery, otorhinolaryngology, wound healing and trauma. The course consists of a series of lectures and small group teaching by visits to the areas of wound healing, plastic surgery, wards and operating theatres, and the A&E unit.

8.2.2 PRIMARY AIMS

The Primary aims are to concentrate on those conditions that the dental practitioner might meet and be expected to recognise and to make due allowance for conditions that might impact on his own practice.

8.2.3 MAIN OBJECTIVES

- .1 To recognise common and important conditions that may manifest in the mouth.
- .2 To recognise common and important post operative complications
- .3 To understand the physiological and psychological consequences of major surgery
- .4 To understand the relationship of surgery to other therapeutic modalities such as radiotherapy
- .5 To know how previous surgery might modify dental practice
- .6 To be conversant with commonly used words and phrases

8.2.4 HOURS IN THE CURRICULUM

15 hours of lectures

5x3 hours of clinical attachments: wound healing
 plastic surgery
 wards and operating theatres
 the A&E unit
 radiotherapy

8.2.5 METHOD OF LEARNING/TEACHING

The lecture programme has been designed to meet the objectives outlined above. The lectures are given by specialists in their own field. The students are given a synopsis of the main point covered in the lectures. An attempt is made to ensure the lecture programme is coherent in spite of the large number of lecturers. The students are sent to the departments listed in the

previous section in groups of six where they see a variety of conditions and treatments. They are given opportunities to Talk to patients on a one to one basis and to see some of the common conditions.

8.2.6 ASSESSMENT METHODS

The assessment of the students takes place in a multidisciplinary examination with medicine and pharmacology. The components of this examination, the 4th BDS, are an essay paper, a MCQ and a modified OSCE. This takes the form of 12 stations each of which consists of a clinical problem represented by a short case history and an illustrative photograph. Four questions follow that allow an assessment of diagnostic acumen, treatment options and complications of either the treatment or the disease process. Failing students are given an opportunity to redeem themselves in a viva voce examination. Candidates for distinctions and merit are also offered the opportunity to take a viva voce examination.

8.2.7 STRENGTHS

The course has been designed by an experienced team and is modified on a regular basis to incorporate new ideas in both clinical practice and education. The aims are explicit and available to both students and teachers.

8.2.8 WEAKNESSES

The teachers and the students do not always appreciate the aims and objectives. It has proved difficult to police attendance at the clinical sessions as some of these are held in other hospitals and there are problems with transportation. The teachers are busy practising clinicians with many other demands on their time. The projected increase in the medical school intake may exacerbate this problem.

8.2.9 INNOVATIONS AND BEST PRACTICE

- .1 The course is reviewed annually and takes into account comments from the students, external examiners and any other bodies, e.g. the GDC, which might have passed comment during the preceding year.
- .2 This annual review is done in conjunction with the other contributors to the human diseases course.
- .3 The OSCE component of the examination allows a better assessment of the objectives of the course than was possible before its introduction.
- .4 The synopsis of the lecture programme has proved helpful both to the students and to the individual lecturers.

8.2.10 PLANS FOR FUTURE CHANGE

The whole of the dental curriculum is being reviewed and the surgical component of the course will need to be adapted to fit in with the overall teaching strategy of the dental school. The exact ways in which these changes will occur are presently at an early stage of discussion.

8.3 ANAESTHESIOLOGY

NAME: Professor M Harmer

8.3.1 INTRODUCTION

The teaching regarding anaesthesia has changed over the years from a programme designed to allow the practitioner to provide general anaesthesia to a programme concentrating more on patient and risk assessment. Much less emphasis is laid on general anaesthesia and more on sedation techniques (in collaboration with Oral Surgery department). Emphasis is also placed on resuscitative skills. The majority of the teaching is concentrated towards the end of the course.

8.3.2 PRIMARY AIMS

The primary aims of teaching are:

- .1 to provide adequate understanding of patient assessment and peri-anaesthetic care
- .2 to ensure an acceptable level of resuscitative skills

8.3.3 MAIN OBJECTIVES

- .1 to provide a background medical knowledge of conditions relating to general anaesthesia and sedation
- .2 to provide knowledge regarding peri-operative care of patients undergoing surgery
- .3 to provide knowledge of the drugs used in the peri-operative period (anxiolytics, anaesthetics, analgesics, anti-emetics, etc)
- .4 to provide training (and examination) in basic life support skills
- .5 to provide practical experience in patient assessment
- .6 to provide exposure to patients under general anaesthesia

8.3.4 HOURS IN THE CURRICULUM

The combination of lectures, practical skills training and attendance at general anaesthetic sessions amounts to 12-15 hours per student

8.3.5 METHOD OF LEARNING/TEACHING

- .1 lectures on topics relating to patient care and drugs
- .2 practical sessions in the Skills Training Centre for basic life support
- .3 observation and one-to-one attachment during general anaesthetic sessions

8.3.6 ASSESSMENT METHODS

Questions within the final examination are based on taught material and will usually include at least one relating to anaesthesia. Independent assessors examine the basic life support skills.

8.3.7 STRENGTHS

These centre on the availability of a Clinical Skills Centre to provide training and the one-to-one attachment to general anaesthetic operating sessions.

8.3.8 WEAKNESSES

The changing practice of general anaesthesia has meant that there is much less emphasis on GA skills and with that skills such as intravenous cannulation and airway management.

8.3.9 INNOVATIONS AND BEST PRACTICE

- .1 training in resuscitative skills
- .2 one-to-one attachment for teaching

8.3.10 PLANS FOR FUTURE CHANGES

- .1 earlier exposure to basic life support training
- .2 exposure to clinical skills teaching in Skills Centre earlier in the course (blood pressure measurement, simple investigations, blood taking, IV cannulation, airway management)
- .3 more advanced resuscitation training to include the use of drugs and defibrillation

8.4 CONSCIOUS SEDATION

NAME: Dr N D Robb

EMAIL: robbnd@cardiff.ac.uk

8.4.1 INTRODUCTION

The Conscious sedation course runs in two components: - a lecture course of 8 lectures running in April to May of the 4th year, and a clinical course running between January and May of the 5th year.

8.4.2 PRIMARY AIMS

- .1 To give the students experience of the role of conscious sedation in dentistry
- .2 To give students the experience of both sedating dental patients and providing dental treatment for sedated patients.

8.4.3 MAIN OBJECTIVES

- .1 To revise the basic science relevant to the use of conscious sedation techniques
- .2 To enable the students to assess patients need for sedation
- .3 To enable the students to choose the correct management for patients
- .4 To enable the students to administer inhalational sedation dental patients under staff supervision.
- .5 To enable the students to administer intravenous sedation dental patients under staff supervision.
- .6 To enable the students to monitor sedated patients
- .7 To allow the students to assess patients' fitness for discharge after treatment
- .8 That the students appreciate the need for further training prior to independent practice of sedation.

8.4.4 HOURS IN THE CURRICULUM

There are eight 45 minute lectures

The clinical course is eight sessions long.

One session is spent teaching the practical techniques of inhalational sedation, intravenous cannulation and monitoring blood pressure and oxygen saturation.

One session is spent with the staff treating patients while the students observe.

One session is spent assessing patients on a Consultant Clinic

Five sessions are spent treating patients. The students work in pairs, with each pair seeing 2 patients per session. At the end of the blocks each student will have observed 2 patients treated under sedation, treated five patients under sedation and assisted with the treatment of five patients under sedation.

Further experience will then be gained on outreach, as well as in the other departments of the Dental School.

8.4.5 METHOD OF LEARNING/TEACHING

The lectures are conventional didactic teaching. The clinical course is a mixture of small group teaching and supervised clinical practice.

8.4.6 ASSESSMENT METHODS

The management of each patient is assessed for the ability in sedation, clinical dentistry, and professional conduct. This is according to the four-point clinical grading system used throughout the Dental School. The grades are summated at the end of the course and an overall grade awarded for each of the areas above.

8.4.7 STRENGTHS

The Cardiff undergraduates are exposed to much more sedation than their predecessors, or than many of their contemporaries in the other UK Dental Schools.

8.4.8 WEAKNESSES

The lecture course is too far divorced from the clinical course. The clinical time is still insufficient to provide the range of experience that is desirable.

8.4.9 INNOVATIONS AND BEST PRACTICES

- .1 The undergraduates experience inhalational sedation by administering it to each other.
- .2 The undergraduates assist on the new patient clinics.
- .3 The undergraduates both administer sedation (both intravenous and inhalational) to patients, as well as provide the dental care.

8.4.10 PLANS FOR FUTURE CHANGES

The course will be better integrated in the new curriculum, with the teaching closer in time. There will be more clinical experience in treating patients using sedative techniques.

VISITORS COMMENTS (Section 8)

General medicine, general surgery and pharmacology is a course that is delivered in an integrated form. The examination is also integrated and given in form of an OSCE. The aims are decided together with the dental school and the course is highly appreciated by the students. It was desired to give more of the clinical part in small groups of students, but this was limited by the number of teachers available. There was a concern given by the teachers that the medical school will increase the number of students, making it difficult to give more small group teaching to dental students. The teachers were thinking about mixing medical and dental students and in this way be able to achieve small groups. This will require careful monitoring as it has not always worked successfully in other schools. There is the further disadvantage that mixed groups on medical and dental students are unlikely to use as clinical problems conditions of special relevance to dentistry or to highlight the dental relevance of certain human diseases.

SECTION 9

ORTHODONTICS AND CHILD DENTAL HEALTH

- ❖ **9.1 Orthodontics**
- ❖ **9.2 Child Dental Health**

9.1 ORTHODONTICS incorporating:

9.2 CHILD DENTAL HEALTH

NAMES: Professor S Richmond, Dr R G Oliver, Dr B L Chadwick

**EMAILS: richmonds@cf.ac.uk, oliver@cardiff.ac.uk,
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9.1.1 INTRODUCTION

The Department of Dental Health and Development comprises Orthodontics, Paediatric Dentistry and Dental Public Health. The department also has responsibility for the teaching of Behavioural Sciences, Dental Ethics, Communication, and Epidemiology and Statistics. A Departmental Teaching Committee oversees the management of the courses. Orthodontics and Paediatric Dentistry run an integrated course. Introduction to Behavioural Sciences, Communication, and Epidemiology and Statistics occurs during the second year of the course, as do introductory lectures in Orthodontics and Paediatric Dentistry. The skills laboratory course starts in the first term of the third year, and there is then a structured introduction to the clinics beginning in the second term of the third year. Seminar instruction and clinical practice in Orthodontics and Paediatric Dentistry last until the end of the summer term of year 4 (18 months in total). Paediatric clinical practice then continues over the following 9 months in Outreach Community Dental Service clinics.

The course is fully described in the Departmental Course Handbook.

Contacts:

Head of Department:	Prof. Stephen Richmond
Chair of Departmental Teaching Committee:	Dr Barbara Chadwick
Orthodontic Co-ordinator:	Dr Richard Oliver
Paediatric Dentistry Co-ordinator:	Dr Barbara Chadwick

9.1.2 PRIMARY AIMS

ORTHODONTICS AND PAEDIATRIC DENTISTRY

The integrated nature of the course means that there are general aims and objectives, covering both Orthodontics and Paediatric Dentistry, and that also cover the Behavioural Science, Communication, Epidemiology and Statistics, and Dental Public Health teaching.

9.1.3 MAIN OBJECTIVES

The overall objectives of the course in DHD are to produce a graduate who:

- .1 Understands the principles of scientific method, including basic statistical techniques
- .2 Understands and applies the principles of behaviour management in dental practice
- .3 Understands normal patterns of growth and development (physical, emotional, psychological, social and dental) and recognises deviations from the norm and how to manage them appropriately

- .4 Can examine, diagnose, plan treatment for and carry out preventive and restorative treatment for the majority of child patients, and be familiar with the orthodontic requirements of the child and adult patient
- .5 Recognises stages of normal occlusal development and malocclusion, provide simple mechanical treatment and refer onwards for management more complex cases
- .6 Identifies those individuals or conditions that require specialist advice or treatment and refer them appropriately
- .7 Appreciates the role and responsibilities of the individual dentist to individuals, the community as a whole and the dental profession
- .8 Understands the patterns of disease and methods of prevention in populations
- .9 Appreciates the effects of society on dental health and treatment

9.1.4 HOURS IN CURRICULUM

- .1 Lectures: x17 30<40-minute lectures. These start during the second year and continue to the end of the first term of the third year.
- .2 Seminars: x32 3-hour seminars. These occur during the 4th year.
- .3 Skills laboratory: In addition to the adult skills laboratory teaching, the Department has x6 sessions for paediatric dentistry skills, laboratory instruction and practice. This occurs prior to clinic entry.
- .4 Clinic: x1 session per week for 18 months during 3rd and 4th years in the Dental School and Hospital, and a further minimum of x9 days spread over 9 months during the 5th year in local Community Dental Service clinics treating child patients for routine restorative care under supervision of Community Dental Officers (CDO). All supervising CDOs have Honorary Teaching contracts with the Dental School. The students also have a x2 week block in the 5th year based at a Community Dental Service Clinic in Wrexham (North Wales). The work is mixed practice on children and adults, and includes experience using conscious sedation.

Undergraduates also have the opportunity to observe higher specialist trainees working on clinics, and are expected to follow one case being treated by a member of staff, and develop a treatment log book of that case.

9.1.5 METHOD OF LEARNING/TEACHING

- .1 Lectures: There are 17 introductory lectures of 30-40 minutes duration.
- .2 Seminars: These are the principle method of student interaction. The lecture and seminar topics are all detailed in the Departmental handbook which is available to all undergraduates in the library and on line.

A recent development is the introduction of Problem Based Learning that occupies the first 45 minutes of the clinical session for students in the 4th year.

- .3 Skills Laboratory: ‘Traditional’ phantom head approach.
- .4 Clinical Instruction: Chairside instruction in the clinical management of child patients and adult orthodontic patients. Every clinic has a paediatric dentist and an

orthodontist jointly supervising a group of <12 students. Additional clinical experience for all students is gained by attendance (in rotation) on Consultant Clinics, and for selected students during their Specialised Options timetable.

All students are expected to establish and maintain a treatment log-book of an orthodontic case that is being treated by a member of staff.

9.1.6 ASSESSMENT METHODS

- .1 Academic: Periodic class tests. These vary in format from multiple choice through short answer questions to essay questions.
- .2 Clinical: Each item of clinical work undertaken is recorded electronically, and simultaneously graded.
- .3 The School also seeks In Course Assessment of all students by each department twice a year, and grades:
 - .1 Practical Skills,
 - .2 Academic Ability,
 - .3 Professional Attitude

9.1.7 STRENGTHS

- .1 A well integrated course with enthusiastic teachers who have an interest in the educational process.
- .2 The use of the electronic gathering of clinical data has enabled contemporaneous recording of the quality as well as quantity of work performed by the undergraduate. These data are summarised and a printout given to each student on a monthly basis.
- .3 The introduction of Problem Based Learning is providing both staff and students exposure to this new (to Cardiff) pedagogy.

9.1.8 WEAKNESSES

- .1 Course not integrated with other departmental courses.
- .2 Late entry to clinics and limited clinical exposure, especially in orthodontics.
- .3 Small number of staff means difficulty in providing instruction or supervision in case of staff absence.

9.1.9 INNOVATIONS AND BEST PRACTICE

- .1 Electronic capture of clinical activity.
- .2 Problem Based Learning
- .3 Student Outreach Scheme

9.1.10 PLANS FOR FUTURE CHANGES

- .1 Extend Problem Based Learning to all parts of the departmental teaching.
- .2 Modify the electronic data capture system.
- .3 Take advantage of the imminent changes to the School curriculum to address the weaknesses listed above.

VISITORS COMMENTS (Section 9)

The course in the Department of Dental Health and Development (Orthodontics, Paediatric Dentistry and Dental Public Health) appears to cover the main objectives required, and seems to be successful in integrating the multidisciplinary care of children and adults. The sequence of lectures and seminars is agreed upon by the different units contributing to the curriculum, and PBL sessions (only recently introduced) are often run with members of the two units participating in the discussion.

In the undergraduate clinic, management of the child patient includes preventive dentistry, paedodontics and orthodontics within the same session, and about twelve students' work under the supervision of one paediatric dentist and one orthodontist. Consultant clinics can be attended in rotation and students are required to 'adopt' one patient treated by a member of staff and to maintain a log book of treatment. Treatment involves mainly removable appliances, and exposure to fixed treatment is gained via one typodont course. Emphasis is however on diagnosis and global treatment planning rather than technical treatment skills. During the 5th year all students spend a two-week period in Community Dental Clinics ('outreach programme'), experiencing 'real life' situations, dealing with deprived populations and special need patients. Two weeks are spent in a Community Dental Service Clinic in North Wales, in a mixed children/adult practice, and conscious sedation is employed. Even though a conflict of opinions and methods has been observed in some cases by the students, this is not perceived as a problem by staff members who feel they are usually made aware of this occurrence by their colleagues working in the clinics.

Both staff and students at all levels would like more time spent on clinical sessions, allowing for a wider variety of cases to be examined, increasing clinical exposure. This is likely to be changed in time as students might be granted earlier access to the clinics. Students would also appreciate being allowed some time in the postgraduate clinic, and a rota will be established in the future to this effect. More emphasis is placed on child care than on adult patients, mainly treated in the post-graduate clinic, where under-graduates can gain limited access: this trend appears to be changing as more adults appear to demand orthodontic treatment and more adult patients are referred by outside practitioners to the department.

Recording of students' activities, in both paedodontics and orthodontics, is performed via an electronic device (bar code system). At the moment this would appear to record the quantity of work reasonably but quality assessment is limited to 'satisfactory/unsatisfactory', and the evaluation of the complexity of performances is still limited. This is likely to be changed as new methods of assessment are evaluated. A printout of the data is given monthly to the student and examined by staff members, and compensations during the course are made if students are not getting a wider range of experience.

Integration with other departments has still not been reached but staff are actively planning it for the new course.

SECTION 10

DENTAL PUBLIC HEALTH AND PREVENTION

10 DENTAL PUBLIC HEALTH AND PREVENTION

NAME: Dr I Chestnutt

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10.1 INTRODUCTION

The dental public health course comprises a series of lectures, seminars and symposia, supported by background reading and is delivered in blocks during the 3rd, 5th and 6th years of the BDS curriculum.

10.2 PRIMARY AIMS

- .1 To develop a community and population perspective on oral health and the practice of dentistry.
- .2 To provide an understanding of the basic principles of dental public health practice.

10.3 MAIN OBJECTIVES

- .1 To develop critical skills
- .2 To understand the principles of epidemiology
- .3 To appreciate the differences in meeting the needs of communities compared with the needs of an individual.
- .4 To understand the principles of health promotion
- .5 To understand the funding and structure of the health service and to be able to compare this with health services in other countries
- .6 To understand and be able to recommend preventive programmes and strategies in contrast to treatment regimes.
- .7 To understand the constraints within which the dental profession works
- .8 To understand the legal and ethical boundaries within which dentists work
- .9 To have an appreciation of how commercial factors influence oral health and the practice of dentistry.
- .10 To understand the political constraints in which the health service operates and to know how to influence decisions

10.4 HOURS IN THE CURRICULUM

Year	Teaching block	Contact hours per student
3 rd	Epidemiology and statistics	10
3 rd	Principles of prevention	5
5 th	Dental Public Health Seminars	32
6 th	Dental Public Health Specialist Option	20 (for students undertaking Orthodontic and Paediatric Dentistry Specialist Option)
6 th	Dental Public Health Symposia	18
6 th	Revision Lectures	2

10.5 METHOD OF LEARNING/TEACHING

Year	Teaching block	Method of learning teaching
3 rd	Epidemiology and statistics	Formal lectures x 10
3 rd	Principles of prevention	Formal lectures x 5
5 th	Dental Public Health Seminars	Seminars x 16
6 th	Dental Public Health Specialist Option	Completion of project and case presentation
6 th	Dental Public Health Symposia	Symposia x 6 and completion of workbook
6 th	Revision Lectures	Formal lectures x 2

10.6 ASSESSMENT METHODS

.1 Summative

Compulsory question in Paper 3, Final BDS and option of question in Paper 4.

.2 Formative

Compulsory essay to be completed during 5th Year, student presentations during both seminars and symposia, workbook completion during oral health promotion modules, and project for those opting to undertake orthodontic and paediatric specialist module in final Year

10.7 STRENGTHS

This course is taught by a multidisciplinary and multiprofessional team with a broad range of experience in all sectors of dental practice. Students are exposed to staff employed both within the academic and service sectors. The strong research base within the Dental Public Health Unit means that students have access to the most up to date information, on occasion before it is generally within the public domain. The incorporation of principles of prevention at an early stage of the course is viewed as an important.

10.8 WEAKNESS

As in all dental public health courses, there is a need to constantly ensure that clear and consistent messages with regard to preventive strategies and regimes are delivered across all clinical specialties and that teaching with regard to individual and population based preventive strategies are complimentary.

10.9 INNOVATIONS AND BEST PRACTICES

Much of the teaching is carried out in small groups, providing the opportunity for interaction and active student participation. This is enhanced by student presentations on two different occasions during the course.

10.10 PLANS FOR FUTURE CHANGE

The course is constantly evaluated both by staff and students and modifications made to reflect the comments received and to reflect up to date policies and practices.

The current curriculum review includes dental public health.

VISITORS COMMENTS (Section 10; see also Section 16)

Public dental health, behavioural sciences and ethics are taught by a small, but dedicated group. They cover a number of subjects that are certainly relevant to the training of dentists. Some of the subjects have been newly introduced.

We believe that integration of the subjects under this heading in theoretical courses and (pre-) clinical teaching will enhance the impact of the subjects on the learning process of the students. We strongly endorse this idea.

It is suggested that, under a general heading of 'professional behaviour and conduct', subjects from the behavioural sciences, dental public health and ethics and law should be present in all aspects of the curriculum; in other words, in all themes of the new curriculum. This necessitates the training of other staff in relevant aspects of the subject.

As examples we would identify:

Students need to have communication skills taught, with appropriate feedback on their communication with patients (and their professional behaviour in general), throughout their clinical work.

Behavioural aspects of patient care should be given attention in all patients, e.g. developmental psychology in paedodontics, anxiety, social and behavioural aspects in older people, etc.

Prevention, including the behavioural aspects, should become integrated in the teaching of clinical sciences and clinical skills in the framework of disease-management.

Epidemiology and statistics should become an integral part of scientific training and should take place throughout the curriculum.

In the outreach-program excellent opportunities are available to give attention to many aspects of dental public health, behavioural sciences and ethics.

We note that many of these changes are foreseen in the curriculum revision.

SECTION 11

RESTORATIVE DENTISTRY

- ❖ 11.1 Conservative Dentistry**
- ❖ 11.2 Endodontics**
- ❖ 11.3 Prosthodontics**
- ❖ 11.4 Dental occlusion in relation to Restorative Dentistry**

11.1 CONSERVATIVE DENTISTRY

NAME: Dr D H Edmunds

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11.1.1 INTRODUCTION

Conservative Dentistry includes the treatment of dental caries by cavity preparation and the placement of simple fillings as well as more complex procedures such as crown and bridgework. Responsibility for teaching this aspect of the curriculum belongs to the Department of Adult Dental Health. Students practise most operative procedures in the “Phantom Head” Laboratory before progressing to the treatment of patients. They also learn the principles of the technical aspects of the construction of crowns and bridges in the technical teaching laboratories. Teaching starts in the Third Year and at this stage is mainly laboratory based. Towards the end of this year, students progress to the clinic having been taught all single tooth restorations and endodontics for single rooted teeth. Further laboratory-based teaching in more complex techniques continues, alongside the continuing treatment of patients, by means of “Block Courses” during Fourth and Fifth Years. Clinical treatment of patients continues in Sixth Year. The majority of the students’ experience of clinical conservative dentistry is gained in Integrated Clinical Practice on the Oral Health Clinic.

11.1.2 PRIMARY AIMS

- .1 To introduce the student to the basic principles of the aetiology of caries, health and safety in the laboratory/clinic, the use of dental instruments, the preparation and restoration of anterior and posterior teeth using plastic and rigid materials for intra- and extra- coronal restorations and the technical procedures involved in the construction of indirect restorations, the diagnosis and treatment of pulp pathology and the principles of root canal treatment.
- .2 To allow the students to develop their clinical skills in a safe controlled environment and with increasing maturity and knowledge to undertake more advanced treatment within the concept of providing comprehensive patient care.

11.1.3 OBJECTIVES

By the end of the course the student should:

- .1 Understand and describe caries aetiology and pathogenesis and the rationale for the prevention and management of dental caries.
- .2 Understand and describe the aetiology, pathogenesis, prevention and management of toothwear.
- .3 Understand the principles of formulating a treatment plan
- .4 Be familiar with the techniques involved in the placement of all single tooth restorations
- .5 Understand the concepts involved in the treatment planning of patients who wish to have bridgework
- .6 Understand how the care prescribed fits within the long-term plan of care for the patient.

11.1.4 HOURS IN THE CURRICULUM

Third Year	24x 1hr lectures; 80x 30min seminars; 40x 4 hr practicals
Fourth Year	11x 1hr lectures; 14x 1hr seminars; 12x 2hr practicals 45x 3hr clinical time (comprehensive patient care on the Oral Health Clinic)
Fifth Year	9x 1hr lectures; 34x 1hr seminars; 19x 2hr practicals 106x 4hr clinical time (comprehensive patient care on the Oral Health Clinic)
Sixth Year	50x 3hr clinical time (comprehensive patient care on the Close Support Unit)

11.1.5 METHOD OF LEARNING/TEACHING

The teaching methods include formal lectures, small group seminars, laboratory-based classes teaching clinical and technical aspects, written work including essays and project work and also supervised clinical practise.

11.1.6 ASSESSMENT METHODS

These comprise both formative and summative assessments. At the departmental level, formative assessment and feedback occur on a one-to-one basis in the laboratory and clinics, records are kept of the numbers of items of clinical work completed, written work is assessed and returned and monthly assessments in a standardised format are completed by all members of staff. These assessments contribute to the periodic assessment system operated by the School Administration whereby students are assessed on a four-point scale under the headings Academic Work, Professional Attitude and Practical Work. Summative assessments include a series of practical tests during the Pre-Clinical Laboratory Course which may be moderated by an External Examiner and the 4th and Final BDS Examinations both of which include elements designed to assess performance in the theoretical and practical aspects of the subject.

11.1.7 STRENGTHS

- .1 The various elements of the course are taught by a mixture of full and part-time staff of varying ages, clinical experience and expertise, and backgrounds which ensure a vigorous and intellectually stimulating approach.
- .2 Conservative dentistry is integrated into a system of comprehensive patient care and is taught in modern, well-equipped clinics with adequate dental nurse support.
- .3 Although lectures are given, the majority of learning and teaching takes place in small groups

11.1.8 WEAKNESSES

- .1 Staffing ratios on clinics are not always ideal because of difficulties in recruiting staff particularly at senior level and continuity of staffing cannot be achieved.
- .2 Difficulties are experienced in obtaining sufficient patients with the necessary requirements for treatment which would ensure that all students obtain the appropriate breadth of clinical experience.

11.1.9 INNOVATIONS AND BEST PRACTICES

- .1 The Cardiff Dental School was the first in the UK to embrace the concept of “total patient care”
- .2 A system of students working in pairs to ensure adherence to effective infection control procedures and to permit insight into the advantages of assisted operating operates throughout the course

11.1.10 PLANS FOR FUTURE CHANGES

- .1 A Competency based curriculum is in the process of development.
- .2 Introduction of students to patient contact at a much earlier stage of the course is a high priority for the new curriculum.
- .3 An “Admissions and Discharge Policy” is being implemented which, with adequate IT support, will permit more effective patient allocation to ensure that all students gain the required breadth of clinical experience.
- .4 Move to separate Operative, Endodontic and Prosthodontic teaching for more in-depth training in these important areas.

11.2 ENDODONTICS

NAME: Professor P M H Dummer

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11.2.1 INTRODUCTION

Endodontology is concerned with the study of the form, function and health of, injuries to and diseases of the dental pulp and periradicular region, their prevention and treatment. Endodontic treatment includes procedures that are designed to maintain the health of all, or part of, the pulp. When the pulp is diseased or injured, the treatment is aimed at preserving normal radicular tissues. When disease has spread to the periradicular tissues, treatment is aimed at restoring them to health. The teaching of Endodontology in Cardiff is divided between the Preclinical course, which covers the form and structure of teeth and the dental pulp, and the Clinical course, which covers the aetiology of pulp and periradicular disease, diagnosis and treatment. Thus, teaching commences during the first year of the dental degree scheme and continues throughout the course.

11.2.2 PRIMARY AIMS

The Aims of the Endodontic Course are to:

- .1 Provide knowledge of the development, structure and form of healthy dental hard and soft tissues
- .2 Provide knowledge of disease processes within teeth and dental pulps and develop clinical skills that will allow students to undertake endodontic treatment of predictable quality on graduation

11.2.3 MAIN OBJECTIVES

The Objectives of the Endodontic Course are to:

- .1 Describe the embryology of dental hard tissues and the pulp
- .2 Describe the structure and function of the dental hard tissues and the pulp
- .3 Describe the aetiology, epidemiology and diagnosis of diseases of the pulp and periradicular region
- .4 Provide experience in the examination of patients and the diagnosis of pulp and periradicular disease
- .5 Provide instruction and experience of endodontic treatment, including endodontic surgery

11.2.4 HOURS IN THE CURRICULUM

The fragmentation of the Endodontic Course makes it impossible to determine the total time spent in the Curriculum. The time devoted to relevant topics in the Preclinical course and in the Basic Science course within the Clinical Course are unknown. During the Preclinical Course in Conservative Dentistry in the first clinical year the hours devoted to Endodontics total 40; in the second clinical year the total is 15. The time devoted to clinical practice will vary and cannot be deduced.

11.2.5 METHODS OF LEARNING/TEACHING

The course consists of lectures, seminars, laboratory skills practice, clinical observation as well as clinical practice.

11.2.6 ASSESSMENT METHODS

Methods of assessment include essays, evaluation of preclinical laboratory exercises and general clinical assessment

11.2.7 STRENGTHS

The strength of the course lies in the extensive range of topics covered and the time devoted to preclinical instruction and practice in preclinical skills laboratories.

11.2.8 WEAKNESSES

The major weakness of the course is the fragmentation and lack of co-ordination between preclinical and clinical elements.

11.2.9 INNOVATIONS AND BEST PRACTICES

Extensive time devoted to preclinical practice; and use of checklists in order for students to assess and monitor their own performance.

11.2.10 PLANS FOR FUTURE CHANGES

The development and introduction of a co-ordinated course in Endodontology in the new curriculum

11.3 PROSTHODONTICS

NAME: Mr R G Jagger

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11.3.1 INTRODUCTION

The teaching of *removable* prosthodontics is achieved by means of the following courses:

Introduction to complete dentures	3 rd year
Introduction to partial dentures	3 rd - 4 th year
Immediate dentures	4 th year
Special techniques	4 th - 5 th year
Dental treatment of the elderly	5 th year

The teaching of *fixed* prosthodontics is achieved by the following course:-

Bridgework course	4 th - 5 th year
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Clinical practice takes place during the removable prosthodontic courses, however the undergraduates achieve most of their clinical experience in prosthodontics when working in the adult general practice clinics which they attend throughout their 4th - 6th years.

11.3.2 PRIMARY AIMS

The primary aim is to provide a sound basic training for the undergraduate that will enable him/her to carry out prosthetic treatments satisfactorily in general dental practice

11.3.3 MAIN OBJECTIVES

- .1 To be able to assess and treatment plan appropriately
- .2 To be able to provide partial, complete and immediate dentures.
- .3 To be able to provide simple fixed prostheses
- .4 To be able to recognise problems associated with implant retained prostheses
- .5 To be able to advise patients on the care of their prostheses
- .6 To be able to maintain and manage the repair of prostheses

11.3.4 HOURS IN THE CURRICULUM

3 rd year	240
4 th year	90
5 th year	90

(These figures do not include time spent on adult general practice clinics)

11.3.5 METHOD OF LEARNING/TEACHING

Laboratory instruction
 Laboratory technical work
 Lectures
 Seminars
 Clinical demonstrations
 Videos
 CAL
 Clinical practice

11.3.6 ASSESSMENT METHODS

- .1 Academic ability- Questions in professional examinations, class tests, assessed projects.
- .2 Practical skill- Some laboratory exercises but largely subjective
- .3 Professional attitude -subjective

11.3.7 STRENGTHS

Traditional course with extensive clinical experience

11.3.8 WEAKNESSES

Separation of subject areas of fixed and removable prosthodontics

Practice on Adult General Practice clinics may not accord with principles taught during the individual courses

11.3.9 INNOVATIONS AND BEST PRACTICES

See 10 (Plans for future changes)

11.3.10 PLANS FOR FUTURE CHANGES

The curriculum review group for prosthodontics is addressing the separation of the subject areas of fixed and removable prosthodontics. The new curriculum will provide integrated teaching in a single subject area.

11.4 DENTAL OCCLUSION IN RELATION TO RESTORATIVE DENTISTRY

NAME: Mr P H Jacobsen

EMAIL: jacobsenph@cardiff.ac.uk

11.4.1 INTRODUCTION

The course is a small group teaching (about 12) course held during the fourth year. At this stage the students will know some basic aspects of occlusion but will not know it as a special subject. The course consists of seminars, discussion groups and laboratory and clinical demonstrations and practical sessions. Students write an essay based on the scientific literature about a topic related to occlusion during the course. The subject of occlusion generally is introduced by a multidisciplinary symposium at the beginning of fourth year.

11.4.2 PRIMARY AIMS

- .1 To provide an introduction to the subject of occlusion in restorative dentistry
- .2 To relate occlusal theory to restorative care

11.4.3 MAIN OBJECTIVES

- .1 To develop an understanding of the functional anatomy of the occlusion including the structure and function of the temporomandibular joint as it relates to occlusal movement
- .2 To discuss the occlusal consequences of faults in cavity preparation and restorations; occlusal implications in the provision of crowns and bridges; restoration design from the occlusal viewpoint.
- .3 To consider the aetiology and management of attrition, abrasion and erosion; dietary factors, medical history, habits, tooth loss and natural wear and tear. The restorative management of surface loss; treatment planning and choice of materials; the indications and techniques for occlusal reconstruction.
- .4 To discuss disorders of the TMJ and occlusion. Aetiology, epidemiology, differential diagnosis and management of temporomandibular dysfunction. Simple conservative treatment, surgical options; review of non-substantiated treatments.
- .5 To develop the clinical skills of occlusal analysis. Classification and use of articulators; occlusal records and facebows. Principles of occlusal equilibration. Clinical techniques for face bow and occlusal records to carry out an occlusal analysis.
- .6 To discuss the principles of occlusal splint usage and construction

11.4.4 HOURS IN THE CURRICULUM

48 hours; no patient contact.

11.4.5 METHODS OF LEARNING/TEACHING

- .1 Seminars
- .2 Laboratory demonstrations and exercises
- .3 Clinical demonstrations and exercises (students work in pairs on each other)
- .4 Essays

11.4.6 ASSESSMENT METHODS

Subjective grading of laboratory and clinical exercises culminating in formal assessment at end of course in keeping with school continuous assessment system.

11.4.7 STRENGTHS

Teaching by single specialist teacher assisted by one technical instructor makes for consistent opinions during the course. Close supervision and individual feedback during teaching. Course is the basis for postgraduate education and has been subjected to considerable scrutiny over a long period. Concepts are presented simply with basic clinical justifications.

11.4.8 WEAKNESSES

A block course that is repeated five times in each series; teachers can become stale. Models are reproduced for class exercises and mean that it is difficult to change course material. Students usually have intact dentitions so that occlusal problems are not usually seen in the clinical exercises.

11.4.9 INNOVATIONS AND BEST PRACTICES

This was the first formal undergraduate occlusion course in the UK (1984) and was adopted as a basic scheme by two other schools.

11.4.10 PLANS FOR FUTURE CHANGES

Fabrication of new patient models for standard cases. Curriculum development to adapt the course to deal with occlusal aspects of all fixed and removable prostheses as a core subject.

SECTION 12

PERIODONTOLOGY

12. PERIODONTOLOGY

NAME: Mr J Sweet

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12.1 INTRODUCTION

The aim of the periodontal curriculum is to help the student become a competent new dental surgeon as a provider of oral health care. A fundamental requirement is that of professionalism; a sensitivity to others and an understanding of self. The need for careful assessment prior to treatment is emphasised, as is the flexible and educational role of the new dental surgeon. Critical appraisal skills should also be developed to continually review the information available on clinical methods and materials so establishing a scientific base for treatment, and a personal protocol of life-long continuing education.

12.2 PRIMARY AIM

To enable the new dental practitioner to be able to focus on the periodontal needs of the patient and integrate this within the overall dental care.

12.3 MAIN OBJECTIVES

Objectives are set in terms of outcomes of the newly qualified practitioner in terms of professionalism, assessment of patient and establishment and maintenance of a healthy oral environment. These are further refined in terms of structure and disease, examination, diagnosis and prognosis and establishment and maintenance of a healthy oral environment.

12.4 HOURS IN THE CURRICULUM

Third Year 20 hours

Fourth Year 112 hours

Fifth Year 96 hours

Approximately 2/3 of this time would be time spent treating patients. The remainder would be used for clinical subject based seminars and clinical review debriefings.

12.5 METHOD OF LEARNING/TEACHING

The current school curriculum allows for an introduction into Periodontology as a symposium held for one day per week over a period of three weeks at the end of the Third Year. This includes some lectures, practicals on “Clinical assessment of Periodontal Disease and Oral Hygiene” and “Manikin scaling and root planing”. This year various innovations were introduced which included a Group Objective Structured Clinical Examination (GOSCE) on oral hygiene aids, Clinical demonstration of gingival therapy and dark field microscopy of supra and sub gingival microflora.

In the Fourth and Fifth Years the whole class is divided into five groups of about 12 students. Apart from the first block, which continues for three months, each group visits Periodontology in four week blocks in both years. Each clinical session is usually divided into a seminar period for the first half hour, followed by a clinic session and ends with a thirty minute review session. Some sessions are dedicated to student individual and group self-directed learning, but students are expected to use other non-allocated time for this activity.

Students, working in pairs, are supervised whilst carrying out dental care on patients supplied to them. Surgical periodontology learning and teaching is supplemented with surgical demonstrations, and experiential simulation training on surgical models, including some regenerative techniques. Understanding of prognosis is supported with GOSCE seminars. Students are required to attend a debriefing session for half an hour following the clinical session.

12.6 ASSESSMENT METHODS

.1 Clinical, Seminar and Reviews

Progress in clinical sessions is assessed on a per patient, seminar or presentation basis on a form to be kept in the individual student's journal / workbook, which should show evidence of further treatment or monitoring of selected patients. Units of Clinical Assessment are conducted as stages in the student's development in Periodontology.

.2 Journal / Workbook

This will be assessed to ensure that the requirements for this unit of work have been completed.

.3 Attendance at all clinical sessions is compulsory

If, for any reason, lack of attendance impacts on the student's capacity to reach the learning objectives directed by the competency statements, remedial action will be taken.

.4 Student Profile

A weekly profile will be made for each student on the course and opportunity for self and peer assessment made in the debriefing session will be taken into account.

.5 Remedial Course and Examination

Students are encouraged to seek advice at an early stage if difficulties arise. At the end of the last block in a series, a course will be held with an accompanying examination for those students asked to attend. These students will have learning achievement profiles indicating a deficiency. An attempt will be made to design the course specifically to the needs of the individual students involved.

12.7 STRENGTHS

A main strength is a unanimous staff enthusiasm for change, to improve the quality of the learning experience of our students. Another is a willingness to follow our major aim closely; that of expressing clearly what it is to specialise and focus on periodontology whilst keeping in mind the total integration of this approach into the whole treatment of the patient.

12.8 WEAKNESSES

A main weakness is an inability to implement the proposed changes in the curriculum as rigorously or consistently as planned. Patient resources are not currently being used to the best advantage educationally. The competency assessment procedures are dependent upon patient logistics. The block system may allow some intensive group teaching but a period of one month does not lend itself to periodontal patient care of tissue response and continuing care.

12.9 INNOVATION AND BEST PRACTICES

The most important recent addition to the course has been the review debriefing session following the clinic. Questionnaires given to the students following the courses indicate this. The underlying use a competency base to the curriculum helps the student to focus on the important aspects and clarifies what makes appropriate assessment. Various elements have been introduced, which together, enhance reflective practice: the self and peer assessment of

competency, the use of a journal / workbook, requirement for various genres of clinical writing, including referral letter, patient narrative and essay on a self chosen topic.

12.10 PLANS FOR FUTURE CHANGES

Changes will follow and where necessary intercept the continuum of changes already in place and in process which include development of further competency-based statements, clarification of the overall picture of requirements from the start and appropriate assessment. Other innovations started but which require development are I T Resource Development, Peer Assistance and Peer Assessment and Reflection for Action. The course should develop the hands-on approach but include the possibilities for students to write about their experiences and feeling from the start of the course. Remedial Provision for students who cannot attend critical parts of a course for any reason or those that find some aspects particularly difficult to master should be developed.

Curriculum Action Research

The Periodontal courses are under a process of change and development. Attempts are being made to monitor both facilitator and student feedback to the course content and format as a form of Action Research. The importance of studying both outcomes and process are emphasised.

VISITORS COMMENTS (Sections 11 & 12)

Restorative dentistry and periodontology are integrated in the department of adult dental health. The clinical component is introduced under the name integrated patient care (see Section 15). The integration in 'total patient care' is a strong aspect of the school which will be very helpful in developing the curriculum of the school.

It is recognised that within the programme changes already are in progress. We would particularly mention the competency-based program of periodontology.

The introduction of year-tutors who will follow a cohort from the preclinical years until graduation is very good as it ensures a continuity of methods used and a follow-up for students. The development of procedures to follow the performance of the students is a strong point.

We would suggest an increased effort to train staff and to note especially the need to train staff to supervise a wide range of treatments. In this regard, development of guidelines would be helpful.

We are somewhat concerned to note an increase in separate training in specific disciplines. We would suggest that this be limited to electives. We strongly recommend horizontal integration of theoretical and clinical teaching, alternating preclinical and clinical instruction and practice.

We did not meet the teacher in charge of the occlusion course. There is a multidisciplinary symposium in the second year followed by block courses in the restorative dentistry courses. We believe that the school should develop this aspect of dentistry as an integrated theoretical and clinical subject.

SECTION 13

ORAL SURGERY AND ORAL RADIOLOGY

- ❖ 13.1 Oral Surgery**
- ❖ 13.2 Oral Radiology**

13.1 ORAL SURGERY

NAME: Dr D W Thomas

EMAIL: thomasdw2@cardiff.ac.uk

13.1.1 INTRODUCTION

The undergraduate course in Oral and Maxillofacial surgery extends over 2 years of the course, commencing with the *Introductory Block* in September of the fourth year.

13.1.2 PRIMARY AIMS

The primary aims of the course are based on “The First Five Years” document issued by the General Dental Council and have been developed together with the Association of British Academic Oral and Maxillofacial Surgeons (ABAOAMS) in the UK. The new graduate should be ‘able to assess and treat where appropriate patients requiring oral surgery that are suitable for treatment in the general practice environment’.

13.1.3 MAIN OBJECTIVES

The main objectives of the course are to develop the theoretical and practical skills of the undergraduate in a supportive environment which engenders enthusiasm and self-directed learning. The undergraduate will have been taught the theoretical aspects of the full range of Oral and Maxillofacial Surgery as it is currently practised; from routine exodontia through maxillofacial trauma to the surgical management of patients with intraoral malignancy. The practical objectives of the course are that the students on graduating should be able to perform:

- .1 Exodontia
- .2 Soft-tissue surgery (including biopsies where appropriate)
- .3 The removal of buried roots
- .4 Simple impacted teeth. (*AABOAMS*, November 1999).

13.1.4 HOURS IN THE CURRICULUM

The students spend an estimated 8 hours treating patients per week per year for the duration of the clinical course.

13.1.5 METHODS OF LEARNING/TEACHING

Formal didactic teaching is by lecture, seminar and feedback sessions as outlined in the timetable. Self-directed learning is encouraged and formal project work is undertaken. The students receive clinical instruction in four settings: The *Introductory Block*, (see below) in practical exodontia in which they receive closely-supervised teaching of intra- and transalveolar extraction on pigs’ heads; the *LA clinic*, where they will progress from direct close supervision of routine exodontia to performing transalveolar extractions under LA (in this setting they will also see procedures performed under sedation); the *Consultant clinics*, where the students will be involved in the diagnosis and management of patients referred for routine dentoalveolar surgery (i.e. exodontia, dentoalveolar surgery, implant surgery and surgical- endodontics & orthodontics) but also where they see patients with facial trauma and

head and neck malignancy (this is reinforced by teaching on ward rounds) and the *GA facility* where students undertake supervised surgery.

13.1.6 ASSESSMENT METHODS

During the course the students are periodically assessed according to established Institutional protocols on Academic ability, Manual Ability and Professional Attitude. Additionally in this Department, the students have two formal examinations. The first examination is timetabled in the Spring of the fourth year (at the end of dentoalveolar surgery theoretical teaching). The second assessment is at the end of all formal teaching in Oral and Maxillofacial Surgery. A formal “feedback session” is organised after each examination to discuss the questions and model answers. The results of this examination form an integral part of the assessment of Academic ability. The assessment and teaching of the students is managed by means of monthly departmental teachers’ meetings (chaired by the Head of Department).

13.1.7 STRENGTHS

The strengths of the course include a team of enthusiastic teachers, integrated Oral and Maxillofacial surgery within the setting of the dental hospital where the students can see and experience the whole range of Oral and Maxillofacial Surgery (from routine exodontia to patients undergoing major resections for head and neck cancer). Additionally the senior members of staff in the department have extensive research and publication records. The Department is therefore, at the forefront of developments in the science and practice of oral surgery and students benefit considerably from this.

13.1.8 WEAKNESSES

A weakness in the current course relates to the comparatively low level of integration with teaching in oral pathology and oral medicine. These subjects are currently not taught contemporaneously on the course. This weakness will be corrected with the new curriculum proposed for introduction in 2001. Increasing student numbers without increasing staff may also prove problematic

13.1.9 INNOVATION AND BEST PRACTICES

The most important innovation in the past three years has been the development of the *Introductory Block* teaching at the start of the course. In this course the students have 16 hours of dedicated teaching to prepare them for the Oral Surgery clinics. This teaching includes practical sessions in aseptic technique, history taking, routine exodontia and transalveolar extraction. This has been well received by staff and students alike.

13.1.10 PLANS FOR FUTURE CHANGES

The new curriculum will improve the course by increasing both the amount of time available for self-directed learning and the scope of the *Introductory Block*, via the inclusion of teaching in local anaesthesia, radiology and oral pathology.

13.2 ORAL RADIOLOGY

NAME: Dr E G Absi
EMAIL: absieg@cardiff.ac.uk

13.2.1 INTRODUCTION

The Examination, Emergency and Oral Radiology Unit is part of the University of Wales College of Medicine Department of Oral Surgery, Medicine and Pathology. It has a major responsibility in teaching and developing the Dental Radiology Curriculum. Other Departments within the School make valuable contributions to this curriculum which comprises symposia, lectures, seminars and block teaching in both radiology and practical radiography, as well as chair-side instruction. The course extends from the end of third clinical year to final sixth year.

13.2.2 AIMS AND OBJECTIVES

The course will provide training in Dental Radiology and Ionising Radiation Regulations as required by the General Dental Council (1997).

The course structure has developed to take into account the report by the Royal College of Radiologists (RCR) and the National Radiological Protection Board (NRPB) which proposed Guidelines on Radiology Standards for Primary Dental Care (1994). The course is also based on the British Society of Dental and Maxillofacial Radiology (BSDMFR) proposals for a "Core Curriculum" for undergraduate dental students.

13.2.3 MAIN OBJECTIVES

To produce a graduate who:-

- .1 Is competent in decision-making regarding selection criteria and clinical justification for dental radiology.
- .2 Is competent in taking, processing and interpreting intra and extra-oral radiographs.
- .3 Has sufficient knowledge of the hazards of radiation and is aware of the regulations pertaining to those hazards, so that he/she can undertake proper radiation protection measures for the patients, the operator and other staff.
- .4 Understand the basic principles of Radiography Quality Assurance and the practice of applied quality control.
- .5 Appreciates the role of various modern imaging modalities.

13.2.4 HOURS IN THE CURRICULUM

The course comprises:

Lectures	20 hours minimum
Practical Radiography	30 hours minimum
Diagnostic seminars & Interpretation	6 hours formal seminars & 24 hrs integrated teaching

13.2.5 METHOD OF LEARNING/TEACHING

Methods of learning include lectures, small group seminars, practical instruction of radiographic techniques, processing and quality assurance and interpretation at chair-side. Every effort is made to integrate theory and practice.

13.2.6 ASSESSMENT METHODS

- .1 Student Record Book (and Assessment)
- .2 Radiology Examination Questions: 4th BDS and Final
- .3 Revision tutorials & Class Examination (5th year)

13.2.7 STRENGTHS

- .1 Highly motivated and enthusiastic teachers
- .2 The content of the course is constantly updated and improved
- .3 Excellent library facilities
- .4 The students' feedback is extremely favourable
- .5 Integration with all other relevant disciplines in the dental curriculum

13.2.8 WEAKNESSES

- .1 Shortage of staff qualified to teach this subject
- .2 The number of "Small-group seminars" is inadequate
- .3 Digital imaging has not been introduced because of lack of funds

13.2.9 INNOVATION AND BEST PRACTICES

- .1 Immediate advice is available through the course tutor
- .2 Development of an on-line radiology library (in progress)

13.2.10 PLANS FOR FUTURE CHANGES

- .1 The introduction of digital imaging systems
- .2 Bid for a full-time Oral Radiology teacher
- .3 More integrated teaching of both theoretical and practical parts of the course

VISITORS COMMENTS (Section 13)

The aims and objectives of oral surgery and oral radiology are adequate and cover those topics that a dental student should know and be able to perform in clinical practice.

The staff believe that each student carries out an adequate number of tooth extractions; however the students did not feel that they gained adequate experience in extractions. Given the known pattern of dental disease in Wales, it is important that students should leave the school feeling competent in this area. The majority of 6th year students had not had the opportunity to carry out a surgical extraction. The students wanted more training in removal of third molars and this was also mentioned by the teachers; however, there are no resources for this type of training. This is not an unusual problem in other dental schools. We recommend that students be more extensively exposed to the practice of oral surgery.

The training in oral radiography and oral radiology is recorded in log books and then graded using a quality rating system. We feel that this is a good way to grade performance. Digital

imaging has not yet been implemented, due to lack of funds. The radiographic facilities will be renovated in the near future; we had intended to recommend that the school should consider introducing digital radiography; we understand that that has happened shortly after the visit.

There is a lack of integration between oral surgery, oral radiology and oral pathology; this has been recognised in the School's self-assessment report. It is planned to integrate these areas in the new curriculum and we strongly advise that this be done. Oral radiology should be integrated in all other areas of clinical dentistry.

SECTION 14

ORAL MEDICINE AND ORAL PATHOLOGY

- ❖ **14.1 Oral Medicine**
- ❖ **14.2 Oral Pathology**

14.1 ORAL MEDICINE

NAME: Dr M A O Lewis

EMAIL: lewismao@cardiff.ac.uk

14.1.1 INTRODUCTION

The Oral Medicine Course encompasses the teaching of the full spectrum of oral mucosal disease, oro-facial pain and salivary gland disease and the relationship of oral conditions to systemic disorders. Teaching and clinical experience is provided during 4th Year and 5th Year. In addition, further clinical experience can be obtained during the specialised options of 6th Year.

14.1.2 PRIMARY AIMS

- .1 To provide the dental graduate with sufficient knowledge and experience to be capable of undertaking the recognition, investigation and basic management of the commonly occurring oral mucosal conditions, causes of oro-facial pain and salivary gland disorders.
- .2 To provide the dental graduate with knowledge to recognise the relationship of the oro-facial manifestations to systemic disease.

14.1.3 MAIN OBJECTIVES

- .1 Ability to obtain and present in an professional manner with correct terminology, a clinical history and examination, including the relevance of medical, social and previous dental history.
- .2 Understanding of the clinical presentation, aetiology, investigation and management of oral ulceration.
- .3 Understanding of the clinical presentation, proposed aetiological factors, investigation and management pre-malignant lesions and squamous cell carcinoma affecting the oral mucosa.
- .4 Understanding of the clinical presentation, aetiology, investigation and management of oral lichen planus and vesiculo-bullous disorders.
- .5 Understanding of clinical presentation, investigation and management of viral and candidal infections affecting the oro-facial tissues.
- .6 Understanding of the aetiology, investigation, diagnosis and management of types of orofacial pain of non-dental (tooth) origin, including burning mouth syndrome, atypical facial pain, trigeminal neuralgia and temporomandibular joint dysfunction.
- .7 Awareness of the role of psychological disorders in orofacial disease and recognition of psychological disorders presenting as oro-facial disease.

- .8 Understanding of the presentation, investigation and management of the range of salivary gland disorders, in particular Sjögren's syndrome.
- .9 Ability to perform and interpret the range of histopathological, haematological and microbiological investigations used in the diagnosis and management of oro-facial disease.

14.1.4 HOURS IN THE CURRICULUM

Approximately 10 hours of lectures. Each student receives 30 hours of clinical teaching during 2 years.

14.1.5 METHODS OF LEARNING/TEACHING

The majority of the teaching is provided in the form of 20 lectures of thirty minutes duration. Ten lectures are provided in 4th year and ten lectures in 5th year.

The students are timetabled to attend approximately 10 Consultant Oral Medicine Clinics during the Oral Surgery and Oral Medicine blocks of teaching during the 4th year and 5th year. The clinics are held by the Reader in Oral Medicine and involve between 25-30 booked patients each three-hour session. Support on one clinic per week is provided by the Senior Lecturer in Oral Pathology and two clinics by the Lecturer in Oral Medicine and Microbiology. Students undertake a full range of clinical activity during these clinics, including; history taking, clinical examination, diagnosis and treatment provision. Students are shown and subsequently perform a full range of special investigation including venepuncture, microbiological sampling and mucosal biopsy. A record is maintained of the conditions seen by each student and activity performed.

14.1.6 ASSESSMENT METHODS

The class examinations each consist of 12 clinical illustrations, each shown as a transparency for three minutes and accompanied by three short answer type questions. A class examination is held at the end of the lecture programme in 4th year and again at the end of the lecture programme in 5th year.

A review of each examination is held during which time the students are provided with their marked scripts. The answers are discussed in relation to the responses provided by the class as a whole. Full class results are placed on the examination notice board by staff of the School office.

14.1.7 STRENGTHS

- .1 Dedicated teaching staff accredited in Oral Medicine
- .2 Large clinical load with wide case mix
- .3 Laboratory support on site
- .4 Clinical teaching with dental auxiliary / dental hygiene students

14.1.8 WEAKNESSES

- .1 Limited time allocated for students to attend clinical sessions
- .2 Timetable rarely permits long term follow-up of patients with chronic conditions.
- .3 Large number of patients on clinics limit time for teaching
- .4 No small group teaching

14.1.9 INNOVATIONS

- .1 Students undertake full range of clinical activity themselves.
- .2 Dedicated clinics to oral pre-malignancy and oral cancer also attended by Consultant Oral and Maxillo-facial Surgeon.
- .3 Ability to follow through patients as specialised option in Sixth Year.

14.1.10 PLANS FOR FUTURE CHANGES

The undergraduate curriculum is presently being reviewed. It is intended to integrate the teaching of Oral Medicine with other topics including, human diseases, oral pathology, oral microbiology and oral surgery. The hands-on approach to patient management will be developed further with the opportunity to follow patients through extended treatment. The student log of experience will be developed to include a grading of achievement and feedback. The possibility of case studies and self directed learning will be explored.

14.2 ORAL PATHOLOGY AND ORAL MICROBIOLOGY

NAME: Mr A J C Potts

EMAIL: pottsajc@cardiff.ac.uk

14.2.1 INTRODUCTION

This integrated course, covering essential topics in Oral Pathology and Oral Microbiology for students beginning their clinical studies, is held in the Spring and Summer terms of the Third Year. It follows on from the introductory parts of the General Microbiology and Pathology courses and the Oral Anatomy part of the Basic Dental Science course.

14.2.2. PRIMARY AIMS

To give dental students an understanding of the course, underlying mechanisms and the effect of oral diseases which is essential for diagnosis and for the development of rational treatment and preventive programmes.

14.2.3 MAIN OBJECTIVES

- .1 To give dental students an understanding of the range of diseases which may present in the oral cavity and associated tissues.
- .2 To give dental students an understanding of the aetiology, pathogenesis, clinical features, pathological changes and prognosis of common and important oral diseases.
- .3 To provide dental students with an understanding of the nature of the commensal microflora of the oral cavity and the microbiological events associated with infections that may affect the mouth and associated tissues.
- .4 To illustrate how changes in the structure and function of oral tissues relate to the clinical presentation and management of oral disease.
- .5 To understand the histopathological appearance of common oral lesions and the terms used to describe such changes in order to be able to assimilate and act on pathology reports in clinical practice.
- .6 To understand the microbiological investigation of common oral infections and the role of antimicrobial agents in clinical management.

14.2.4 HOURS IN THE CURRICULUM

Lectures	35
Practical classes	12

14.2.5 METHOD OF LEARNING/TEACHING

- .1 A structured and integrated lecture course with appropriate practical classes, predominantly histopathology based.
- .2 Self-assessment Oral Pathology and Oral Microbiology MCQ questions are available on the College IT network.
- .3 Lecture notes are available in the Library and on the College IT network

14.2.6 ASSESSMENT METHODS

.1 Class Examinations

A mid-course MCQ examination held the end of the Spring term together with a practical examination

An end of course Short Answer written examination together with a practical examination at the end of the Summer term

.2 BDS Examinations

4th BDS

Oral Pathology and Oral Microbiology essay questions are set for both written papers

A practical examination with short answer questions requiring the examination of two tissue sections.

Final BDS

Oral Pathology and Oral Microbiology essay questions are set for Paper 1 of Final BDS

14.2.7 STRENGTHS

- .1 Course taught by experienced staff actively practising the disciplines of Oral Pathology and Oral Microbiology
- .2 Integration of Oral Microbiology and Oral Pathology teaching

14.2.8 WEAKNESSES

- .1 No small group teaching
- .2 Some of the topics covered would be more suitable for students with more clinical experience.
- .3 Lack of integration with Oral Surgery and Oral Medicine teaching

14.2.9 INNOVATIONS AND BEST PRACTICES

- .1 Recent introduction of Oral Microbiology practical classes.
- .2 Self assessment material on the College IT network
- .3 Lecture notes available in the Library and on the College IT network

14.2.10 PLANS FOR FUTURE CHANGES

In the new curriculum it is planned to integrate Oral Pathology and Oral Microbiology closely with Oral Surgery, Medicine and Radiology.

The timing of topics such as bone disease, oral mucosal disease and salivary gland disease will be linked to periods of clinical exposure to these conditions for more senior students.

VISITORS COMMENTS (Section 14)

Oral microbiology, oral pathology and oral medicine represent a good example of an integrated course since one clinic per week is provided by the Senior Lecturer in Oral Pathology and two clinics by the Lecturer in Oral Microbiology. This staff is highly dedicated. Furthermore, a high quality research is produced in these fields. The clinical time in oral medicine is relatively short. The school might consider giving more emphasis to a more fully integrated course in the subjects with greater clinical exposure. This may require considerable changes in the timing of these courses. Those aspects of oral microbiology which are relevant to caries and periodontal disease should be taught in an integrated way with those courses. There is also a need for horizontal integration with oral surgery.

SECTION 15

INTEGRATED PATIENT CARE AND DENTAL EMERGENCIES AND SPECIAL NEEDS PATIENTS

- ❖ 15.1 Integrated patient care**
- ❖ 15.2 Dental Emergencies**
- ❖ 15.3 Care of Special Need Patients**

15.1 INTEGRATED PATIENT CARE

NAME: Dr A S M Gilmour

EMAIL: gilmour@cardiff.ac.uk

15.1.1 INTRODUCTION

Integrated patient care is a fundamental part of the present curriculum which occupies significant part of the students timetable throughout the last 3 years of the course. Integrated care of the adult patient occurs in the Oral Health Clinic (4 & 5 Year) and Close Support Clinic (6 Year) where undergraduates treat patients who require a wide range of restorative care. Integrated child patient care also occurs in the last 3 years of the course and is undertaken within a number of clinics in the Dental Health and Development Directorate, including Paediatric, Orthodontic and community outreach clinics locally and in North Wales.

15.1.2 PRIMARY AIMS

- .1 Progressive development of dental students clinical skills in a safe, controlled environment
- .2 To promote and practice total dental care adult patients in a responsible, ethical and professional manner

15.1.3 MAIN OBJECTIVES

By the end of the course the students should be able to:

- .1 Take a history from an adult or child patient, conduct a thorough examination prior to formulating an overall treatment plan
- .2 Be able to control pain and anxiety in adult and child patients using a variety of methods
- .3 Carry out routine dental procedures on adult and child patients in a logical order to a competent standard
- .4 Students should have the ability and confidence to make sound clinical decisions based on scientific knowledge and understanding and be aware of their limitations.
- .5 Carry out all dental care to a high ethical and moral standard always putting patients first.
- .6 Fully understand the complex issues of dentist/patient interaction

15.1.4 HOURS IN THE CURRICULUM

Adult Integrated Care	4 Year 45 x 3hr sessions
	5 Year 104x 4hr sessions
	6 Year 50 x 3hr sessions

15.1.5 METHOD OF LEARNING/TEACHING

- .1 Clinical teaching with staff/student levels of approximately 1/10
- .2 Small group discussions/seminars
- .3 Lectures

15.1.6 ASSESSMENT METHODS

- .1 Continuous assessment
- .2 Summary examination (4BDS clinical examination, Final BDS – Presentation case demonstrating long term management of multidisciplinary case)

15.1.7 STRENGTHS

The undergraduates are taught clinical dentistry by a wide range of lecturers with varying degrees of experience and expertise. The clinical teaching is broad based and is patient centred rather than speciality centred. This promotes an in depth understanding of overall patient management and responsibility, allows the undergraduate to progressively increase their clinical experience and monitor their own work over a reasonable period of time. Assisted working allows a degree of teamwork to develop and of mutual peer review and assistance

15.1.8 WEAKNESSES

- .1 Lack of patients with simple dental care at the beginning of the course mean that the planned progressive increase in students' clinical experience does not occur.
- .2 Minimal involvement with other members of the team
- .3 Concern about dilution of specialist teaching early in course, to reinforce basic core concepts from which students can develop their skills. This is particularly relevant in Prosthetic dentistry and endodontic teaching.
- .4 Paired assisting in the Final Year

15.1.9 INNOVATIONS AND BEST PRACTICE

Paired assisting – at the beginning of the course allows for increased chairside time and peer assessment

15.1.10 PLANS FOR FUTURE CHANGES

- .1 The development of a new curriculum has allowed us to rethink the benefits and otherwise of the present integrated care mechanisms. It is proposed that although integrated care will occur throughout the course this will be more limited at the beginning of the clinical course increasing progressively towards the end of the course. Integrated care may start within community clinics and progressing through to an independent General Practice unit where adults and children will be treated by final year students.
- .2 To increasingly use, where appropriate, modern methods of learning including more problem based exercises, CAL and self directed learning
- .3 To investigate and employ new methods of assessment based on competency

15.2 DENTAL EXAMINATION & EMERGENCY

NAME: Dr E G Absi

EMAIL: absieg@cardiff.ac.uk

15.2.1 INTRODUCTION

This clinic is a centre for the initial relief of acute facial and oral pain. Here we assess, investigate and diagnose oral and dental disease in adults and we also provide emergency treatment for both referred patients and those who attend on a casual basis. Approximately 16,000 patients per year are seen and treated in this clinic. Undergraduate students (end of 3rd year, 4th & 5th years) attend the clinic in small groups (4 weeks each block).

15.2.2 AIMS AND OBJECTIVES

- .1 To provide undergraduate students with opportunities to evaluate patients with a range of dental emergencies by means of relevant history, examination, investigation and treatment planning.
- .2 To teach practical diagnostic skills to enables the students to diagnose acute and chronic conditions of the teeth, mouth and jaws.
- .3 To teach dental management of medically compromised patients.
- .4 To teach radiology: decision making about film selection, interpretation of normal and abnormal radiographic findings.
- .5 To teach treatment of acute dental conditions by means of operative measures and drugs and an understanding of how the initial treatment for acute conditions is integrated with definitive surgical, orthodontic or restorative treatment.

15.3 CARE OF SPECIAL NEEDS PATIENTS

NAME: Mrs M L Hunter

EMAIL: hunterml@cardiff.ac.uk

15.3.1 INTRODUCTION

The curriculum does not include a course specifically devoted to teaching the care of patients with special needs.

15.3.2 PRIMARY AIMS

The didactic course aims to give the student an awareness of what constitutes “special need”, and its relevance to the provision of dental care.

15.3.3 MAIN OBJECTIVES

15.3.3.1 Childhood disabilities

The students should be able to:

- .1 Describe the spectrum of childhood disability and set the information in a family and social context.
- .2 Indicate the implications of the various disabilities for dental health and management.
- .3 Give an overview of common disabilities and their possible causes.
- .4 Give an overview of the multidisciplinary management of childhood disabilities.

15.3.3.2 Inequalities in health and health care

The student should be able to:

- .1 Define impairment, disability and handicap
- .2 List commonly encountered handicapping conditions and recognise their relevance to dental care.
- .3 Describe the impact of barriers to care on need on demand.
- .4 List and evaluate ways of improving access to services.

15.3.3.3 Dental care for special groups (children with special medical needs)

The student should be able to:

- .1 Be aware of the importance of recognising the barriers and risks to care for medically compromised individuals.
- .2 Understand the importance of medical histories and patient assessment in treatment planning.
- .3 Be able to describe the role of the General dental Practitioner in the provision of dental care for children with a number of medical conditions.

15.3.4 HOURS IN THE CURRICULUM

Didactic teaching – 7 hours.

Treatment planning clinic – 3 hours.

15.3.5 METHODS OF LEARNING/TEACHING

The topic is covered in one lecture and a number of seminars provided by the Department of Dental Health and Development. In addition, students attend appropriate treatment planning clinics within the Department of Adult Dental health. Those students pursuing a Specialised Option course in Dental Health and Development have the opportunity of undertaking and assisting with the treatment under general anaesthesia of children with special needs.

15.3.6 ASSESSMENT METHODS

Students are assessed on their contribution to seminars. There is a specific assessment for students pursuing a Specialised Option course in Dental Health and Development which includes the maintenance of a clinical log-book.

15.3.7 STRENGTHS

The didactic course is available to all students and is relatively comprehensive.

15.3.8 WEAKNESSES

All students do not currently have the opportunity to observe the treatment of / treat patients with special needs.

15.3.9 PLANS FOR FUTURE CHANGES

The care of patients with Special Needs is recognised as a topic in the new undergraduate curriculum.

VISITORS COMMENTS (Section 15)

There seemed to be no problem in the supply of suitable patients for student care. Both in the integrated clinics and the emergency clinic there was more than an adequate number of patients treated. The care of patients in the student clinics at the school is free, which assists in patient recruitment. The integrated clinic has an effective patient recall system.

The co-operation with community dental clinics in Wales is a very strong part of the dental programme and both the staff and students whom we met in one such clinic were very enthusiastic about this programme. The school is to be commended for using this programme in an attempt to remedy the shortage of dentists in North Wales.

We would recommend that the school should introduce the concept of teamwork with dental hygienists, therapists and technicians.

SECTION 16

BEHAVIOURAL SCIENCES

- ❖ 16.1 Behavioural Sciences**
- ❖ 16.2 Communications**
- ❖ 16.3 Ethics & Law**
- ❖ 16.4 Jurisprudence**
- ❖ 16.5 Practice Management**

16.1 BEHAVIOURAL SCIENCES incorporating: 16.2 COMMUNICATIONS

NAME: Dr K Robson

EMAIL: robsonkf@cardiff.ac.uk

16.1.1 INTRODUCTION

The Behavioural Sciences course is a 9-week course held in the second term of 3rd BDS. The course introduces non-clinical psychological and sociological issues relevant to dentistry. It then continues in the final year with a further seminar.

16.1.2 PRIMARY AIMS

16.1.3 MAIN OBJECTIVES

- .1 The development of appropriate communications skills;
- .2 An understanding of the relevance of social factors to patients' experience of dental health and treatment;
- .3 An understanding of the importance of dental health and oral conditions to people's social functioning;
- .4 To develop students' critical reading skills;
- .5 To encourage students' critical evaluation of social and psychological issues relevant to the practice of dentistry.
- .6 An understanding of principles of pain and anxiety management

16.1.4 HOURS IN THE CURRICULUM

24.75 hours over 9 weeks, allocated to a combination of lecture, seminar and joint preparation time.

16.1.5 METHODS OF LEARNING/TEACHING

Each student attends one weekly lecture and a total of five seminars, and is expected to prepare a short presentation with 2/3 other students for one of the small group sessions, do some background reading for all other small group sessions, and prepare a non-assessed essay by the end of the term.

The seminar sessions allow students the opportunity to explore, discuss and clarify issues covered in the lecture course. Each seminar group has its own tutor, whose role is to facilitate students' discussion on the seminar topic. For each seminar session, a subset of the seminar group is designated to 'lead' the topic, based on a greater degree of preparation planned between them. Students are assigned to their topics at the start of the course to allow them time to prepare together. Students are required to choose an essay topic that differs from the topic they presented in the seminars, in order to provide a broader range of depth-preparation in anticipation of the end-of-year paper.

16.1.6 ASSESSMENT METHODS

At the end of the course, essays are graded and commented upon. Students answer 2 (from a choice of 3) essay style questions in Section B of the 3rd BDS Basic Dental Science (Paper 2) examination.

16.1.7 STRENGTHS

There is sufficient curriculum time and teaching resources to support a course delivered by a combination of lectures and seminars, which is felt to be the most appropriate method of teaching the subject. These resources are complimented by recent staff appointments, which enable teaching to be provided by staff whose primary academic expertise lies in a range of behavioural science areas.

16.1.8 WEAKNESSES

The subject faces a challenge of academic ‘ghettoisation’ within the wider curriculum, posed by insufficient links with other subject areas, and a lack of reinforcement of the subject in other areas of the curriculum, particularly in clinical teaching. Although there is sufficient time within the curriculum to provide the course, its concentration into one weekly morning slot during one term has contributed to this.

16.1.9 INNOVATIONS AND BEST PRACTICES

- .1 Improved continuity and coherence to the course resulting from the appointment of appropriate teaching staff;
- .2 Improvement in students’ ability to present balanced arguments on issues by the end of the course;
- .3 The introduction of a new teaching format (lecture/seminar/essay) from the previous format of lectures and short-note class test.

16.1.10 PLANS FOR FUTURE CHANGES

Under the new curriculum, it is planned that behavioural sciences topics will be introduced at more appropriate stages of the degree course, rather than in the current concentrated time-frame and better integrated with the clinical teaching.

16.3 ETHICS & LAW

NAME: Mr M Brennan

EMAIL: brennanmg@cardiff.ac.uk

16.3.1 INTRODUCTION

The following information describes the ethics teaching in the existing BDS curriculum. This will be superseded in due course by an extended ethics programme across the 5 years of the new curriculum. Currently, ethics teaching is as follows:

YEAR 5 - DENTAL ETHICS SEMINAR

This is an interactive small group session involving the use of videos and practical cases.

16.3.2 AIMS

- .1 To introduce some principles of dental ethics and law (including the Four Principles of Biomedical Ethics, truth-telling, the importance of respect for informed consent and confidentiality)
- .2 To explore potential ethical dilemmas in dental practice

16.3.3 OBJECTIVES

By the end of the seminar:

- .1 the student will have a clear understanding of some key principles underlying the ethical practice of dentistry
- .2 the student will be able to apply these principles to dental cases
- .3 the student will be able to discuss ethical dilemmas in an informed way, and form a view as to an ethical course of action

YEAR 6 - DENTAL ETHICS AND LAW SYMPOSIUM

This is an interactive symposium involving students and experts in dental ethics, dental law, and dental practice.

16.3.2 AIMS

- .1 Building on the foundation of the Year 5 seminars on dental ethics, the Dental Ethics symposium will further develop the students' understanding of dental ethics by plenary presentations, small group discussions and plenary debate.
- .2 The session will introduce the students to the role and responsibilities of the General Dental Council in the UK.

16.3.3 OBJECTIVES

- .1 By the end of the symposium, the student will have encountered a range of ethical dilemmas occurring in dental practices. This will be provided by the study and discussion of practical cases.
- .2 The student will have an understanding of the nature of dentistry as a profession, and the ethical requirements and expectations of the GDC and the public.
- .3 The student will be aware of sources of advice, support, codes of conduct and ethical guidelines.

16.3.4 METHOD OF LEARNING/TEACHING

- .1 Large group lecture - presentation of core material

- .2 Small group discussions
- .3 Problem-based learning using cases
- .4 Student handouts
- .5 Videos

16.3.5 STRENGTHS

Ethics teaching is best done in small groups and in a case-based way. This we are able to provide at Cardiff dental school. There is a pool of excellent clinical and pre-clinical teachers available who are interested in this area. We are able to use a range of media (Powerpoint, video, slides etc) in our teaching. Ethics discussions come up in a number of other subject areas as well as those detailed above.

16.3.6 WEAKNESSES

Ideally ethics teaching should start in the student's first year and continue throughout the dental curriculum. We are moving towards this state in the new curriculum, but senior students have missed out on some of the opportunities from which their successors will benefit.

16.3.7 INNOVATIONS AND BEST PRACTICES

Cardiff has been teaching dental ethics and law in a variety of ways for many years. Cardiff dental school has access to specialist teachers in ethics and law. We make extensive use of The DDU teaching pack on dental ethics and law.

16.3.8 PLANS FOR FUTURE CHANGES

These are attached. We are developing a dental ethics curriculum which will involve opportunities for role play, discussions, special study modules, self-directed learning. Ethics teaching will occur throughout the BDS curriculum, involving a range of clinical and pre-clinical teachers.

16.4 JURISPRUDENCE

NAME: Dr D K Whittaker

EMAIL: whittaker@cardiff.ac.uk

16.4.1 INTRODUCTION

This course is managed by the clinical staff of the Department of Basic Dental Science and occurs in the fifth year of the course.

Two lectures are given by a solicitor practising in the field of legal medicine and covers the problems of complaint, litigation, negligence, informed consent, confidentiality and medical records. There are a further five lectures and demonstrations on Clinical Forensic Dentistry covering identification procedures, the role of dental records, bite marks and dentures, giving evidence in Courts and the mass disaster situation.

16.4.2 PRIMARY AIMS

To meet GDC requirements that qualified dentists should be familiar with the legal and forensic principles relating to practice.

16.4.3 MAIN OBJECTIVES

- .1 To broaden knowledge around more traditional clinical subjects.
- .2 To ensure safety of practice.
- .3 To ensure quality of record keeping.
- .4 To prepare dentists to take a wider role in the community.
- .5 To provide clinical examples inter relationship with disciplines outside dentistry.

16.4.4 HOURS IN THE CURRICULUM

7 hours structural teaching plus additional examples given during the Basic Dental Science course.

16.4.5 METHODS OF LEARNING/TEACHING

Mainly by formal lecture and demonstration.

16.4.6 ASSESSMENT METHODS

From time to time forensic and legal questions are set in the Finals Examination.

16.4.7 STRENGTHS

Teaching and course material is related to the busiest and foremost forensic dental unit in the UK.

16.4.8 WEAKNESSES

Limited staff time to develop this subject area in the future.

16.4.9 INNOVATIONS AND BASIC PRACTICE

This is a rarely taught subject area in the course and material associated with it is probably unique in the UK.

16.4.10 PLANS FOR FUTURE CHANGES

To integrate more fully with a course encompassing ethics, law, jurisprudence and forensic matters.

16.5 PRACTICE MANAGEMENT

NAME: Dr A S M Gilmour

EMAIL: gilmour@cardiff.ac.uk

16.5.1 INTRODUCTION

The majority of our undergraduates will make a career in clinical dental practice. Approximately 85% will make a career in General Dental Practice. There are conflicting views about the importance of this topic within the present curriculum, with some strongly feeling that this is an area best dealt with in the GPT scheme. However, for many years our students have benefited from a well-integrated introduction to General Practice course of seminars, lectures and Practice visits. In addition, students visit and work in a number of community clinics both locally and nationally. It is the opinion of those that organise these courses that these introductory sessions and visits are important towards the end of the undergraduate course to allow students to get a “feel” for the world outside.

16.5.2 PRIMARY AIMS

- .1 To introduce the undergraduates to the career opportunities available to them, in particular the environment within which different practices operate.
- .2 To discuss and experience general and community dental practices particularly the management and environments within which such practices operate.

16.5.3 MAIN OBJECTIVES

- .1 Know and understand the different environments in which dental practice is carried out (hospital, community, NHS, Private, Insurance based and corporate body practices)
- .2 Have the opportunity to visit a number of different practices in community clinics and General Practice and discuss the management of such practices
- .3 Discuss the management and running of a General Practice
- .4 Discuss the financial aspects of General Practice including financial planning, and business plans
- .5 Debate the future direction of Dentistry and General Practice

16.5.4 HOURS IN THE CURRICULUM

8 hours seminars on Dental Practice

3 formal lectures

3 visits to different General Dental Practices plus 2 sessions for a debrief and further discussion

Informal seminars at end of clinical sessions to discuss topical issues (e.g. specialisation in practice, changes in GDC guidance etc)

3 hours on Career Symposium

? Community Clinic visit and clinical work

16.5.5 METHOD OF LEARNING/TEACHING

- .1 Discussion/Seminar
- .2 Lecture
- .3 Visits and job shadowing
- .4 Clinical work within practice (community)

16.5.6 ASSESSMENT METHODS

Student feedback

16.5.7 STRENGTHS

Introductory course given ensuring that students are familiar with the opportunities available to them on qualification. An overall understanding of the main benefits and drawbacks of different areas of the profession. Knowledge about where further information can be found.

16.5.8 WEAKNESSES

As an introductory course then it is impossible to cover all aspects of Practice management. Better integration with GPT scheme would permit a more structured long-term development of a more complete course.

The course is run in the penultimate year and would be better integrated into a General Practice Unit environment in the final year.

16.5.9 INNOVATIONS AND BEST PRACTICES

Visiting speakers ranging from accountants, bank employees specialising in Dental practice, Medical Protection representatives and representatives from the new corporate dentistry sector.

16.5.10 PLANS FOR FUTURE CHANGES

Improved integration with GPT schemes. These are already under way.

Re-positioning of this course into the final year possibly in conjunction with a General Practice Unit.

Repositioning of the Careers Symposium

VISITORS COMMENTS (Section 16)

Ethics are taught in an introductory programme at the start of the clinical course. This teaching is reinforced in the 5th year along with jurisprudence. The course is taught partly by members of the school and partly by outside experts including lawyers with appropriate experience. Dr Whittaker, the course organiser, is an internationally acknowledged expert on forensics in dentistry. We feel that there should be an emphasis on ethics throughout the programme and that the existing ethics and jurisprudence programmes should be closely integrated. The forensic aspects of the course should, perhaps, be taught in an elective course.

SECTION 17

EXAMINATIONS, ASSESSMENTS AND COMPETENCES

17.1 INTRODUCTION

The responsibility for the award of the Bachelor of Dental Surgery (BDS) degree lies with the University of Wales devolved to the University of Wales College of Medicine. The responsibility for licensing for practice lies with the General Dental Council who appoint a panel of visitors periodically, to inspect the Dental Degree scheme and confirm that it is adequate for the purpose of producing graduates fit for entry to dental practice. The General Dental Council also appoints a visitor to be present during the Final BDS examination so that the GDC can be satisfied about the standard of the examination. Following successful completion of the BDS Degree Scheme, individuals are certified as “fit to practice” by the Dean of the Dental School.

- .1 Comprehensive assessment procedures are in place to ensure that on graduation, individuals are able to accept independent professional responsibility for the safe and effective care of patients. To this end, a range of assessment methods is used and the subject knowledge, practical skills and professional attitude of each student is monitored. However, the complexity of the course, the division of responsibility between the two colleges and the number of academic departments involved provides a challenge in terms of developing a consistent assessment process. The establishment of Departmental Learning and Teaching Committees, together with the Dental Academic Quality Assurance Committee provide the opportunity for assessment procedures to be reviewed throughout the Dental Degree scheme.
- .2 Assessment procedures are rigorous and designed to provide early and regular feedback whereby students and staff can establish goals, monitor progress and institute corrective action when required. Students are informed of assessment styles and procedures through induction and information lectures by programme co-ordinators and by specific information contained in departmental documentation.
- .3 In the Pre-Dental year, the course has a modular structure; all compulsory modules must be passed. A student may be allowed to proceed to the Pre-Clinical course, at the discretion of the Examining Board, if one non-compulsory module has been failed.
- .4 In the Pre-Clinical course, students are assessed through a number of in-course assessments, coursework and end-of -year papers (2nd BDS Examination. There is diversity in styles of assessment, the style being appropriate for the purpose or stated objective. Assessments are spread throughout the year to encourage the development of good attitudes in relation to consistent study, to give regular feedback on progress in achieving the examiners’ expectations and to help the student identify the required standards. At the end of the Pre-Clinical course, students sit professional/university examinations (2nd BDS) in Anatomy and Oral Biology, Biochemistry and Physiology. These are comprehensive and cover the whole year of the course. Each examination has its own external examiners and methods of assessment to fit differing academic/educational objectives.
- .5 During the Intercalated Degree scheme, learning is assessed through a broad range of procedures. These include mid-term tests in each subject discipline, mandatory essays and external marking of theses resulting from individual research projects. Assessment of laboratory skills, seminar participation, formal presentation of research project data and *viva voce* examinations by external assessors all form a vital part of the learning assessment. All of these criteria are applied rigorously to provide a defined Honours grading system conforming to University of Wales standards and guidelines.

- .6 During the Clinical course, an established system of course assessment is a feature of the monitoring process. Students are assessed by each department under the categories of Academic Work, Practical Work and Professional Attitude; assessments are made twice yearly and are based on grades submitted by Heads of Departments and derived from internal departmental procedures. The Vice-Dean co-ordinates this process and writes to congratulate those who have achieved good assessment grades and arranges interviews with the Students Progress Committee for those with poor grades. These latter students are seen again at a later date to check on progress.
- .7 Departments accumulate information for these formative assessments of student progress from written assignments, periodic class tests, attendance on clinics, attitudes to patients and staff, performance during seminars and other small group teaching encounters and through the quantity and quality of laboratory and clinical work. Although data for course assessments is required every six months, each department has its own internal arrangements for gathering information, based on the topics covered and the nature of the programmes of study. Co-ordination of course assessments is the responsibility of Heads of Departments, together with the Assistant Registrar. Departments also have their own internal procedures for monitoring student progress and for counselling students with learning difficulties.
- There is the potential for variation between departments which may cause confusion amongst the students and led to inconsistency in standards and rigour. One of the roles of the Dental Academic Quality Assurance Committee will be to monitor departmental procedures to ensure consistency.
- .8 Students are assessed prior to entry onto the clinics in order to ensure their fitness to treat patients. The major assessment is conducted during the Phantom Head course organised by the Department of Adult Dental Health: those students who fail to achieve the required standard have the opportunity to practice during additional sessions and resit the tests.
- .9 In Orthodontics and Paediatric Dentistry, the quality and quantity of clinical work are monitored rigorously using a locally developed electronic bar code system. At the end of each month students are given a report on the amount of work undertaken and the grades awarded. This system can identify low work output, poor grades or non-attendance and measures for counselling students “at risk” can be initiated immediately.
- .10 The development of skills appropriate to original and independent study and to presentation are tested in the “Specialised Options” and “Elective Period”, including oral presentations. The ability to practice independently is monitored during the final clinical year on the Close Support clinic. The various outreach schemes also provide opportunities for assessing the ability of students to practice independently; however we are aware that our assessment procedures in District General Hospitals are not sufficiently rigorous and can be improved.
- .11 During the Clinical course, a number of professional examinations are held; these occur at the end of major programmes of study and are designed to identify students with learning difficulties at an early stage. Thus, towards the end of the first clinical year the 3rd BDS Examination includes the Pathological Sciences and Basis Dental Science. Towards the end of the second clinical year the 4th BDS Examination includes Human Diseases (Medicine, Surgery and Pharmacology) and Clinical Dental Surgery.

- .12 The timing and purpose of the Clinical Dental Surgery Examination is important as it provides the opportunity for the identification of students with poor manual skills who may not be suited to a career in Dentistry. The examination contains a restoration of a tooth exercise on a patient which, along with other aspects of the examination and course assessments from the preceding two years allows the formulation of a considered judgement on the manual ability of students. Those students who pass the written papers but find the practical elements difficult have the opportunity of gaining the Degree of Bachelor of Science in Dentistry.
- .13 The Final examination towards the end of the fourth clinical year is a comprehensive test of student ability. It includes four written papers based on the clinical specialities, together with a case presentation and case assessment. Since manual skills were evaluated during the 4th BDS there is no practical examination of the students' ability to restore teeth.
- .14 External Examiners are present at all professional examinations and the University of Wales has guidelines which advise colleges on the management of the system. UWCM and UWC have Codes of Practice which govern the conduct of examinations.
- .15 Anonymous marking of answers during professional examinations and of tooth preparations during the Phantom Head tests has been in place for a number of years. For professional examinations, students are given random numbers by the Administrative Department and the Assistant Registrar then collates the marks for all degree examinations to ensure academic staff do not have access to these numbers until the Meeting of Examiners.
- .16 For many years a system of double-marking of answers during professional examinations has been in place in the Dental School.

17.2 PLANS FOR FUTURE CHANGES

Planning for the new curriculum to be introduced in shadow form in September 2000 include a new system of assessment which is still under consideration. Draft proposals are set out here:

Recommendations for BDS Honours Degree **January 2000**

The Assessment Sub-Group of TMG recommends the following Assessment Scheme for the Classified Honours Degree in Cardiff. Students must pass each part of the degree examination prior to entering the next stage of the course. It will be necessary to monitor the effects of all aspects of this Scheme carefully, and be prepared to modify the Scheme in the light of experience.

- .1 For all Academic Assessments, and for the Clinical elements of the course that are not based on Competency Assessment, the Marking Scheme will be intention marking using a defined criteria.
In Borderline cases at the Final examination, a candidate's mark may only be raised 2% by a good performance elsewhere.
- .2 There will be a structured progression through the course, and the relative contributions of End of Phase Examinations (EoPE), In Course Assessment (ICA), and Course Work (CW) will vary according to the following scheme:

	Primary	Intermediate	Final
EoPE	60%	50%*	45%*
ICA	20%	20%	20%
CW	20%	30%	35%†

* = This will include Clinical/Professional Assessment such as OSCE type assessments, and Clinical Examinations such as Case Presentation and Assessment & Management

† = This will include a Dissertation/Project

The End of Phase Examination will include the degree examinations that *may* include Clinical/Professional assessments such as OSCE or SCOT, phantom head, analysis of bar-code categories for clinical procedures, video, standardised patient examination, 'classical' cavity on a patient, reflective clinical log book, case presentation (retrospective or 'live'), diagnosis and treatment planning on a 'prepared' patient, primary treatment on a casual patient from Exam and Emergency.

In Course Assessment will include Class Tests, Completion and Submission of Assignments on Schedule

Course Work will include Project Work, Special Study Modules, Elective Projects, Reflective Log Books, Attendance, and the special Project/Dissertation

- .3 The final Degree Classification will be based on performance throughout the course, with varying contributions from each professional examination according to the following scheme:

Primary BDS	15%
Intermediate BDS	20%
Final BDS	65%

- .4 Compensation:
- .1 There will be no compensation between Primary, Intermediate and Final BDS
 - .2 Compensation will be allowed between Parts 1 and 2 of Primary and Intermediate BDS
 - .3 Full compensation will be allowed between EoPE, ICA and CW
 - .4 There will be some compensation between 'Academic' and 'Clinical/Professional' assessments at Intermediate and Final BDS
- .5 Competency
- .1 A student must be considered to be 'Competent' in the stated range of skills and procedures by the time of the meeting of the Interim Examination Board for Final BDS. Failure to demonstrate Competence will result in failure of the examination.
 - .2 At Intermediate BDS, students must be able to clearly demonstrate that they are progressing towards Competence. Failure to demonstrate this progress will result in remedial action; continued lack of progress may result in exclusion from the course. In this latter case, if appropriate, and at the discretion of the Board of Dental Studies, the recommended exit degree may be awarded.

- .6 Timing:
- .1 FINALS
 The written Finals examinations will be held in January
 The Special Project/Dissertation must be submitted by the end of April.
 The Interim Examination Board meeting will be held at the end of May
 Clinical and Viva Voce examinations will be held in June.
- .2 INTERMEDIATE BDS
 The written assessments and clinical assessments will take place in May / June
- .3 PRIMARY BDS.
 The written assessments and 'clinical' assessments will take place in May / June
- .4 COMPETENCY
 To an extent this will be a continuous process, however, TMG may wish to have a view on a more formal arrangement for assessment of competency.
- .5 RESITS
 Resits for Primary and Intermediate BDS will take place in the September following the May/June diet.
 The usual University regulations will apply regarding further failures, exclusions etc.

VISITORS COMMENTS (Section 17)

There is an examination at the end of each year, except for year 4. The students wished to have part of the examination on year 5 to be moved to year 4. In year 3 there is an intercalated BSc course which is helping to recruit young researchers. A competence based assessment of clinical ability is under discussion. The examinations are performed with external examiners. Recording of students' clinical activities via an electronic device is performed at the Department of Dental Health and Development. Student evaluation of the programme and courses is carried out continuously.

Students do appear to be subjected to a large number of assessments. The school will find this difficult to continue following the move to a more student-centred curriculum. We would recommend a critical examination of the assessment process, both the types of assessments employed and the frequency and number of assessments.

SECTION 18

OTHER INFLUENCES

- ❖ 18.1 Regional Oral Health Needs**
- ❖ 18.2 Evidence Based Treatments**
- ❖ 18.3 Involvement in other university activities and sport**
- ❖ 18.4 Recreation**
- ❖ 18.5 Student selection procedures**
- ❖ 18.6 Labour Market Perspectives**

18.1 REGIONAL ORAL HEALTH NEEDS

The Dental School and Hospital works very closely with the Chief Dental Officer based at the Welsh Assembly, and also the Director of Dental Public Health in Bro Taf Health Authority. It is via this route that the budget for the hospital facilities to support teaching is fed. For this reason there is a direct link to local and regional oral health needs. At present the clinical service specification for Dental Hospital and Community Services is being developed with Bro Taf Health Authority. At the same time the Dental Hospital is working with the National Purchasing Unit (NPU - based in Sheffield and contracted to the Welsh Assembly) to collect data and establish the service and teaching elements of the Dental Hospital contract.

Although Dental Schools are currently manpower capped within the UK with regard to the production of dentists, this may not always be the case since there are shortages of dentists in mid and north Wales which may require a regional solution. To try and address this latter problem, the dental academic unit at Wrexham was established and the vocational training programme, which graduates proceed to after the undergraduate course has training across Wales. With regard to more detailed assessment of oral health needs, there is a very strong dental public health unit which is recognised as being one of the best in the UK. This unit works closely with the Welsh Assembly collecting data and assisting in the development of oral health strategy for Wales. Further, a number of academics and hospital dentists within the building have been involved in the development of the Welsh and Bro Taf Health Authority Oral Health Strategy.

18.2 EVIDENCE BASED TREATMENTS

Increasingly, guidelines of care for dentistry are being developed in the UK. The students are kept aware of these guidelines and are also educated on the need to audit regularly and test quality of care against standards. In the UK there is a gradual move towards developing standardised methods for the clinical maintenance of governance within dental practice and the undergraduates and junior staff are made aware of this. There is a Dental Clinical Effectiveness unit established in Cardiff which has close links with the Dental School but is run under the auspices of the Postgraduate School of Medical and Dental Education.

18.3 INVOLVEMENT IN OTHER UNIVERSITY ACTIVITIES AND SPORT

There is great opportunity for involvement, particularly with the University at Cardiff, since the students spend their 2nd BDS year specifically within that University environment. Many carry over the sporting club and social links with that University into their time within the campus at the Heath. There is a strong tradition of sport within the Dental School, as an example as recently as two years ago, two members of the international rugby squad were dental students in Cardiff. Throughout the course students have close social, sporting and recreational ties with the other Schools comprising UWCM. There is a medical club to which all students belong with offices and facilities on the ground floor of the student residence block (Neuadd Meirionnydd).

18.4 RECREATION

When the dental undergraduate course was originally established, an afternoon a week was set aside for sport, recreation and general time for reflection. It has been recognised that as the undergraduate course has become more congested, this time for reflection has been gradually lost. It is now recognised that we need to allow more time away from structured teaching and

this will be built in as part of the new undergraduate curriculum due for launch in two years time.

18.5 STUDENT SELECTION PROCEDURES

All Undergraduate applications are routed through the Universities and Colleges Admissions Service (UCAS). The standard entry requirement, on the basis of 'A' levels is currently for ABB grades to be obtained at the first sitting. We would expect to receive approximately 500 applications for the 55 places available on the five year (A206) course. For the September intake to this course, the average points score was 26 points.

18.6 LABOUR MARKET PERSPECTIVES

There is careful national manpower planning for dentists in the UK and very few problems with graduates getting jobs. Where there is some difficulty, is for some of the students finding the required vocational training place for the extra year's training after graduation. Currently there are not quite enough places within Wales for our graduates. Approximately one half of our graduates stay in Wales during the first five years after graduation.

VISITORS COMMENTS (Section 18)

The students told us that Cardiff is a very attractive area for students. This is mirrored in the high calibre of applicants and the numbers applying for entry. There is no lack of job opportunities for new graduates.

SECTION 19

STUDENT AFFAIRS

- ❖ **19.1 Basic Data from Dental Schools**
- ❖ **19.2 First level courses**
- ❖ **19.3 Postgraduate courses**
- ❖ **19.4 Student counselling services**

19.1 BASIC DATA

19.1.1 STUDENT REPRESENTATIVES

Student President: Mr Philip Boamah

Vice-President: Miss Bann Salman

Final (Sixth) Year: Mr Andrew McDonnell

Miss Sarah Merrett

Mr Roger Owens

5th BDS Year: Miss Sarah Childs

Mr Daniel Scarlat

4th BDS Year: Mr Alex Michael

Miss Katherine Short

Mr John Wells

3rd BDS Year: Miss Clare Evans

Miss Bethan Parry

Miss Irene Pasisi

2nd BDS Year

(Pre-Clinical): Miss Lucy Penton

Miss Catherine Webster

19.1.2 STUDENT INFORMATION

- .1 Average number of dental students graduating per year: 50
- .2 Average number of dental students admitted in the first year: 55
- .3 Length of course: 5 Years (6 Years for students pursuing pre-Dental foundation year)
- .4 Vocational training (1 year) follows graduation.
- .5 The Postgraduate Department of the Dental School co-ordinates VT activity across Wales but there is no formal, direct link between the undergraduate course and VT opportunities. A Liaison group has been established between academic staff and VT organisers in order to provide a more seamless structure.

On graduating, newly-qualified dentists have the option of joining a VT programme, undertaking General Professional Training or taking up a House Officer post.

19.1.3 BREAKDOWN OF STUDENT NUMBERS ON BDS COURSE

	HOME		EC		OVERSEAS	
	M	F	M	F	M	F
1 st BDS (Pre-Dental Year)	1	5	1	1	0	0
2 nd BDS (Pre-Clinical Year)	21	29	0	5	1	0
3 rd BDS (1 st Clinical Year)	25	23	4	2	1	5
4 th BDS (2 nd Clinical Year)	33	22	2	1	1	1
5 th BDS (3 rd Clinical Year)	16	21	6	4	0	3
6 th BDS (4 th Clinical Year)	25	21	5	4	0	3
TOTAL	121	121	18	17	3	12

19.2 FIRST LEVEL COURSES

FIRST LEVEL COURSES

SCHEME TITLE / LEVEL	DURATION	STATUS	NUMBERS	AWARDING BODY
Bachelor of Dental Surgery	5 years (6 with pre-Dental year)	Full Time	c. 55 per annum	University of Wales College of Medicine / University of Wales
BSc (Honours) in Dental Science	1 year	Full Time	c. 4 per annum	University of Wales College of Medicine / University of Wales
Diploma in Dental Hygiene	1 year and 9 months	Full Time	c. 8 per annum	University of Wales College of Medicine (From January 2000)
Diploma in Dental Therapy	2 years and 3 months	Full Time	c. 8 per annum	University of Wales College of Medicine
BSc in Dental Technology	3 years	Full Time	c. 17 per annum	University of Wales Institute, Cardiff

19.3 POSTGRADUATE COURSES

SCHEME TITLE / LEVEL	DURATION	STATUS	NUMBERS	AWARDING BODY
MScD in Orthodontics	3 years	Full Time	c. 3 per annum	University of Wales College of Medicine
MScD in Orthodontics	4 years	Part Time	c. 3 per annum	University of Wales College of Medicine
MSc in Forensic Dentistry	1 year	Full Time	c. 3 per annum	University of Wales College of Medicine
MSc in Forensic Dentistry	2 years	Part Time	c. 3 per annum	University of Wales College of Medicine
MScD in Prosthetic Dentistry	2 years	Full Time	c. 3 per annum	University of Wales College of Medicine
MScD in Periodontal Sciences	2 years	Full Time	c. 3 per annum	University of Wales College of Medicine
MScD in Conservative Dentistry	2 years	Full Time	c. 3 per annum	University of Wales College of Medicine
MScD in Oral Surgery, Medicine and Pathology	1 year	Full Time	c. 3 per annum	University of Wales College of Medicine
MScD in Oral Surgery, Medicine and Pathology	2 years	Part Time	c. 3 per annum	University of Wales College of Medicine
M.Phil in Basic Dental Science	2 years	Part Time	c. 3 per annum	University of Wales College of Medicine
M.Phil in Paediatric Dentistry	2 years	Part Time	c. 3 per annum	University of Wales College of Medicine

19.4 STUDENT SUPPORT AND COUNSELLING

Each undergraduate dental student is allocated a member of the full-time academic staff as a personal tutor. Tutors are requested to make contact with their students at least once during the first term of each academic year. Students are encouraged to discuss any academic problems and seek assistance on the resolution of personal problems with their tutor. Tutors are also provided with the course assessment grades of their students and these can be disclosed and discussed by appointment. The Tutors Sub-Committee meets twice-yearly and is at present considering the introduction of a Handbook for Tutors which will provide advice on role and responsibilities of tutors. It has been further recommended that tutors seek to keep formal records of their meetings with students as a means of ensuring that all students' progress can be adequately monitored. Overall responsibility for the management of the tutorial system rests with the Sub-Dean of Clinical Studies.

A Student Support Service has been established within the College to deal with problems of a personal, financial or academic nature which students may encounter. The Support Service

employs two trained counsellors who can offer confidential assistance and advice to students, and it is recommended that personal tutors seek to refer the students to the counselling service when seeking specific advice or the resolution of sensitive issues.

The College has also established a Learning Support Service to which a Learning Support Officer has been appointed. The Learning Support Service offers a range of facilities including advice in claiming Disabled Students' Allowance, literature on specific learning difficulties and a range of IT applications to assist in the learning process.

Students are issued at registration with a copy of the Student Charter which stipulates the responsibilities of both the College and individual students in the provision of an accessible and effective support system. Similarly, the School Staff-Student Committee provides a forum for discussing the operation of the personal tutor system.

In 1998 the College introduced a Student Complaints Procedure which outlines clearly the mechanisms which exist within the College for the resolution of a complaint which a student may have in relation to their course of study or wider issues such as accommodation or facilities.

VISITORS COMMENTS (Section 19)

The intake of students is 55 per year and the number of students graduating per year is on average 50, which is a reasonable level of drop-out of students. The students pay fees of approximately Stg£1000 per year. The school trains 8 dental hygienists, 8 dental therapists and 17 dental technicians per year. These receive their diplomas from the college or from the University of Wales Institute of Cardiff.

The students told us that they have very good relations with the staff of the dental school. There is a good level of student representation on practically all committees in the school.

SECTION 20

RESEARCH AND PUBLICATIONS

20.1 Number of publications in refereed journals: 247**PUBLICATIONS FOR EACH DEPARTMENT BY YEAR**

	1997	1998	1999	<u>TOTAL</u>
ADULT DENTAL HEALTH	24	32	12	68
BASIC DENTAL SCIENCE	14	20	6	40
DENTAL HEALTH AND DEVELOPMENT	18	45	5	68
ORAL SURGERY, MEDICINE AND PATHOLOGY	20	36	15	71

20.2 Number of textbooks published by staff: 10

20.3 Number of chapters in books: 20

20.4 Grants received over 1000 euros: 88

20.5 Number of invited presentations at international meetings: 40

LIST OF PUBLICATIONS

(Appendix 3, available on request)

SECTION 21

QUALITY DEVELOPMENT OR CONTINUOUS IMPROVEMENT POLICIES/SCHEMES

21- QUALITY DEVELOPMENT OR CONTINUOUS IMPROVEMENT POLICIES / SCHEMES

Name: Professor P M H Dummer

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21.1 QUALITY ASSURANCE

- .1 Quality assurance within the College is overseen by the Academic Standards and Quality Committee (See Quality Committee structure, Section 3). At School level, the work of the ASQC is underpinned by the Board of Dental Studies and DAQAC. As well as maintaining the standard of academic quality assurance, the School has sought to promulgate good practice. In 1998 the School produced a Quality Assurance manual for the undergraduate dental programme which identified a standard policy for the recruitment, assessment and monitoring of students within the School. Similarly, DAQAC has devised a series of robust action plans to deal with recommendation and shortcomings arising from the Funding Council's Teaching Quality Assessment exercise conducted in December 1997. Issues raised within the action plans have been considered and acted upon in a systematic fashion.
- .2 In relation to clinical service, there is an ongoing audit programme which is regularly reported to the Health Authority, supported by quality committees at Dental School and NHS Trust level. There are minutes available of these meetings which indicate the evaluation activities on clinical standards. The School has a continuing ongoing process for improving and implementing new quality development methods in all three areas of teaching, service and research.

21.2 STAFF DEVELOPMENT

- .1 At College level, an annual staff development programme is produced which offers staff the opportunity to participate in a wide variety of training courses, many of which have been identified as a result of the appraisal process. Training programmes include the development of personal and professional skills, defining management roles, media training and IT proficiency. Heads of Department accept a specific managerial responsibility in order to assist staff in developing their performance and effectiveness.
- .2 Staff appraisal is held on an annual basis and the process includes the identification of training and development needs. The appraisal interview is centred upon documentation which identifies teaching as a specific area for discussion. Staff training days have been organised which seek to foster a better understanding of the appraisal process and to enable appraisers and appraisees to clarify performance and development objectives.
- .3 The College is currently considering methodologies for the identification and subsequent reward of excellence in teaching in order that greater recognition is afforded to value of teaching as a promotion criterion.

- .4 At School level, academic staff with honorary clinical contracts with the NHS Trust undergo rigorous clinical training in order to comply and maintain proficiency with the various requirements of the Royal College and the Trust itself.

21.3 INTERNATIONAL CONTACTS - UNDERGRADUATE PROGRAMME

- .1 The School has Erasmus partnership agreements for undergraduate student exchange (and staff exchange) with the following Dental Schools:

Malmö (Sweden)	6 students	3 months
ACTA (Netherlands)	2 students	3 months
Padova (Italy)	2 students	3 months
Helsinki (Finland)	2 students	3 months

For 2000/1:

Barcelona (Spain)	2 students	3 months
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Agreed, but Institutional Contract not signed:

Dublin (Ireland)	2 students	3 months
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This is a relatively new venture for the school that started in 1998. To date we have hosted:

3 students from Malmö (with some expected at the end of January 2000)
 2 students from ACTA (with 2 currently on exchange)
 3 students from Padova

We have sent:

3 students to Malmö (with 3 more due to go at the beginning of March)
 2 students to ACTA (with 2 more due to go at the beginning of March)

- .2 A successful meeting of the Erasmus partners with Cardiff was held in Cardiff in November 1999, linked to a European Dental Education Symposium 'Developing Dental Education Fit For the 21st Century' held in South Wales. Reports of both meetings are available.
- .3 International Contacts are also established through the elective programme. The majority of students will spend this 6-week block of time at the end of the 4th year at

- an academic institution outside the UK. Extensive use is made of international staff contacts to arrange an appropriate venue and project.
- .4 In addition to the formal Erasmus links, we will also, facilities permitting, accept students for varying periods of time on a 'goodwill' basis. This is usually, but not exclusively, for clinical practice. Sporadically overseas undergraduate students will spend their elective working with a particular member of staff.

SECTION 22

VISITORS EXECUTIVE SUMMARY ON THE SCHOOL

We wish to thank the Dean, Professor ML Jones and the Vice Dean, Dr DH Edmunds for the courtesy and welcome which they and their staff extended to us. We also wish to thank Mr M Brennan, Dr RG Oliver and Mr H Richards who organised much of the visit and Professor BJ Moxham who acted as our guide in Cardiff University School of Biosciences.

22.1. Aims and objectives

The aims and objectives of the school fulfil the requirements to produce a dentist of high standards. However, we recommend that the school include in its mission statement a clear definition of the dentist they wish to produce.

22.2 Programme characteristics

The dental school in Cardiff presently has a traditional programme for dental education which is in progress of changing to a more student-directed learning programme to be implemented in the academic year 2001-2002. In the plans for the future programme there is a strong tendency to integrate different basic and clinical subjects. The education is of high European standard and the school has links to many dental institutions in other European countries. A strong characteristic of the programme is the integrated patient care in the latter years and an extensive co-operation with community dental services.

22.3 Facilities

The school is in the middle of a major refurbishment. The new clinical facilities are of high standard. The introduction of small group directed learning will require much greater provision of seminar rooms.

22.4 Educational approaches

The present curriculum is traditional with lectures and a relatively low degree of integration between different basic and clinical subjects. Two departments have started projects with problem-based learning and in the future curriculum there is a strong tendency to integrate different basic and clinical subjects.

22.5. Examinations and assessment

The students wished to have part of the examination on year 5 to be moved to year 4. In year 3 there is an intercalated BSc course which is helping to recruit young researchers. A competence based assessment of clinical ability is under discussion. The examinations are performed with external examiners.

The students' clinical activities were recorded via an electronic device in the Dept. of Dental Health and Development.

Students do appear to be subjected to a large number of assessments. The school will find this difficult to continue following the move to a more student-centred curriculum. We would recommend a critical examination of the assessment process, both the types of assessments employed and the frequency and number of assessments.

Student evaluation of the programme and courses is carried out continuously.

22.6. Students

Fifty-five students are admitted per year, the intake is based on a combination of grades, school reports and interviews. On average 50 students qualify per year as a dentist. The students pay fees of approximately Stg£1000 per year.

The school also trains 8 dental hygienists, 8 dental therapists and 17 dental technicians per year.

22.7. Staff

Staffing is adequate but there is an ageing staff profile which must cause the school some concern. We recommend that the school should clearly identify current vacancies and those projected in the foreseeable future and should develop strategies to solve the resulting problems e.g. attracting extra staff now, or considering combining departments, or working in collaboration with other schools to share some position.

There is good administrative and technical support staff. However, the administrative structure seems to be very complex and bureaucratic.

22.8. International exposure

Links have been established with other schools in Europe and the school is working on increasing the links with more countries. There is a programme established with dental education in Latvia and this programme seems to be of great value for the development of the dental education in Latvia.

22.9. Quality assurance

There is an excellent academic quality programme that has been developed by the dental school. The school is leading this development and a professor from the dental school is chairing the committee for Academic Standards & Quality at the University of Wales College of Medicine.

Student evaluation of the programme and courses is carried out continuously.

22.10. Strengths

- *Enthusiastic, committed and well-trained academic and support staff throughout the school.*
- *Participation in frequent staff and student exchanges through programmes such as Erasmus/Socrates.*
- *Close co-operation between oral health staff and the medical and basic science teachers.*
- *Clear overall and specific aims and objectives for all parts of the curriculum.*
- *An integrated approach towards patient care.*
- *Present evaluation and development of the curriculum.*
- *Facilities being upgraded to a high standard.*
- *Separate dental library with a large number of journals.*
- *Multidisciplinary facilities at the University College.*
- *Good availability of patients.*
- *Close collaboration with community dental services in Wales in patient care and postgraduate training.*
- *Enthusiastic and responsive students.*
- *Student involvement in school committees.*

22.11. Weaknesses

- *The traditional nature of the curriculum.*
- *Poor horizontal and vertical integration.*
- *Limited exposure to minor oral surgery.*
- *Exposure to clinical situations late in the curriculum.*

22.12. Innovations

- *Integrated clinic in programme.*
- *Development of a competency based programme in the new curriculum.*
- *Close co-operation with the community dental services.*
- *Dental academic quality assurance committee conducting annual course reviews.*
- *Intercalated interdisciplinary BSc degree; students' research projects are introduced at an early stage.*
- *Continuous staff development program.*
- *Recording of students' activities via an electronic device in the Department of Dental Health and Development.*

22.13. Recommendations

1. *Continue refurbishment of facilities.*
2. *Strategy for replacement of senior staff as they retire.*
3. *Introduction of a computerised patient-management system.*
4. *Co-ordinate staff research interests.*
5. *Continue to cultivate an integrated patient care.*
6. *Develop further the concept of teamwork between dental students, dental hygienists, therapists and technicians.*
7. *Continue the development of methods to enhance student-oriented learning.*
8. *Continue to integrate different disciplines, and preclinical with clinical studies.*