C O N T E N T S

A   Governance and Management

B   Quality Assurance

A   Governance and Management

Criterion:

The College's governance, management, financial control and quality assurance arrangements are sufficient to manage existing operations and respond to development and change.

A1   Background

A1.1   Imperial College of Science, Technology and Medicine is an independent institution within the University of London. It was established by Royal Charter in 1907 as a merger of the Royal College of Science, the City and Guilds College and the Royal School of Mines. St Mary's Hospital Medical School and the National Heart and Lung Institute merged with the College in 1988 and 1995 respectively. In 1997 the Charing Cross and Westminster Medical School and the Royal Postgraduate Medical School merged with the College to form, together with the existing medical departments on the St Mary's and Royal Brompton campuses, the Imperial College School of Medicine. On 1 August 2000, the College also merged with Wye College and with the Kennedy Institute of Rheumatology.

A1.2   The College is one of the UK's major sources of scientists and engineers and maintains a full range of scientific, engineering and medical disciplines. It is also one of the largest academic institutions in the UK as measured by turnover. In 1998-99 this was £330M. With the merger of Wye College and the Kennedy Institute of Rheumatology this year, projected income for the academic year 2000-01 has risen to £354M.

A1.3   In 1999/2000 6747 students were following undergraduate courses, 1516 were following postgraduate taught courses and 2124 were undertaking research, a combined FTE of 9907.   The College employed 1077 academic staff, 1490 research staff and 2731 support staff.

A1.4   The main College campus is situated in South Kensington. The College also has campuses at teaching hospitals in West London (Charing Cross, Chelsea and Westminster, Hammersmith and St Mary's), at Silwood Park, near Ascot and at Wye in Kent.

A2   Aims

A2.1   The aims of the College are:

- to be counted among the leading institutions in the world for research, teaching and education in science, engineering and medicine;

- to attract the most able students world-wide and to educate them in a way that fosters technical excellence, originality and breadth of vision;

- to provide an environment in which both original research of all kinds and its application to useful purposes flourish;

- to communicate to the widest possible community the significance and intellectual excitement of scientific fields in general and the College's work in particular.

A3   Governance structure

A3.1   To reflect the mergers with the medical schools in 1997, Imperial College was granted a new Royal Charter and Statutes by Her Majesty the Queen which took effect from 1st October 1998. [1] These define the objects of the College as "to provide the highest specialised instruction and the most advanced training, education, research and scholarship in science, technology and medicine, especially in their application to industry; and in pursuit of these to act in co-operation with other bodies."

A3.2   The College, as constituted by this Charter, consists of the members of the Court and of the Council, the Fellows of the College, the academic, and academic-related staff, the students and other members of the College. It has the power to do any lawful thing in furtherance of its objects and has the power: to award diplomas and certificates; to acquire, own, maintain, manage and dispose of real and other property; to solicit, receive and administer grants, fees, subscriptions, donations, endowments, legacies, gifts and loans of any property whatsoever, whether real or personal; to act as trustee for and in relation to endowments, legacies and gifts; to invest any monies in accordance with the relevant law and its own Statutes; to

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(1)   Annex A: Charter and Statutes of the Imperial College of Science, Technology and Medicine 1998.

borrow and raise money; to enter into engagements and to accept obligations and liabilities; and generally to do all other lawful acts whatsoever.

A3.3   The Charter and Statutes require the College to have three separate bodies, each with clearly defined functions and responsibilities in relation to governance and management, to oversee and manage its activities.

A3.4   *The Council* is "the governing and executive body of the College", replacing the previous Governing Body and its Executive Committee. There are 32 members of the Council with a lay majority including the Chairman, Honorary Treasurer and 15 other lay members. The Rector, Deputy Rector and President of the Students' Union are *ex officio* members and there are six representatives of the senior academic staff, together with six other academic staff representatives elected by their own constituencies. [2]

A3.5   *The Court* is a large, mainly formal body consisting of some 160 members appointed or elected by bodies representing educational, research, international, regional, local and staff constituencies. The Court normally meets once a year to receive the Annual Report and Accounts of the College. In addition, major changes to the College's constitution require the approval of the Court before they can be submitted to the Privy Council. [3]

A3.6   *The Senate* is the academic authority of the College and draws its membership entirely from the academic staff and the students of the College. Its role is to direct and regulate the teaching and research work of the College (see B5.1 and Annex P).

A3.7   Although the Council meets at least three, and normally six, times a year, much of its detailed business is handled initially by a variety of Committees, each of which reports annually to the Council. These Committees are formally constituted as committees of the Council with written terms of reference and specified membership, including a significant proportion of lay members. [4]

A3.8   *The Audit Committee* meets three times a year and is chaired by a lay member of the Court. It reviews the effectiveness of the College's financial procedures and compliance with them; it receives and comments on the annual accounts and the reports of external auditors; and it monitors the scope and effectiveness of the Internal Audit Service. The Committee, which meets the external auditors on a regular basis, reports directly to the Council and has the authority to call for any information from the College officers, from internal and external auditors and from others which it considers necessary to discharge its responsibilities effectively.

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(2)   Annex B: Members of the Council 1999-2000.
(3)   Annex C: Members of the Court 1999-2000.
(4)   Annex D: Composition and Terms of Reference of Council Committees.

A3.9   ***The Finance Strategy Committee*** is chaired by the Honorary Treasurer, a lay Governor. Its remit is to advise on financial strategy with particular reference to the maintenance and enhancement of the College's financial viability, and to assess the financial implications of College developments.

A3.10   ***The Investments Committee*** is chaired by a lay Governor. Its remit is to determine College policy on Investments in respect of both general and specific funds and to control and monitor the performance of investment managers and advisors.

A3.11   The Council is also assisted in its work by ***the Athletics Committee, the Estates Committee, the Fellowships Committee, the Governance Committee, the Health and Safety Audit Committee, the House Committee, the Nominations Committee*** and ***the Remuneration Committee***.

A3.12   The College maintains a Register of Interests of members of the Council and of Senior Officers which may be consulted by arrangement with the Clerk to the Court and Council.

A3.13   During Summer 2000 the Governance Committee conducted a review of the effectiveness of the governing body using the questionnaire produced by the Committee of University Chairman as the basis for the review. An initial report of the Committee's findings was made to the Council in October 2000. The Committee reported that the Council and its sub-committees were generally effective although there were areas in which there was room for improvement. The Council agreed that the report was a satisfactory summation of its current position but felt that it was too descriptive and its recommendations for how the Council's effectiveness might be improved could be strengthened. The Committee was therefore asked to reconvene to reconsider the Report and to strengthen its recommendations, particularly in respect of the induction arrangements for governors and how the Council's effectiveness might be enhanced. The Committee is due to reconsider the Report in early 2001.

A4   Management Structure

A4.1   The chief academic and administrative officer of the College is the Rector. His duties, which are prescribed in the Statutes, make him responsible for ensuring that the objects of the College are fulfilled, for maintaining and promoting the efficient and proper management of the affairs of the College, and for such other duties as may be prescribed by Regulation or determined by the Council from time to time. Under the terms of the Financial Memorandum between the College and the Higher Education Funding Council for England the Rector is the designated officer of the College. The Rector is advised on the management of the College by the Pro Rectors, comprising the Deputy Rector (who is also, at present, the Pro Rector for Resources and for

Research), the Pro Rectors for Educational Quality, for Projects and for External Relations, and the Provost of Wye.

A4.2   The Rector is also advised by a number of Rector's Committees. [5] The most important of these is the Management and Planning Group (MPG), which meets once every two weeks. Its remit is specifically "to advise the Rector on policy, management and planning matters and to establish and keep under review a three year rolling plan for the College." Its membership currently consists of the Rector, Deputy Rector, Pro Rectors, the Principal ICSM, a Vice Principal ICSM, three academic Heads of Department appointed by the Rector and representing the science, engineering and medical departments respectively, the Director of Planning and Management Information and the College Secretary.

A5   Academic Structure

A5.1   The College operates a highly devolved management structure, whereby authority, and the financial and other resources to discharge it, are delegated to the heads of departments, divisions and independent centres, all of whom report directly to the Rector. Recent increases in interdisciplinary activity have blurred the traditional demarcation between science and engineering departments, giving rise to a number of interdisciplinary schools and centres. The academic structure is flexible and the College expects that it will continue to evolve to meet changing academic needs.

A5.2   The current arrangement of academic units is as follows:

Departments	Centres
Biochemistry	Composite Materials
Biology	History of Science, Technology and Medicine
Chemistry	
Physics	Planning and Resource Control (IC-PARC)
Mathematics	Centre for Process Systems Engineering
Aeronautics	Structural Biology
Biological and Medical Systems	
Chemical Engineering & Chemical Technology	
Civil & Environmental Engineering	
Computing	
Electrical & Electronic Engineering	

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(5)   Annex E: Composition and Terms of Reference of Rector's Committees.

Materials
Mechanical Engineering

Imperial College School of Medicine

Divisions	Schools
Biomedical Sciences	
Investigative Science	TH Huxley School of Environment,
Medicine	Earth Sciences and Engineering
National Heart and Lung Institute	The Management School
Neuroscience and Psychological Medicine	
Paediatrics, Obstetrics & Gynaecology	Academic Service Centres
Primary Care & Population Health Sciences	Library
	Centre for Computing Services
Surgery, Anaesthetics & Intensive Care	Centre for Continuing Education
Kennedy Institute	Humanities
	Centre for Educational Development

A5.3   Heads of the academic departments, divisions and independent centres are appointed for a fixed term, normally of five years, which is renewable once. They have a large measure of autonomy in setting their organisation's overall academic strategy, but are directly responsible to the Rector in all respects for the achievement of their academic and financial goals and for their staff welfare, safety and a range of other functions. These responsibilities are set out in a formal Memorandum of Understanding (MoU) between the Rector and the Head of Department/Division (HoD) which is reviewed and signed annually by both parties. [6]

A6   The Imperial College School of Medicine (ICSM)

A6.1   The ICSM was formed in 1997 by the merger of four Medical institutions, St Mary's Hospital Medical School, Charing Cross and Westminster Medical School, the National Heart and Lung Institute and the Royal Postgraduate Medical School. The School represents about 50% of the College in terms of turnover and staff, and 23% of the students. With the creation of the School, almost overnight the College became a much larger and significantly more complex multi-campus institution.

A6.2   The ICSM is headed by the Principal who is responsible to the Rector for its performance and strategy. He controls the distribution of College funding allocated to ICSM and to the various divisions of the School. He is supported by a Vice Principal who is his Deputy but also has a particular responsibility for Research within the School of Medicine.

A7   Deans

A7.1   The role of Deans at Imperial College differs from that in other institutions in that they have a representative rather than an executive function. There are five Deans who are elected from among the Professors in each of the 'Constituent Colleges' (*i.e.* the Royal College of Science, the Royal School of Mines, the City and Guilds College and the School of Medicine) by the academic staff of each Constituent College. Because of its relative size, there are two Deans for the School of Medicine - one elected from among the clinical professors, and one from among the non-clinical professors. The Deans monitor academic standards across the College, provide advice to the Rector, chair a number of *ad hoc* and formal College academic committees and play an important part in the academic promotions and appointments processes where they ensure that proper procedures are followed and that equity is maintained.

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(6)   Annex F: MoU between the Rector and a HoD

A8   Administrative Management

A8.1   The College's central administration is structured on a number of well-defined functional divisions as follows:

Administrative Divisions

Estates
Finance
Personnel
Planning and Management Information Services
Registry
Research Support and Development

The Heads of these Divisions, collectively the Heads of Administration, report directly to the Rector. The College Secretary, who is also responsible for a wide range of support functions such as central secretariat, internal audit, residences, catering, security, safety and sport, co-ordinates the activities of the administrative divisions.

A9   Academic and Financial Planning

A9.1   A fundamental principle of the College's operation is that decisions and resources are placed at the level where they can most appropriately be made and applied. As a result, academic planning is mainly undertaken 'bottom-up' within departments and divisions. The College has well developed tools to facilitate and monitor this process. Streamlined central support and approval procedures allow external opportunities to be exploited rapidly when appropriate. Key to the success of this planning strategy is the appointment of able staff at all levels. The College allows and encourages the greatest possible freedom of action and choice to staff (consistent with the proper use of funds) especially in determining research priorities. Only through this can it continue to attract and retain the most able staff. The function of central College planning is to provide the infrastructure, physical and organisational, in which academic planning can thrive.

A9.2   The College's academic priorities in support of its mission are implemented principally through its resource allocation methodology. For recurrent funding, these priorities are not expressed in terms of fields of academic work but through general incentives built into a competitive, formula driven, allocation of resources. Through annual review the College refines these financial incentives reflecting, mainly, changes in the external environment. Departments/divisions which manage their activity to realise their maximum academic potential also, by design, maximise their net income. This, in turn, maximises the income and academic attainment of the whole College. Over time, departments/divisions which adapt well to the resourcing environment created by the College will, and do, develop academically and further the mission of

the College and those which do not will, and do, decline unless corrective action is taken.

A10   Resource Allocation

A10.1   The mechanism by which the College distributes funds to academic Departments is thus a formula which favours activity which the College wishes to reward. Resource allocation is therefore an integral part of the College's strategic planning process. The formula is reviewed annually by a small working party comprising nine members of the senior academic and administrative staff. In contrast to the HEFCE resource allocation model, the College formula places greater emphasis on recent teaching and research activity and less on historical data from the previous Research Assessment Exercise. A second formula then distributes infrastructure costs according to activity, and departments/divisions receive the resultant net vote.

A11   Gross Vote Allocation

A11.1   The funds distributed by this formula comprise all HEFCE recurrent income for teaching and research, any HEFCE general non-formula funding, fees and other general income, less the operating surplus (3% in 1999-00) and funds top-sliced for the Pro Rector (Resources)'s Reserve, a Rationalisation Fund, any necessary provision for increases in deficit balances and any vote allocations made outside the formula. This sum is split into separate teaching and research 'pots' in the same ratio as teaching and research funds flow into the College, and allocated according to the gross vote formulae for teaching and research. Departments are given credit for research activity and for student numbers up to individual limits (their vote-funded numbers) which are revised each year. The total sum available for distribution *via* the gross vote formula in 1999-2000 was £111M.

A11.2   For the purposes of the gross vote allocation, the School of Medicine is treated as a single department. It therefore receives as a lump sum the allocation of funds for all its divisions as well as for its central administration. Funds are distributed to the ICSM divisions by a separate vote formula which is determined annually by the School of Medicine Finance Committee and approved by MPG. Although funds are distributed to the divisions by ICSM, each Head of Division is directly responsible to the Rector in all respects for the achievement of their academic and financial goals and for their staff welfare, safety and a range of other functions.

A12   Infrastructure Charge

A12.1   A total of £53.7M was budgeted for infrastructure costs for 1999-2000, including provision for the costs of the Central Administration, long term maintenance and depreciation. This was charged to departments *pro rata* according to the use they

made of each facility or service, represented by a set of proxy measures for activity, such as numbers of different types of students, number and value of research grants and numbers of different types of staff. In 2000-2001 accommodation costs were charged to academic departments/ divisions in the form of a charge per square metre of space occupied and a protocol was established under which departments/divisions could surrender to the Centre for re-allocation space they did not require, or could no longer afford.

A13   Departmental Plans

A13.1   Each year, all academic, academic service and administrative departments and divisions are required to prepare five-year plans which are reviewed at planning meetings, held from January to May. Academic departmental plans are embodied in a set of spreadsheets, containing detailed financial data and information about student and staff numbers, together with supporting documentation in the form of answers to a standard set of questions about recruitment, courses offered and planned, proposed staff changes, financial expectations, premises issues, health and safety and any other matters which departments wish to bring to the attention of the College's central administration. At each department/division's planning meeting its plan is scrutinised and tested by the Deputy Rector, on behalf of the Rector, for its practicality and coherence with the College's aims and policies.

A13.2   The plan, once agreed, sets the department/division's budget and operational targets for the following year. Summaries of each budget and plan are prepared centrally and reported to the Management and Planning Group (MPG) in early June. The overall College budget for the coming financial year is then approved by the Council later in the month for implementation from 1 August. In-year progress against departments' and divisions' financial plans is monitored centrally and reported regularly to both MPG and to the Council. Any major variances which arise during the year are investigated in order that corrective action, if necessary, can be taken.

A13.3   The individual plans are collated to produce a picture of academic expectations over the planning period. This does not necessarily translate into the College's overall plan, since a certain amount of moderation is required. Nonetheless, the plans usually provide an accurate means of predicting academic activity for at least the following year, allowing the College to monitor overall progress and make timely financial provision.

A14   Current Strategic Priorities

A14.1   The College recognises that the most innovative research and teaching will, in future, be focused increasingly not on individual academic disciplines but on inter-disciplinary subject areas. The College has identified the four areas of Biomedicine, Environmental Science and Engineering, Information Technology and Materials as its

current strategic priorities. Academic activity is already being encouraged within these areas by means of restructuring, space management and resource allocation. The new Sir Alexander Fleming Building co-locates the Division of Biomedical Sciences and the Department of Biology within a state-of-the-art research and teaching environment at the heart of the South Kensington campus. Environmental science and engineering have been brought together by merging the former Departments of Geology and Earth Resources Engineering with the Centre for Environmental Technology to form the T.H. Huxley School of Environment, Earth Sciences and Engineering. Advances in information technology are changing all aspects of the College environment, ranging from the high performance computing resources now available to all College researchers to the Library's commitment to desktop delivery of all library services. The fourth area, Materials, is in an innovative phase of development and new materials will be key to much of the interdisciplinary research which will notably involve the School of Medicine. The formation of the new Graduate School in Life Sciences and Medicine in 1999 will also foster interdisciplinary research and support new four-year postgraduate research programmes.

A14.2   Despite the current emphasis on interdisciplinary work, the College recognises that its academic progress is underpinned by fundamental work in the sciences. Basic science generates the intellectual raw material for future medical and engineering applications. The College's continued investment in this area is important to ensure that the College maintains its leading position in this field.

A14.3   The two most recent mergers have served to complete the College's academic portfolio within the disciplines of science, technology and medicine. The first, with Wye College of Agriculture, fills the last major gap in the College's environmental portfolio by adding four agricultural departments to the T.H. Huxley School of Environment, Earth Sciences and Engineering. At the same time Wye's activity in biological sciences merges with that of the Department of Biology. New courses and research initiatives are being planned to take advantage of the many synergies in environmental, biological and biochemical disciplines and the new opportunities created by Wye's expertise and resources. The merger will also open up exciting opportunities for interdisciplinary research both within the Huxley School and in collaboration with other departments, linking environmental work with ongoing agricultural research at Wye, and exploiting the 400 hectare Wye Farm Estate. Two new centres are planned, one in Environment and Development, the other in Environment, Food and Health in collaboration with the School of Medicine.

A14.4   The second merger with the Kennedy Institute of Rheumatology has created a new division within the School of Medicine. The Institute was a small, independent research unit based at the Charing Cross Hospital which is supported by the Arthritis Research Campaign with a turnover of approximately £4M *per annum*. Although small, the Institute is a high quality establishment.

A15   The College's Financial Position and Resource strategy

A15.1 The College's consolidated income and expenditure for the year to 31st July 2000, the most recent year for which figures are available, can be summarised as follows.

	1999-2000 £M	*Restated* 1998-99 £M
Income	339.0	329.8
Expenditure	<u>327.3</u>	<u>323.2</u>
Surplus for the year	<u>11.7</u>	<u>6.6</u>
Surplus as percentage of turnover	3.5	2.0

A15.2 The surplus for 1999-2000 is largely the result of a £9.9M profit arising on the sale of 25% of the College's holding in one of its 'spin-out' companies, Turbo GenSet. It also includes a £2.3M rates refund relating to previous years. Excluding these two items, the College made a deficit in the year on its operating activities of £0.5M.

A15.3 The surplus for the year represented 3.5% of turnover. Total reserves at 31st July 2000 amounted to £109.0M. This represented a strengthening from 21.7% to 32.2% of turnover, although again this was largely due to the College's holding in Turbo GenSet.

A15.4 Excluding earmarked grants, HEFCE income increased by £6.6M or 7.3%. There was a corresponding increase of £1.0M (9.3%) in fees from full time home and European Union students. Income from overseas student fees showed a similar increase, the amount having increased by £1.0M (5.6%).

A15.5 Research income remained constant at £122.0M in the year to 31 July 2000. Although the value of new research grants awarded increased during the year, there were delays in bringing projects on-stream, due largely to the difficulties in recruiting suitable research staff in highly specialised fields of knowledge. The contribution from research income towards overhead costs fell by £0.2M to £18.4M. In spite of the College's exceptional reputation for the quality of its research, neither the structure of grants from Research Councils nor the contractual arrangements with Government departments and some industrial sponsors fully reflect the College's need to be reimbursed for the true costs of this research.

A15.6 Expenditure within academic departments increased by £7.1M (6.2%) to £122.2M while expenditure within support departments (including academic services and premises) increased by £2.0M (2.1%) to £95.4M. These figures include long-term maintenance which was particularly high in the previous year as a result of earmarked grants from HEFCE and other sponsors.

A15.7 The College spent £30.6M in the year on capital projects, the largest being a new Multi-Disciplinary Research building (total cost £17.1M, spread over several financial years), a new Obstetrics and Gynaecology building (total cost £10.1M) and the refurbishment of the Beit Quadrangle to create additional student residences (total cost £15.8M). Capital grants received during the year amounted to £12.6M and disposals of assets brought in a further £1.0M. Capital expenditure incurred during the year was funded by a short-term bank loan of £13.0M plus £4.0M withdrawn from the College's general cash balances

A15.8 With a very large estate on six major campuses in West London, one of the key financial issues facing the College is the need to upgrade and adapt existing space to meet modern teaching and research requirements. Many existing buildings require a very large investment programme over the planning horizon if the quality of teaching and research is to be maintained. Although the College has had some success with applications to the Joint Infrastructure Fund (JIF), the successful applications have been primarily to support new research. The College's strategic priorities for investment in its infrastructure have not, thus far, attracted significant funding from JIF.

A16   Financial Strategy

A16.1 Apart from self-financing capital projects, such as the refurbishment of student residences, which may be funded from loans, the College aims to fund its extensive capital programme from its reserves, to the extent that costs are not met from specific capital grants. In order to achieve this the College aims to make an annual surplus of approximately 3% of turnover.

A16.2 Some recurrent expenditure, such as laboratory refurbishment backlog maintenance, itself forms part of the College's 'capital' programme and therefore reduces the projected surplus below 3% per annum. Provision is made for £2M expenditure per annum on backlog maintenance.

A16.3 To ensure continued financial viability, the College maintains a rigorous annual budgeting process to ensure effectiveness, efficiency and economy. Unless the College can increase its income — including that from HEFCE — there will be a need to reduce staffing levels by approximately 175 posts over three years from 2000-01. Efficiency savings of 0.5% *per annum* in non-staff expenditure are included from 2000-01 which are expected to be made easier with improvements to the estate resulting from the implementation of the long term maintenance plan.

A17   Income and expenditure forecasts

A17.1 Income and expenditure forecasts for 1999-2000 and 2000-01 are as follows:

Forecast Income and Expenditure 1999-00 to 2000-01

Income	1999-00 £K	2000-01 £K
Grants from the Funding Council	103,142	109,127
Academic Fees and Support Grants	35,872	39,890
Research - Direct Costs	101,214	118,091
Research - Contribution Towards Overheads	18,981	22,310
Residence and Catering Operations	14,421	13,950
Other Operating Income	42,596	48,971
Endowment Income and Interest Receivable	2,323	2,323
Total Income	318,549	354,662

Expenditure		
Academic Departments	230,860	257,660
Academic Services	13,570	14,794
General Educational Expenditure	2,928	2,824
Premises	23,574	22,643
Administration and Central Services	13,225	14,466
Staff and Student Facilities	2,953	3,493
Residence and Catering Operations	14,421	13,950
Depreciation	11,523	10,920
Other General Expenditure	1,160	2,289
Total Expenditure	314,214	343,039
Surplus for Year	4,335	11,623
Transfers from/(to) Specific Reserves	(1,460)	(7,972)
Contribution to General Reserves	2,875	3,651
General Reserves Brought Forward	3,030	5,905
Accumulated General Reserves	5,905	9,556

A18   Capital Investment Plan

A18.1 The College maintains a rolling five-year Capital Investment Plan (CIP) [7] of major capital projects, mostly involving development or refurbishment of the estate. Given the size and complexity of the College it will always have far more academic

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(7)   Annex G: The Capital Investment Plan

projects than it can afford to develop, and therefore the planning process determines priorities against aims, strategy and policies in order to make the best use of funds available.

A18.2 For planning purposes projects are categorised as (a) Academic, (b) Residences, (c) Social, Sporting and Leisure Amenities, (d) Capital Investment (e) Long-Term Maintenance and (f) IT and Telecommunications. Each category is analysed so as to identify the priorities within it and an overall plan is prepared by interlacing the various components in an iterative fashion that balances costs, timing and consistency with the academic plan for the College. The College added £2M to the long-term maintenance budget in both 1998-99 and 1999-2000 for additional health and safety work, with priority being given to work which addresses high risk situations and compliance with regulatory codes.

A18.3 A perennial question is how the recurrent and immediate demands of academic departments/divisions and support activities should be balanced against longer term investment. Spending on assets, which are capitalised in the accounts, does not directly impact the annual surplus and so an alternative benchmark of affordability is required. The CIP is prepared, therefore, by phasing the capital investment in such a way that the expenditure matches the increase in the College General Reserves, *i.e.* the annual surplus earned, adjusted for movements to and from Specific Reserves. This has been done for all projects which do not provide a direct financial return. Such a constraint is not considered necessary for investment in residences or for certain other projects which can remunerate themselves from external income.

A19 Academic Projects

A19.1 Recent major projects have included the completion in 1998 of the new Norman Foster designed Sir Alexander Fleming Building, housing the Division of Biomedical Sciences and the Department of Biology, the new Obstetrics and Gynaecology Building at Hammersmith completed in 2000, the Multi-Disciplinary Research Building at South Kensington, which will be completed in March 2001, and the new Management School to be funded by a £25M donation by an alumnus, Dr G. Tanaka, which should be completed by 2004 and which will open the way to the refurbishment of the Royal School of Mines Building at South Kensington.

A19.2 In its capital investment strategy the College will continue, wherever possible, to give the highest priority to projects designed to further its pursuit of academic and research excellence. The work undertaken so far, and the funding becoming available through the JIF, have given a great impetus for the improvement of research facilities. The College has recognised the consequent danger that teaching facilities could be overlooked and, mindful of its mission, has made it a matter of principle that £1M be budgeted from HEFCE and College funds to refurbish teaching facilities every year. This figure accords with what can reasonably be afforded and, based on experience of the cost of refurbishment projects, should be

sufficient to produce a significant improvement in the teaching facilities of the College.

A19.3 The Royal School of Mines remains the most important long term project contained within the CIP, although the cost of meeting all the requirements of the brief developed by the College, which are set at £80-90M mean that the project will require significant external funding.

A20   Residences

A20.1 The College has a dual policy of guaranteeing accommodation for first year undergraduates, and aiming to provide accommodation for other priority groups, whilst also running the residential estate at no cost to the academic mission of the College. Accordingly the surplus made by Student Residences is reinvested in the fabric of the residential estate. Although this has allowed the College to begin a refurbishment programme which ensures that the condition of the residential estate does not deteriorate further, it has not allowed it to catch up on the backlog of maintenance outstanding from earlier years.

A20.2 The future development of the Residences capital plan will rest heavily on the outcome of the current redevelopment of the Beit hall of residence, which will provide *en suite* facilities for students, and in vacations for conference delegates, and which is now due for completion in June 2001. The CIP is built around improving and refurbishing the current bed stock of the College, with only the Beit refurbishment making any provision for additional bed spaces. If this Project proves to be a success, both with the student body and for the conferencing activities of the College, then other initiatives to increase the size of the residences portfolio might be considered.

A20.3 The next phase of the Residences capital plan will be the refurbishment of Willis Jackson Hall and the Southside Hall from 2001-03. Unfortunately, because the Southside Hall is a listed building which present particular infrastructure and construction difficulties, it has proved impossible to produce a positive business plan for its refurbishment on revenue from the Hall alone. The College will therefore have to realise the value of other assets within the Residences portfolio in order to fund this much needed refurbishment.

A21   Social, Sporting and Leisure Amenities

A21.1 It is considered imperative that the CIP gives due consideration to making non-academic facilities available, and to improving the general environment of the College. In the recent past, projects completed have included the refurbishment of the Junior Common Room, the Senior Common Room, the Great Hall and part of the Students' Union, and the refurbishment and extension of the Boathouse at

Putney. Planning permission has been obtained for the Sports Centre scheme, which incorporates residential apartments for lease or private sale in order to meet part of the cost and includes a new sports hall to be constructed on top of the existing swimming pool.

A21.2 There has long been a need to improve the sporting facilities for staff and students at Wye. Following its merger with Imperial, and provided that the business plans show the schemes to be entirely self-funding, these will be progressed.

A22   Capital Investment

A22.1 The College has a number of investment projects in hand. This are aimed at either exploiting space and resources which would otherwise be a burden to the College or ensuring that strategic options are kept open. A recent strategic purchase was the Burlington Danes land adjacent to the Hammersmith Campus, acquired in co-operation with the Special Trustees of the Hammersmith Hospital Trust which provides for the potential future development of the Hammersmith site. Other projects, in priority order, are:

(i)   Construction of new Mews houses; and
(ii)   Dalby Court Car Park.

A23   Long Term Maintenance

A23.1 Long-term maintenance, 'backlog' as well as recurrent, is prioritised into categories according to health and safety risk. Whilst every advantage will be taken of schemes such as the JIF and HEFCE Poor Estate Initiatives, the College does not perceive these to be a panacea for its long term maintenance programme, and it will be necessary to retain a budget of £3M *per annum*, of which £1M will be specifically allocated to Health and Safety related projects. The role of the specialist College advisers, such as the Safety Director and the Fire Officer, will be essential in calculating the volume of Health and Safety related works that has been achieved through external funding, and in ensuring the correct prioritisation of projects for the College's own LTM programme.

A24   IT and Telecommunications

A24.1 The College considers its physical IT infrastructure to be an integral part of building services, and all current and future capital projects therefore have a strategy for providing this infrastructure, in much the same way as electricity, heating and water. This will allow the College to ensure that it does not fall behind in providing a robust and reliable IT service.

A24.2 In addition to upgrading and improving the IT infrastructure as an integral part of building projects, there are currently three major projects in the IT field:

(i) **College Corporate IT Systems**. In 1999 the College introduced a new financial, personnel and payroll system, to replace its previous outdated, outmoded and non-Year 2000 compliant systems. This system, which is based on the Oracle Financials package and has been named ICIS, will also underpin a new corporate database. Further developments will entail the introduction of compatible systems for Estates, Registry and the Library as well as the refinement and continued development of the corporate database element. When fully operational these central systems will obviate the need for Departments/ Divisions to maintain duplicate information systems themselves.

(ii) **IC-Connect - An IT PFI Project**. Ericsson has been contracted to provide a telecoms infrastructure for the College on a PPR basis. This includes the wiring up of halls of residence to provide telephone and internet access for all of the College's students in hall.

(iii) **Category 5 Rewiring**. It is considered essential that the basic physical IT infrastructure for the College be Category 5 as a bare minimum. Plans for updating the College infrastructure to this level have been developed and are now being implemented.

A25 Quality Assurance

A25.1 Quality Assurance of both undergraduate and postgraduate teaching and the provision of amenities, facilities and support services continue to be central to the educational mission of the College. Within the College's first and overriding priority, the fulfilment of its academic mission, equal priority is accorded to teaching and research. Attention to the quality of teaching is therefore a strong feature of the culture within the College, and is an important factor in making appointments and promotions. Central elements in the College's strategy for maintaining the highest standards of teaching and learning are its continued ability to attract the most able students and the appointment of high calibre staff who are dedicated teachers as well as researchers.

A25.2 Although the responsibility for quality assurance is devolved to the departments and divisions, academic leadership for this area is provided by the Pro Rector for Educational Quality (B17.1). The five elected Deans also have a significant role in maintaining standards across the College.

A25.3 Within the College, academic staff work in a collegial fashion, seeking to establish learning environments for their students, both undergraduates and postgraduates, which are stimulating, challenging and supportive. The College's performance in

teaching and learning, as measured by the Subject Review Assessments operated by the Quality Assurance Agency, have been almost uniformly excellent. The Departments visited prior to April 1995, when the process was amended, were all judged to be 'excellent'. None of the units of assessment reviewed since April 1995 have achieved less than 21, with two, Electrical and Electronic Engineering and Materials, achieving a maximum score of 24.

A25.4 The College has also instituted a number of initiatives to support excellence in teaching and learning:

> ***The Centre for Educational Development*** was recently established to raise and consolidate the profile of learning, teaching and educational development. Its activities include educational development strategy, fostering educational development initiatives, promoting best practice in curriculum and course design, promoting the development and implementation of learning technology, fostering educational research relevant to College disciplines, promoting learning and teaching quality and providing for the Imperial College Certificate of Advanced Study for Learning and Teaching (CASLAT).

> ***The Graduate School of Life Sciences and Medicine***, which was established on 1 October 1999, will be the focus of postgraduate education and research in the life sciences and medicine. It aims to foster the highest standards in postgraduate training and research and to initiate and facilitate new programmes, particularly in interdisciplinary areas. The School will also maintain, enhance and monitor quality, and will disseminate best practice in postgraduate education and education

> ***The Teaching Awards Scheme*** is a biennial scheme which provides for up to 20 Awards for Excellence in Teaching and up to three Teaching Fellowships, chosen from the holders of the Awards. It was originally established in 1994 to raise the profile of teaching throughout the College and to recognise excellent practice.

> ***The External Programme***. Prior to its merger with Imperial College, Wye College had a long established and successful External Programme. The Programme is now part of the TH Huxley School and the College expects that the External Programme's expertise and educational models will be used to broaden the College's own engagement in distance learning.

A26   Consultation with staff and students

A26.1 As a collegiate institution, the College involves its staff and students fully in its formal decision-making processes. The Council, which is the College's governing body, includes in its 32 members, 6 appointed by and from among the academic staff of

the College. The President of Imperial College Union, the College's Students' Union, is an *ex officio* member of the Council and the ICU Deputy President (Finance and Services) attends meetings of the Council as an observer.

A26.2 The Senate includes 3 student members and there is similar representation for staff and students on the Committees of the Senate and on the Rector's Advisory Committees.

A26.3 *The Academic Staff Assembly* provides a forum for consultation between the Rector and the academic staff on all matters of common concern. Its membership is elected by and from the academic staff and it meets with the Rector once each term.[8]

A26.4 Relationships with the Students' Union, the ICU, are governed by a Memorandum of Understanding between the College and the Union, the terms of which are currently being revised. The President ICU has regular meetings with the Rector and ICU sabbatical officers have regular meetings with the Pro Rector for Educational Quality and may raise concerns with him direct or through their representative capacities on the Senate, Court and Council.

A27   Communication with staff and students

A27.1 Because of the size and complexity of the College, communication with more than 5,500 staff is never straightforward. The College therefore employs a number of methods to ensure that staff are informed of developments and strategies across the College.

A27.2 The Heads of Departments, Divisions and Centres meet at the beginning of each term under the chairmanship of the Rector to discuss the latest developments. Information promulgated to the Heads at these meetings is subsequently taken back to their departments/divisions and there disseminated. In addition to this, towards the end of the Autumn and Spring Terms, all of the Heads of Departments, Divisions and Centres attend a Rector's Residential Weekend at which the College's aims and strategic objectives can be discussed in detail.

A27.3 The College has also recently instituted a programme of briefings and residential meetings for senior administrative staff across the College with the intention of improving their understanding of the whole College and improving lateral communication between departments and divisions.

A27.4 The staff newspaper, *IC Reporter*, is published fortnightly during term time with special on-line editions published during the Summer. *IC Reporter* includes

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[8] Annex H: Constitution and Membership of the Academic Staff Assembly

information and articles concerned with all aspects of life at the College. In addition to this, all members of staff receive a copy of the College's Annual Report.[9]

A27.5 The College also makes extensive use of electronic communications, with e-mail being an important communication tool, while the College's web site is used to publish information of interest to members and former members of the College. The College has also established an administrative intranet (INTRINSIC) which will be used to improve staff access to information. In this way the College ensures that its staff have access to, and are aware of, its aims and associated policies and systems.

A28   Performance Monitoring

A28.1 The College's financial performance is monitored by the Management and Planning Group and by the Council. MPG receives regular Financial Management Reports detailing   the performance of departments/divisions and the College as a whole against the financial forecasts approved by the Council. Similar reports are presented to each meeting of the Council.

A28.2 In addition to this, the College's Internal Audit Section provides independent appraisals and analyses of the effectiveness and efficiency of the activities and operating procedures under management's control. Recommendations for improvement are made by the Section and subsequently acted upon by the College. Although the Section reports to the College Secretary and Clerk to the Court and Council, its independence is assured because the Head of Internal Audit also has direct access to the Chairman of the Audit Committee and, if need be, to the Chairman of the Council.

A28.3 Departmental performance, both financially and academically, is reviewed annually as part of the Planning Round, when, as already described, departments and divisions must present a detailed five year plan for the department or division including its academic, financial, staff and estates plans. These are scrutinised and tested for their practicality and coherence with the College's aims and policies prior to the College's budget for the following year being set.

A29   Governance and Management - Conclusion

A29.1 From the foregoing, it can be seen that the College's governance, management, financial control and quality assurance arrangements are sufficient to manage the College's existing, highly complex, operations and are designed to respond quickly to development and change. The different functions and responsibilities of governance and management are clearly defined in the College's Charter and Statutes and are well understood, and the College's academic, financial planning, quality assurance and resource allocation policies are coherent and designed to enable the College to fulfil its mission, aims and objectives.

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[9] Annex I: Imperial College Annual Report 1999-2000

A29.2 The College is a world leader in teaching and research in the areas of science, technology and medicine. The degree of autonomy granted to departments and divisions and the extent to which responsibility for resources and decisions is devolved to the level at which they can most appropriately be applied and made is key to the College's ability to respond to new developments and remain at the forefront of scientific knowledge and discovery. The depth and strength of academic leadership across the College is apparent from its long standing and continuing success.

A29.3 The collegiate nature of the College means that staff and, where appropriate, students are fully involved in the development and implementation of the College's policies and systems. Recognising that its very size and complexity is a barrier to effective communication with all its staff, the College is nevertheless making good use of different communication tools including information technology, to ensure that, at the very least, all its staff and students have access to information regarding the College's policies and developments.

A29.4 Although the College is part of the University of London, it has for some considerable time been largely responsible for ensuring the maintenance of its own academic standards. Its long history of teaching and research at the highest level means that it is more than able to manage its responsibilities for the award of degrees.

B   Quality Assurance

Criterion:

The College has clear and consistently applied mechanisms for establishing its academic objectives and outcomes.

B1   The College's mission

B1.1   The College's mission is summarised in the aims set out in paragraph A2 and which are restated below:

- To be counted among the leading institutions of the world for research, teaching and education in science, engineering and medicine.

- To attract the most able students worldwide and to educate them in a way that fosters technical excellence, originality and breadth of vision.

- To provide an environment within which both original research of all kinds and its application to useful purposes flourish.

- To communicate to the widest possible community the significance and intellectual excitement of scientific fields in general and the College's work in particular.

B1.2   These aims determine the academic objectives and outcomes of the College. As stated in the College's *Learning and Teaching Strategy 1999-2002*,[10] the College is *"an international research university which aims to provide rigorous and intensive degree courses for able and gifted students. The students acquire in-depth knowledge of one field and the flexibility of mind to analyse and*

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[10] Annex J: Learning and Teaching Strategy

synthesise in many. [The College] has a strong research culture and students benefit from direct access to research staff and academic staff who are experts in their field and who, in turn, are challenged by the intelligent questioning of sceptical and able young minds from all over the world. The College's research environment also provides an opportunity for students at all stages to make a real contribution to an active research project. Learning and teaching at undergraduate level generally focus upon fundamental scientific principles and understanding rather than professional and vocational training, the latter being provided at postgraduate level and in management and medicine."

B2   Relationship with the University of London

B2.1   The College currently offers programmes which lead to an award of the University of London, and has done so since 1926. Until 1998 the College was subject to the quality assurance policies, structures and mechanisms of the University. These covered the determination of minimum entrance requirements for degree programmes, the approval of new programmes of study, the conduct of examinations for university degrees and diplomas, the monitoring of Visiting Examiner reports, and the appointment of Professors and Readers. In 1995 the University approved new Ordinances embodying a new academic framework within which Colleges of the University are authorised to confer degrees of the University on their students. In 1998 the College introduced its own regulations for the award of first degrees and taught masters degrees and now undertakes the functions outlined above in respect of these programmes of study. The new regulations were modelled closely on the University regulations thus helping to ensure that the standards of the University awards would be maintained, although inevitably they are modified in the light of changing circumstances. In respect of research degrees the College has chosen, largely for administrative reasons, to continue to operate within the University regulations while insisting on rigorous internal mechanisms to monitor the quality of research training offered to its students.

B3   Programmes of study

Undergraduate programmes

B3.1   The College offers undergraduate programmes which are full-time, discipline-based and which are structured and delivered as an integrated and co-ordinated whole. The rigorous and concentrated nature of its undergraduate programmes and the demands of professional accreditation in many cases mean that a modular, interdisciplinary approach would not be appropriate. Undergraduate programmes lead to the award of BSc and BEng degrees of the University of London or, increasingly, to the award of MSci and MEng degrees of the University of London. In addition, the College awards diplomas of associateship to graduates in science and engineering. The Associateships awarded are the Associateship of the Royal

College of Science (ARCS), the Associateship of the Royal School of Mines (ARSM) and the Associateship of the City and Guilds of London Institute (ACGI).

Postgraduate programmes

B3.2   The majority of postgraduate taught programmes lead to the award of a Masters degree of the University of London, but the College also offers a number of programmes leading to the award of a diploma of the University of London. The latter are in the disciplines of Medicine and Agriculture, and all are offered at postgraduate level. The Diploma of the Imperial College (DIC) is awarded on successful completion of Masters, MPhil or PhD degree of the University of London, and on completion of a two year postgraduate programme in Industrial Design Engineering, offered jointly with the Royal College of Art. The Diploma of Imperial College may also be awarded to postgraduate students who have completed one year of research study.

B3.3   Research for a higher degree (MPhil, PhD) of the University of London may be undertaken in all departments of the College. In addition, suitably qualified candidates may undertake research for the award of the degrees of MD and MS of the University of London in the School of Medicine.

B3.4   The complete list of programmes of study offered by the College is published in the *Undergraduate Prospectus* and the *Postgraduate Prospectus.* The detailed curricula of undergraduate degree programmes are published in the publication *Undergraduate Syllabuses* and the curricula of Masters degree programmes in the *Requirements for Postgraduate Students proceeding to Taught Masters Degrees - Course Requirements.*[11]

Continuing Education

B3.5   Among UK universities, the College is one of the principal suppliers of post-experience education in science, technology, medicine and related areas. The Centre for Continuing Education was established in 1987 to provide a focus for the professional development activities then emerging. The Centre's programme capitalises on the College's research, teaching and clinical strengths, giving managers in industry and commerce and practitioners in the health services the opportunity to gain state-of-the-art knowledge in scientific, technical and medical fields.

B4   Admission criteria

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(11) Annex K: Undergraduate Prospectus
     Annex L: Postgraduate Prospectus
     Annex M: Undergraduate Syllabuses
     Annex N: Academic Regulations and Requirements for Programmes of Study

B4.1   The demanding nature of degree programmes at all levels means that the College requires high entry qualifications of its students, as evidence that they will be able to cope with the intensity of study. The majority of undergraduate students have 'A' level qualifications, the average 'A' level score of students entering the College in 2000 being 28.0. Students with equivalent overseas qualifications, such as the International Baccaleaureate, are accepted. Students with other qualifications may also be accepted, but only if the admitting department is satisfied that there is sufficient other evidence to support the expectation that they will complete the programme successfully. At postgraduate level, at the very least a first degree of a British university at second class honours or its overseas equivalent is required. Postgraduate applicants who do not possess the minimum acceptable qualifications are individually assessed by the appropriate Postgraduate Committee (above departmental level) as to their ability to succeed in the programme, and, in some cases, may be set qualifying examinations. Such applicants will normally have substantial previous professional experience in the subject area of the programme. This rigorous adherence to high entrance standards is a fundamental aspect of the College's strategy for ensuring the quality and standards of its programmes.

B4.2   Students must have sufficient command of both written and spoken English to follow their programmes of study. Students must normally have a recognised English language qualification at the appropriate level. In 2000, a pre-sessional language course for students entering the College was introduced.   Students whose performance in their English language test is near the minimum standard are encouraged to attend the course.

B5   Comparability of standards

B5.1   Comparability of standards with other providers of equivalent level programmes is principally ensured through the appointment of visiting examiners from appropriate institutions. The College has strict criteria for the appointment of visiting examiners, requiring them to be persons of seniority and experience, who are able to command authority.[12] The College appoints Visiting Examiners who are of high standing in their field, generally with considerable experience of examining at the required level in an institution of similar academic profile to the College. Visiting Examiners monitor the standards of assessment through approval of examination questions, determination that internal marking and classifications are of an appropriate standard and consistency, participation, in some instances, in viva examinations and endorsement of the final examination results. They are asked to report comprehensively on the degree programme, including the appropriateness of the objectives and learning outcomes, the methods of assessment and the overall structure of the programme and are explicitly requested to comment on the comparability of the degree programme with those at their own institution. Reports are considered by a sub-committee of the Senate (at undergraduate level the Engineering, Medical or Science Studies Committee as appropriate and at

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[12] Annex O: Examination Instructions: Appointment of Examiners, Conduct of Examinations

postgraduate level by the appropriate Postgraduate Committee) [13] which require satisfactory responses from the departments responsible for the delivery of programmes on the comments made by Visiting Examiners.

B5.2 In 1999 the Pro Rector (Educational Quality) instituted a review of the College's policies and procedures for the appointment of Visiting Examiners and consideration of their reports, in response to concerns identified in a QAA subject review. A number of changes were introduced, resulting in more stringent scrutiny of nominations for appointments and of the reports submitted by Visiting Examiners.

B5.3 Advice is sought from academic peers in the approval and review of programmes (see B7). The majority of undergraduate programmes are accredited by professional bodies, which have their own stringent curriculum requirements and quality control mechanisms.[14] Some departments have joint Industry/Academic Boards which inform the curriculum with the latest developments in technology. Academic staff act as visiting examiners at other institutions, thus having exposure to academic standards elsewhere, and many are consultants or involved in industrial partnerships.

Criterion

The College seeks to ensure that its programmes of study consistently meet stated objectives and outcomes.

B6   Self-assessment

B6.1 The College has a well-established and extensive range of structures and mechanisms for the approval, monitoring and review of programmes of study, which incorporates both critical self-assessment and external judgement, as described below.

B7   Scrutiny and revision of proposals for new programmes of study

B7.1 In almost all instances the initiative for introducing a new programme of study or radically altering an existing one emanates from one or more departments. Heads of Department are required to ensure that such proposals are considered by at least two departmental bodies - the first dealing with programme content and the quality of teaching and the second being a more general body with a wide academic overview, such as a staff meeting. Before putting forward new proposals, departments use a range of external agencies for advice on the merits of what is

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[13] Annex P: Senate and its Committees: Quality Assurance
[14] Annex Q: Undergraduate Programmes and Accrediting Bodies

being suggested: accreditation bodies, industrial contacts, joint industry/academic boards, Visiting Professors, funding agencies, visiting examiners, etc.

B7.2   Thereafter proposals are scrutinised above departmental level as described in the following paragraphs.

B7.3   At College level formal authority for the approval of new programmes of study rests with the Senate. In practice detailed consideration of new undergraduate programme proposals is delegated to one of its principal committees, the Engineering, Medical or Science Studies Committees, in accordance with the following procedure documents:[15]

(a)   *Procedures for the Review of New and Existing Undergraduate courses*

(b)   *Special Procedures for the Review of New and Existing Undergraduate Degree courses involving a Year Abroad*

This is generally an iterative procedure: suggested modifications often go back from the relevant committee to the department leading, eventually, to a modified proposal which is recommended for acceptance by the Senate.

B7.4   At postgraduate level proposed new advanced programmes have, prior to October 2000, been reviewed by the Graduate Studies Committee, following procedures approved by the Senate. From October 2000, following a review of the support for postgraduate training and education, the review of proposed new advanced programmes is undertaken by the Postgraduate Committee of the relevant subject area in accordance with a revised procedure document: *Procedure for the Approval and Review of Master's Degrees and Postgraduate Diploma Courses*[16] (see B11). This involves the appointment of a small ad hoc panel, chaired by a Dean, which invariably receives reports from outside assessors. As with undergraduate programmes there is an iterative procedure with the resultant modified proposal being recommended for acceptance by the Senate.

B7.5   The Committees which conduct these reviews, and which also monitor and review existing programmes of study, consist in the main of senior academic staff from across the College who have substantial experience of and responsibilities for the provision of programmes of study at undergraduate and/or postgraduate level within their discipline area. They are thus in a position to provide expert advice on programme design and development, on teaching and on student learning and assessment and to assess whether the objectives and outcomes of the proposed programmes of study are consistent with the aims of the College outlined above and are likely to be achieved. Thus, for example, a proposal for a new MEng or MSci programme which did not demonstrate learning outcomes at Masters level by

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[15] Annex R: Procedures for the Review of New and Existing Undergraduate Courses
[16] Annex T: Procedure for the Approval and Review of Master's Degrees and Postgraduate Diploma courses

requiring a substantial element of independent research-based coursework in the final year, would be referred back to the department concerned for further consideration.

B7.6 Further advice to departments on programme design and development, on teaching and on student learning and assessment is available from the Imperial College Centre for Educational Development (see A25.4). All probationary lecturers receive instruction *inter alia* on programme design as part of the suite of four workshops on university teaching they are required to complete before their appointment is confirmed. Information on College procedures for programme monitoring and review is disseminated to Heads of Departments/Divisions, Directors of Undergraduate and Postgraduate Tutors, Course Organisers and other relevant academic staff by the Registry.

B8 Strategies for teaching, learning and assessment

B8.1 As stated in the College's *Learning and Teaching Strategy* (paragraph 3), *"The College has a highly devolved management structure and its approaches to teaching and curriculum design have emerged within different traditions in each department/school. The institutional learning and teaching strategy is thus a strategic framework within which departments/schools can continue to develop best practice for their own discipline."* (see also B1 above).

B9 Academic planning and resource allocation

B9.1 As previously stated (A9) management of recurrent resources is devolved to departments where they are best positioned to control them and assign priorities. As explained in detail in A13, each department is required to submit an annual plan which integrates academic, financial, staff and accommodation issues for the forthcoming and subsequent three years. Appointment of staff is dependent on a department having and keeping to a plan acceptable to the College.

B9.2 The amount of recurrent resource allocated to a department is determined by formula (A10). The formula aims to recognise need and to reward desirable change. The elements relating to teaching employ student FTEs in different categories (undergraduate, postgraduate taught, postgraduate research; home and overseas) with different weightings for each. A department with a new programme approved will be able to fund the programme through the formula as they recruit students to it. Maximum funded numbers are assigned to each department so that the unit of resource is not devalued and a department wishing to start a new programme must either bid for additional numbers from a central pool or re-allocate its existing numbers from other programmes whose recruitment may be falling. The College has been successful in recent years in gaining additional funded numbers from HEFCE at both undergraduate and postgraduate levels. Since 1997 over 1000 additional places have been awarded under HEFCE's 'rewarding high quality learning and

teaching' category. Currently, the College's actual unit of resource from HEFCE is some 3.2% higher than the standard unit of resource.

B9.3   The priorities for allocating capital resources are determined centrally within a College Capital Investment Plan (A18). The various competing projects are judged by a number of criteria in different categories of activity. Within the Plan, the College has a rolling programme of refurbishing teaching space. It will commit £0.5M a year from its own resources to do this in addition to the HEFCE capital allocation for teaching (A19.2).

B9.4   Evidence that the above mechanisms are successful in ensuring that programmes of study consistently meet stated objectives and outcomes can be found in the results of HEFCE and QAA reviews of teaching quality (A25.3).

Criterion

Programme performance is carefully and regularly monitored.

B10   New programme proposals

B10.1 As stated in B7 above, there is a clear demarcation of responsibility for the approval of new programme proposals through the committees of Senate.   New undergraduate programmes are reviewed rigorously in the second or third year of operation to ensure that the new programme is meeting the objectives originally laid down. At postgraduate level, the volume of taught programmes has meant that it has not been possible to monitor the performance of new programmes as systematically or frequently at College level as ideally would be the case. This has been recognised as an area of weakness and it is intended that the restructuring of the support for postgraduate education referred to in paragraph B11 below will address this.

B 11   Existing programmes

B11.1 The monitoring and review of existing programmes of study takes place at College level and at departmental level.

B11.2 Existing programmes of study at undergraduate level are reviewed regularly by the Undergraduate Studies Committee in accordance with the procedures referred to in paragraph B7 above. Each year the Undergraduate Studies Committee conducts a review of two or three departments' degree programmes. Where possible, the reviews are timed to precede major external reviews or accreditations. This requires the department and the College administration to prepare a review document supported by statistical data for consideration by the Undergraduate Studies Committee. The same data is provided to at least two specially chosen outside assessors (one academic, one industrialist and sometimes an educationalist) who visit

the department concerned to discuss the programme with the Head of Department, senior academics and with students, as well as to view the facilities. From January 2001 an observer from one of three European HEIs with which the College has close educational links will also participate in the review. The external assessors each provide independent reports to the Undergraduate Studies Committee. The Committee reviews these and all the written material and discusses them with the Head of Department and his Director of Undergraduate Studies before submitting a report and recommendations for action to the Senate. Twelve months after the report to the Senate Heads of Department are asked to advise the Undergraduate Studies Committee on the steps taken to act upon its report and recommendations.

B11.3　The above procedure was introduced in 1987. Although regularly updated to reflect developments such as the new national framework for quality assurance, the College has not thought it necessary or desirable to modify the basic structure of the procedure. As a centrally-controlled process, relying on independent and external review and with a structured follow-up mechanism in-built, the College believes that it is an effective means of monitoring academic standards.

B11.4　At postgraduate level, however, the College has not had the same confidence. The responsibility for reviewing advanced taught programmes has traditionally rested with the Graduate Studies Committee. With the substantial increase in the number of these programmes in recent years it is no longer feasible for this committee to perform this function adequately. In the academic year 1999-2000 the Graduate Studies Committee undertook a comprehensive review of the support structure for postgraduate education and training, partly in response to concerns about the structure's effectiveness and partly as a consequence of the establishment of the Graduate School of Life Sciences and Medicine. This led to the redefinition of the Graduate Studies Committee as an overall quality assurance body and the strengthening of the former Higher Degrees Registration Committees into Postgraduate Committees which would take over some of the functions of the Graduate Studies Committee, including programme approval and review. The method of programme review under the new arrangements will follow the format adopted by the Graduate Studies Committee which involves scrutiny of extensive programme documentation and reports from Visiting Examiners.

B11.5　Departments rely upon a number of means of monitoring the effectiveness of existing programmes of study, some formal, others informal. These include examination/coursework performance of students, student feedback via tutorials with personal/subject tutors, staff-student committees, the College-wide student questionnaire exercise (B18) and reports of Visiting Examiners. In addition departments obtain feedback from statistical data on examination performance, comments from employers, demand for graduates and accreditation body visitations as well as College reviews of existing programmes.

B12　Closure of a programme or programme element

B12.1 Revisions to programmes of study arising from these exercises, including recommendations to close a programme or programme element, are subject to approval by the relevant sub-committee of the Senate. In the latter case, the committee will require assurance that students currently on course will not be disadvantaged by the proposed closure. For example, when the revised MB BS degree was introduced in 1998 the College ensured that provision was made to enable students currently registered on the degree to complete their programme following the curriculum in force at the time of their original registration.

B13   Learning support services

B13.1 Library, computing, laboratory and other teaching accommodation facilities are all considered by the appropriate Senate committee as part of proposals for new programmes or amendments to existing programmes. Resource implications are also considered in reviews of existing programmes by the Undergraduate Studies Committee and the Graduate Studies Committee. Resources for teaching are covered in the statement which every department has to produce for the annual Planning Round. Departments must confirm that they have sufficient resources to teach any additional planned students without adversely affecting teaching quality.

B13.2 There are very close links between the Central Library and departmental libraries to ensure that resources match programme requirements (see also B16 and C2.3). The College Libraries Committee is a principal Committee of the Senate; its role is to advise on general library policy and to supervise the co-ordination of library facilities in the College (see also C2.7). Resources and services are co-ordinated through the Inter-libraries Panel (a sub-committee of the College Libraries Committee) and its sub-groups. A wide range of consultative structures, including the department and medical campus Library Committees, ensure that there is direct contact with users; the departmental and medical librarians are also fully integrated into the department/Medical Schools' own committee structures. The College Library Policy (endorsed by the Senate) sets out the role of each library in the system, its funding and operation including support for teaching.

B13.3 Library PC clusters have been set up to complement those in departments and demand is under constant review. IT provision for students generally is considered by the College Information Strategy Committee, an advisory committee to the Rector.

B13.4 The Space Planning Advisory Group advises the Rector on all matters relating to the allocation of space on College sites and, in particular, undertakes long term assessments of space needs and planning, taking into account the academic plans of departments. A computerised room booking system (ROBIC - Room Booking system for Imperial College) covers all teaching space on the main South Kensington campus and assists in the optimal allocation of teaching space.

B13.5 The Imperial College Centre for Educational Development (A25.4) supports learning through its educational development and staff development activities and its Director is co-opted to the main committees which review new and existing programmes.

B14 Coherence of programmes

B14.1 As stated in paragraph B3 above, an interdisciplinary or modular approach to programmes is not part of the College's mission. There is some choice available to students, particularly in the undergraduate science programmes where a course unit system operates. Choices are, however, relatively structured and normally focussed to a particular award outcome. For example, students in the Department of Biology take a common first year course and then follow well-defined course unit choices in the second and third year which lead to the awards of BSc in Biology with Microbiology, Ecology, Microbiology, Zoology, etc according to the programme followed. In the non-medical departments the Director of Undergraduate Studies assists the Head of Department in overseeing programmes of study. The Head of Undergraduate Medicine undertakes the same function in respect of the MB BS/BSc degree in the School of Medicine. A single Board of Examiners for each subject area also helps to ensure the maintenance of coherence of programmes.

B14.2 Proposals to add new elements to a programme are considered by the Engineering, Medical or Science Studies Committee as appropriate at undergraduate level and by the relevant Postgraduate Committee for taught masters or postgraduate diploma programmes. Such consideration will take into account the relevance of the new element to the programme as a whole.

Criterion

The effectiveness of the College's learning and teaching infrastructure is carefully monitored

B15 Learning outcomes and objectives

B15.1 As described in B11 above much of the day to day monitoring of learning and teaching is carried out at departmental level and thus relates closely to the intended learning objectives and outcomes. In addition, Visiting Examiners are specifically requested to comment on the coherence of programmes and the appropriateness of compulsory courses and units in relation to the state course objectives. At College level Heads of Departments are required to report in respect of new programmes two or three years after the start of the programme on whether the stated objectives are being fulfilled. The USC reviews of undergraduate programmes request the Head of Department to report on the purpose, objectives and relevance of the programme.

B15.2 Programme specifications for each programme offered by the College are being developed, in which the learning outcomes of each programme will be made specific. This will enable reviewers to measure more accurately whether the intended learning objectives and outcomes are being achieved.

B15.3 The Heads of Departments' meetings and residential weekends and the Senate are the main fora for discussion and monitoring at a general strategic level and in relation to the College's aims. The Senate and its committees regularly receive statistics and performance indicators on educational matters.[17]

B16   Learning resources

B16.1 The College Central Library is responsible for housing and updating the main textbook collection in the College (see C2). Multiple copies of standard textbooks are available in the Central Library and each Department and Campus Library must also have a copy of each relevant textbook. An annual update of textbook provision is undertaken in which each member of the academic staff is requested to provide information relating to books they will be recommending to their students. In 1998/99 (the latest year for which statistics are available) £62,378 (32.5%) of the Central Library's book budget was spent on textbooks. The College has one of the highest expenditures on library resources per FTE student in the UK according to performance indicators and statistics published by the Standing Conference of National and University Libraries and HESA. Indeed, library and other learning resources have been universally highly rated in all HEFCE/QAA subject reviews, this aspect achieving a four grading in all but one of the reviews.

B16.2 Central and departmental librarians fully participate in the comprehensive training of students in the use of electronic information resources. A collaborative pilot study to develop an integrated library user education programme for undergraduate and postgraduate students involving the Library and four subject areas was initiated in 1999.

B17   Maintenance and enhancement of quality

B17.1 The maintenance and enhancement of quality is a continuous process which underlies and informs all the College's monitoring and review activities. In recognition of the importance of this the College has appointed a Pro Rector for Educational Quality who is charged with overseeing all aspects of the College's educational activities and has a particular responsibility for coordinating quality assurance matters. The Pro Rector chairs the two principal committees of the Senate which have responsibility

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[17] Annex U: Statistics and Performance Indicators

for quality assurance matters - the Undergraduate Studies Committee and the Graduate Studies Committee - and the Quality Assurance Advisory Committee.

B17.2 The Deans of the constituent Colleges support the Pro Rector (Educational Quality) in several ways, as described in A7. Principally, they chair the remaining Senate committees concerned with the quality assurance of teaching, except in Medicine and postgraduate Life Sciences where different arrangements obtain (see Annex P).

Role of students

B17.3 Students play an important role in this process, both through their membership of departmental and College committees and through the feedback they provide on the learning experience, both formal and informal. At College level, student representatives on College committees contribute to policy decisions on academic quality and, in some instances (the Engineering Studies Committee and the Science Studies Committee) are specifically invited to make an annual report to the committee on the quality of learning and teaching in their disciplines. At programme level student feedback is provided via the staff-student committee, via the departmental Senior Tutor and the personal academic tutorial arrangements. A student response questionnaire is used College-wide (except in the School of Medicine) at undergraduate level to assess academic staff performance in the delivery of lecture courses. This exercise is run twice a year and the 'raw' data is widely published within departments. 'Processed' data (ie. College, departmental and individual teachers' averages for overall performance) have only been made available to the individual teacher, to the Head of Department for staff appraisal purposes and to the Director of Undergraduate Studies. In the School of Medicine student evaluation of teaching is carried out at course level and the results are considered by the relevant year curriculum groups, or, where wider concerns are raised, by the relevant School committee. At postgraduate level the Graduate Studies Committee has decided that it would not be appropriate to organise a College-wide questionnaire exercise. Instead, departments are required to have a procedure for the student evaluation of postgraduate programmes and the Committee has determined the wording of core questions to be included in any departmentally run exercise.

Role of academic staff

B17.4 The quality of the College's teaching and learning is primarily dependent on the calibre of the academic staff who deliver it. The College strives to appoint outstanding researchers to its academic staff and to develop their skills and performance *"through College and discipline-based education research and development [so as to] ensure their teaching is tailored to the specific context of their school/department/division and the learning needs of their students"* (*Learning and Teaching Strategy*, para 2.6). A full staff development programme is provided for new and mid-career staff (E8). The College is aware that the participation rate of more senior staff in the programme needs to be improved and is

addressing this issue. Other means to enhance quality in teaching include academic staff appraisal, peer observation of teaching and mentoring schemes for new staff. An important new initiative is the establishment of the Imperial College Centre for Educational Development whose remit is to act as a focus for research, dissemination of good practice, innovation and training in teaching and learning in the College (A25). The Centre is responsible for the development of a College course leading to a Certificate of Advanced Study for Learning and Teaching (CASLAT); this will be offered to academic staff from January 2001, with the intention of achieving eventual accreditation by the Institute for Learning and Teaching.

B 18   Identification and dissemination of good practice

B18.1   The internal programme review processes referred to in B10, B11 above are the principal means by which good and poor practice in teaching are identified at College level. The report which is submitted to the Senate after each USC review of a department's teaching specifically highlights any examples of good practice which the USC wishes to bring to the attention of other parts of the College. Similarly, each QAA subject review report is scrutinised for instances of poor and good practice and a summary report is submitted to the USC and GSC with the full report which identifies these. The relevant department is then asked to respond to the Committees on the comments on practices where improvements could be made stating what remedial action has been taken. A central digest of examples of good practice and critical comments arising from both USC and QAA reviews is maintained and circulated to the Senate and to Heads of Departments and departmental Directors of Studies.

B18.2   The reports of Visiting Examiners are also used as a means of identifying good and bad practice. Each report is scrutinised by the Pro Rector for Educational Quality and the Registry, and departments are asked to comment on any points of concern raised by the Visiting Examiner. The reports and departmental comments are then considered by the relevant discipline Studies Committee (Engineering, Medicine or Science) at undergraduate level and by the relevant postgraduate committee at postgraduate level. These committees may seek further assurances from a department on the resolution of a particular problem.

B18.3   Outside the formal quality assurance structure there are several mechanisms whereby academic staff can exchange ideas on teaching and learning. The ICCED as mentioned above is a focus for the dissemination of good practice. The London Imperial Network for Education Development (LINKED) links some 100 staff. The College-funded schemes of Teaching Development Grants and Teaching Research Grants foster best practice and innovation. An Education Development Co-ordinator (EDC) scheme has been recently initiated where each department/division appoints a key person for education development. The ICCED coordinates termly meetings of the EDCs in which good practice is disseminated.

B19   Student induction and support

B19.1   There is a general programme of induction organised centrally at the beginning of the academic session for all new undergraduate and postgraduate students. Before arriving at the College each student receives a copy of the *Freshers' Handbook* [18] which gives comprehensive information on those aspects of College life which experience has shown are the most important for incoming students. They also receive a written guide to its services from the Imperial College Union.

B19.2   The International Office provides support for the College's international students. A 'meet and greet' service is offered for students on arrival in the UK, a welcome desk is available throughout the first week before the beginning of the academic year and specific events are arranged. Students are free to consult International Office staff for help and advice, including on immigration and asylum matters.

B19.3   In the first few days of the session students are given presentations by the Rector, the Deans of the constituent Colleges and the Principal of the School of Medicine, the College Tutors, representatives of the Imperial College Union, the College Health Centre (with whom most students register) and student societies. Library tours are available during this time. Concurrently, departments arrange their own induction programmes. These will normally include a welcome by the Head of Department, Admissions Tutor, Senior Tutor, Directors of Undergraduate and Postgraduate Studies as appropriate, and departmental student representatives. New students will be assigned their personal tutor, introduced to the department's teaching and learning facilities and informed of departmental practices and procedures, including health and safety. Guidance on learning skills may also be offered at this time, or if not then, early in the first term. In addition to the sessions provided in the department, the College produces a written guide entitled '*Learning to Learn*'[19] which is regularly updated under the direction of the Undergraduate Studies Committee. An accompaniment for tutors is currently being developed. Some departments have mentoring systems, whereby second year students act as guides to freshers.

B19.4   The induction process for research students is necessarily less formalised. The Postgraduate Tutor in each department is responsible, *inter alia*, for the induction of new research students. The Graduate Studies Committee has identified a checklist of topics which might be included in the induction programme for research students. As part of a general exercise to monitor the effectiveness of research student training departments are asked to confirm annually to the Committee what elements of the checklist they are incorporating into their induction programmes.

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[18] Annex V: Freshers' Handbook
[19] Annex W: Learning to Learn

B19.5 Each undergraduate student is assigned a personal tutor who will normally stay with the student for the duration of his/her degree programme and who will be the first point of advice on academic matters. The Senior Tutor or, at postgraduate level, the Postgraduate Tutor oversees the progress of students and is a further source of advice to students. Three College Tutors (senior members of College academic staff: two male, one female with considerable pastoral tutoring experience) provide an extra tier of support outside the student's department or when students have very serious problems. The School of Medicine also provides a Student Welfare Tutor for its students. There are three College Student Counsellors as well as counsellors based in the College Health Centre and, in addition, the Imperial College Union operates a confidential advice service (B19.10). The Chaplaincy, combining the Church of England, Methodist, Lutheran and other free churches, is available to all College students. Wardens and sub-wardens of halls of residence and student houses are available to give advice and help on personal and non-academic matters to students in residence.

B19.6 Written information on programmes is provided for students, usually in the form of year handbooks or programme guides. It is recognised that the format and effectiveness of such information can vary between departments. The GSC has recently formulated a template for taught postgraduate programme handbooks for the guidance of departments. In the current academic year the College plans to introduce programme specifications for each taught programme of study at undergraduate and postgraduate level in accordance with QAA guidelines. This should ensure that all students receive comprehensive and accurate information about their programmes of study.

B19.7 Foundation or remedial courses in subject such as Mathematics, or Chemistry (for Biochemistry students) are offered where there is a perceived need. English classes are offered free of charge to international students through the Humanities Programme.

B19.8 The College Disabilities Officer advises students with physical disabilities or learning difficulties on the help which is available to them. Such help may include special examination arrangements. The College wishes to offer as much assistance as possible to students with disabilities and is making continued efforts to improve access.

B19.9 Careers advice is available to students both in the department, through a member of the academic staff with this designated responsibility and through the College Careers Service. The latter is part of the Registry and is staffed by professional careers advisors with particular expertise in and links with industry and business.

B19.10 For students experiencing financial difficulties, the main source of advice is the Imperial College Union which employs a full-time professional student advisor. The College has a small Hardship Fund and other specific funds, to which students who are not eligible for assistance from government hardship funds may apply. The Union

advisor also assists students on issues concerning housing rights, immigration, consumer problems and other legal and welfare rights enquiries.

Criterion

The academic and related support requirements of students studying off-site are taken into account

B20 Off-site study

B20.1 Students studying outside the College can be categorised into the following groups:

- Students following programmes jointly offered with other institutions

- Students on distance learning programmes, mainly those offered through the University of London external programme

- Undergraduate students following degree programmes incorporating a year abroad

- Medical students on elective programmes and clinical attachments

- Undergraduate students undertaking degree programmes which incorporate periods of industrial placement.

B21 Collaborative programmes

B21.1 It has not to date been part of the College's mission to engage College-wide in initiatives to develop collaborative provision. Thus the initiatives which have developed have been at departmental level and on a relatively small scale. Responsibility for the support of students studying off-site is, as with students studying on-site, devolved to the department concerned but the arrangements are monitored at College level by the same processes which obtain for programmes delivered on-site. Thus programmes which are offered jointly with other institutions or through distance learning are subject to the same processes of approval and review as wholly College-based programmes and are governed by the same regulations.[20] For example, the Visiting Examiner for the BSc in Physics with Musical Performance (programme run with the Royal College of Music) is appointed by and reports to the Science Studies Committee, and the Visiting Examiner for the postgraduate programme in Industrial Design Engineering (programme run with the Royal College of Art) is appointed by and reports to the Postgraduate Committee for the City and Guilds College.

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[20] Annex X: Programmes offered in collaboration with other institutions

B22 Distance Learning

B22.1 Until the academic year 2000-2001 the College had very little in the way of distance learning provision, the only significant activity being the Overseas MBA for students in Singapore. This is taught largely on site in Singapore, wholly by College staff, and was last reviewed by the Graduate Studies Committee in 1999. One outcome of this review was the setting up, at the Committee's request, of a staff-student committee to facilitate student feedback on the programme.

B22.2 In August 2000 the College's merger with Wye College brought into the academic provision a substantial increase in distance learning in the form of Wye's extensive programme of taught Masters and postgraduate diploma programmes offered through the University of London external system. Wye College has accumulated considerable expertise in the delivery of these degree programmes, and was praised for this activity in the QAA quality assessment report on Wye in 1998. The reviewers noted that

"students have a wide range of written support materials, including a well-designed student study guide, relevant degree regulations and an annual newsletter. They also have access to highly professional and responsive administrative support, who deal with a range of matters, including personal counselling and referrals on academic issues. These services are assisted by a comprehensive student database.

Tutorial support on the programme is provided by a course tutor, appointed for each course, as well as a number of subject tutors. All programmes of study are co-ordinated by a small team, seconded from relevant departments to the Centre for External Programmes."

B22.3 A number of systems are in place for monitoring achievements on the programme, including questionnaires at individual course level and end of programme feedback. It is, however, acknowledged that learning outcomes are not monitored as formally or systematically as they ideally should be. Proposals to establish a formal association of alumni to provide a focus for such monitoring are currently being discussed.

B22.4 The College intends to utilise and learn from the expertise at Wye and has in the short time since merger on 1 August 2000 begun to do so in that it has been agreed that a new distance learning MBA is to be administered by the distance learning team based at the Wye campus.

B23 Year abroad programmes

B23.1 With regard to undergraduate students taking part of their programmes outside the College the same principle of devolved responsibility applies. Normally the department delegates one member of the academic staff to have responsibility for the administrative and support arrangements. Students are only permitted to attend approved institutions abroad. Normally this is a university or other educational institution but in some departments students are permitted to spend their year abroad undertaking research in an industrial setting. Students usually receive at least one visit from a member of the department during their stay abroad. There have, however, been concerns that the range of effectiveness of departmental management of Year Abroad programmes is too variable. The Undergraduate Studies Committee commissioned a review of these programmes in 1999-2000, which has recommended, *inter alia*, the endorsement at College level of a 'best practice' template for the management of Year Abroad programmes and the inclusion of the management of these programmes as a specific area of review in the USC reviews of departmental teaching. Subject to formal adoption of the recommendations by the Senate, future USC reviews will thus measure the effectiveness of the management of the Year Abroad against the agreed best practice.

B23.2 Despite the above caveat, the review of Year Abroad programmes found that, with few exceptions, the students on these programmes were able to cope well in their host institutions and saw tangible benefits from their experience.

B24 Medical electives and clinical attachments

B24.1 The majority of medical students undertake their elective attachment in hospitals and medical centres with which the School of Medicine has long established links and are regularly used by students. The receiving institution is required to submit a report on the student in a standard format, and in addition, each student is required to submit a report at the end of their attachment. These reports are reviewed by the School's elective co-ordinators, any adverse reports are followed up and if not resolved the elective would not be approved for students in the future. Students wishing to attend at institutions not previously used by the College are required to submit details of the proposed host institution and course of study for approval by one of the School's Elective Co-ordinators.

B24.2 Directors of Clinical Studies based at the NHS associated hospitals are responsible for assuring the quality of teaching on clinical sites and for providing academic support to students. Students undertaking the clinical phases of the undergraduate medical course are allocated a personal clinical tutor.

B25 Industrial placements

B25.1 Departments offering the opportunity for industrial training as part of the undergraduate degree programme organise the placement of students in appropriate

industrial settings. Students are normally visited by a member of the department during their placement and are required to produce reports on their placement. Not all placements are assessed for the purpose of degree classification, but all must be completed satisfactorily in order for the degree to be awarded. This would normally involve a satisfactory report from the student's employer.

Criterion

Standards of students' achievements are maintained at a recognised level and there is a strategy for developing the quality of academic provision

B26   Assessment criteria and practices

B26.1   In accordance with the devolved management structure referred to elsewhere the College has not instituted detailed College-wide assessment criteria. Departments employ the assessment methods appropriate to the objectives of the discipline area, within an overall agreed framework. Checks on the appropriateness of the assessment methods are made at programme approval and review and through the reports of Visiting Examiners and accreditation bodies where relevant.

B26.2   Key elements of the framework are as described below.

- The College Requirements for individual programmes of study (ie, BSc and MSci, BEng and MEng, MB BS and taught Masters) specify the range of methods of assessment that may be used for that programme. Departments choose among these which are the most suitable for their discipline, subject to the checks referred to above.
- Marking schemes for undergraduate programmes and schemes for the award of honours must be approved by the Engineering, Medical and Science Studies Committees as appropriate.

- Examination scripts, major reports and dissertations for undergraduate and postgraduate taught programmes must be marked by two internal examiners and moderated by a Visiting Examiner. Other assessed coursework must be marked by one internal examiner, with a second internal marker having at least an overview of the work. The Visiting Examiner would be asked to moderate where any differences of opinion emerge.

- Common mark bands for honours classification operate for all undergraduate degrees offered by the College. Each department is required to have in place written criteria covering the range from first class to fail for the assessment of individual items of students' work and these must be approved by the relevant discipline Studies committee. At postgraduate level there is a common pass mark and distinction mark for all taught programmes.

- The College degree requirements specify the conditions under which students may retake failed examinations and under which departments may recommend the award of a pass degree, an aegrotat degree or a degree without a named subject area.

B26.3 Most courses are assessed by coursework and examinations. The assessment of coursework is wide ranging and usually, throughout a student's career, involves a number of the following: oral presentations, vivas, written laboratory reports, problem sheets, group assessment and poster presentation. The range of coursework assessment methods plus the examinations ensure that students acquire an in-depth knowledge together with the originality and breadth of vision required to analyse and synthesise in many contexts.

B27 Communication of assessment criteria and practices

B27.1 The relevant degree requirements and the College examination instructions are circulated by the Registry to each internal and visiting examiner on appointment each year. Students receive a copy of the Academic Regulations at registration and are informed of the assessment criteria and practices pertaining to their degree programme by the department in the form of course handbooks and other documentation. The College Academic Regulations and degree requirements are also accessible to students and staff on the College website.

B27.2 Departments employ a number of methods to ensure that staff are fully aware of assessment criteria and practices. Mainly these will take the form of written instructions issued to staff in staff or examiners' handbooks or attached to items of assessed coursework or examination papers. Minuted discussions at Teaching Committees and Staff Meetings are another effective means of disseminating information. Staff will also normally receive copies of the documentation which is issued to students.

B28 External contribution to the assessment processes

B28.1 As previously described (B5.1), Visiting Examiners are fully involved in all aspects of the assessment processes.

B29 Monitoring of assessment procedures and outcomes

B29.1 The main means by which the College monitors the reliability and validity of assessment procedures is through the external examiner system, previously described (B5, B18.2) and the Boards of Examiners. The meetings of Boards of Examiners give all academic staff associated with the programme (and the visiting examiners) the opportunity to comment on the reliability and validity of the assessment procedures and to suggest improvements in both the procedures and the

programmes. Visiting Examiners may follow up and add to their comments at the Board of Examiners in their written report. The reports of Visiting Examiners are made available to internal review panels, accreditation panels and QAA panels.

B29.2 In addition, the Registry supplies data annually to Senate on failure rates and student progress, and to the Engineering and Science Studies Committees on the distribution of honours degree classifications across the College and on the performance of students in resit examinations and supplementary qualifying tests. These data inform the Senate and its committees on any anomalies.

B30   Communication of assessment outcomes

B30.1 The College recognises the importance of giving students informative feedback on their performance. It is however difficult to monitor centrally that this is happening uniformly at individual course level. Normally problems would be expected to be picked up by the Directors of Undergraduate and Postgraduate Studies via the departmental Staff Student Committee or the other methods of acquiring student feedback referred to in paragraphs B11 and B17 above, but this may not always be effective. In this respect, the College has found the QAA subject reviews extremely useful in alerting Heads of Departments and the College committees to instances (fortunately infrequent) where the practice in giving feedback has fallen short of the standard required. In such cases, the mechanism whereby QAA subject review reports are considered by the USC and GSC ensures that the department concerned is asked to report back in twelve month's time on what measures have been taken to remedy matters.

B30.2 The College has for many years obtained student feedback on all undergraduate programmes through a College-wide lecturer evaluation questionnaire (B17). A working party is currently reviewing the questionnaire and has been asked to consider incorporating into it questions on the quality of feedback given by the lecturer to students. This would both confirm the importance the College attaches to appropriate feedback and would provide a means by which departments could check that it is happening on each programme.

B30.3 In cases where undergraduate students have failed in-programme assessment such that they are required to withdraw from the College, each student is informed of their failure individually by the Senior Tutor or Director of Undergraduate Studies before pass lists are published.

Criterion

Effective action is taken to address weaknesses, promote strengths and demonstrate accountability

B31 Maintenance of standards

B31.1 Feedback mechanisms, the use to which feedback is put and external input to programme design and review, teaching and student learning are described in detail in B5, B7, B11, B17 above. Together with the processes of internal review also previously described (B7, B11) these provide evidence to demonstrate that the College adopts a rigorous approach to ensure the maintenance of quality and standards.

B32 Student advisory and counselling services

B32.1 The Pro Rector (Educational Quality) plays a pivotal role in ensuring the effectiveness of student advisory and counselling services. He is responsible both for developing policy in this area and for overseeing provision.

B32.2 The Pro Rector carries out this function in the following ways. He is the line manager of the three Student Counsellors and of the two College Tutors. He is also, through the College Tutors, responsible for the Wardens of College halls of residence who each have a significant welfare and pastoral role, especially with first year undergraduates and first year overseas postgraduates. He meets regularly with the Student Counsellors, the College Tutors, the Senior Chaplain and the Imperial College Union and, on behalf of the Rector, is closely involved in the work of the Registry, part of whose remit is to advise on and deal with student financial problems and to provide a careers service for students.

B32.3 On a more formal level, the Pro Rector (Educational Quality) chairs the Rector's Committee on Student Residences and the Medical and Dental Services Advisory Committee. Other College committees dealing with student welfare are the Rector's Committee on Student Welfare, the Senate Committee for International Students and the Senate Careers Advisors Committee.

B32.4 The effectiveness of the student advisory and counselling services is therefore monitored by the Pro Rector (Educational Quality) and a series of rectorial and Senate committees. Some of these, in turn, are monitored by the governing body, the Council, through its House Committee. This same mechanism identifies what resources are required to maintain and enhance the effectiveness of the student advisory and counselling services and causes bids to be made by the appropriate budget holders for funding for staff and finance through the Planning Round and space through the Space Planning Advisory Group.

B32.5 Finally, it should be recorded that the College has been graded 4 for Student Support and Guidance in all subject reviews conducted by the HEFCE and the QAA.

C   **Administrative Systems**

Criterion:

The institution's administrative systems are sufficient to manage its operations now and in the foreseeable future

C1   **Monitoring student progression and performance**

C1.1   Responsibility for recording and monitoring students' progression and performance lies with the College's Registry. In fulfilling this responsibility the Registry's systems, which are subject to regular review, rely on the Student Administration IT System known as REGIC. The ensures that the Registry can provide academic departments and divisions with timely and accurate information to satisfy their needs.

C1.2   In addition to responding to individual requests for information from academic departments, the Registry produces statistical reports at regular intervals (at least annually) which are submitted for consideration by one or more of the College's major academic committees (see B15.3 and Annex P).

C1.3   The Registry also produces bespoke statistical reports for the major committees and other users as required.

C1.4   A new College-wide student administration and management system will be implemented in the 2001-02 academic year. The system will monitor a student's progress throughout their course of study, including:

- recording and maintaining the examination papers each student undertakes;

- patterns of study and grading schemes for programmes of study;

- entering and publishing examination results;

- managing assignment due dates (and any extensions); and,

- managing applications for special consideration and their outcomes.

  For research students specifically the new IT system will also:

- admit and enrol them;

- record their research topic, research plan and other thesis details;

- maintain candidacy details (e.g. minimum and maximum submission dates which are system-calculated, work experience in industry, examiners and examining panel);

- monitor candidates' research progress with the use of milestones (in conjunction with system email alerts and workflow).

C2   **Library and computing services**

College Library Services

C2.1   The College Library Service's aims and objectives are set out in the College Library Policy, which is revised by the College Libraries Committee every three years. The most recent revision was approved by the Senate in June 2000.

C2.2   The College libraries aim is to provide high quality support for teaching and research and to ensure that all books, periodicals, electronic and other resources, as well as other services regularly required by members of the College, are available on site or, increasingly, at the desktop.

C2.3   Library provision at Imperial College is characterised by the duality of its services, with some needs being met through local (departmental and campus) libraries and some through the Central Library (see also B13.2). A single management structure, led by the Director of Library Services, ensures close co-ordination of this dual approach into an integrated library system. Centralised co-ordination ensures the most efficient use of resources, with the various libraries providing complementary collections and offering the widest access to information for all users. The rapid growth in the availability of electronic information – particularly electronic journals – means that information is increasingly available at the desktop and access to it is no longer place-dependent.

C2.4   Library services are regularly reviewed, so that they may be adjusted to respond to changing needs, particularly those arising from IT developments. Feedback is sought from the student body over service provision, and service enhancements made (subject to availability of resources) in response to expressed student needs (for example, the recent extension of opening hours to include Sunday opening).

C2.5   Current development plans include an extension of opening hours on weekday evenings; further growth in the collection of electronic information resources; extension of the user education programme, providing information skills training for students (and for staff too, if required); an ongoing programme of refurbishment to existing library space to provide an environment appropriate for the 21st century, where access to printed and electronic collections can take place simultaneously.

C2.6   In delivering a growing range of library services across the college network the Library works closely with the Centre for Computing Services (CCS) to ensure that IT related matters, ranging from IT support or system security to connectivity and performance, are dealt with in the most appropriate and timely manner.

C2.7   To assist in the day-to-day running of Library services and to ensure adequate channels of communication a number of internal committees deal with a range of issues[21] (see also B13.2). The libraries key committees include:

- College Libraries Committee- a high level Committee, reporting to Senate and advising on general library policy.

- Library Management Committee – the senior management committee of the library, formulating library policy, and presenting it to the College Libraries Committee for endorsement.

- The Inter-Libraries Panel – the main co-ordinating forum, including department, campus, and collection librarians, and members of the Library Management Committee.

Computing Services

C2.8   College wide computing services are provided by the Centre for Computing Services (CCS) and by the Division of Planning and Management Information Services (PMIS). CCS is primarily concerned with the provision of academic computing and with the College's IT infrastructure while PMIS is responsible for providing the administrative IT systems.

The Centre for Computing Services

C2.9   The Centre for Computing Services (CCS) provides a comprehensive service to students and staff including teachers, researchers, librarians and administrators.

C2.10   The services are based on an IT infrastructure that permits all CCS users to access, from anywhere at any time, all the College and Internet based, resources that they need. These are accessible easily and securely in a seamless way from anywhere, anytime. They include common authentication and messaging systems e.g. e-mail, calendar, personal file space, webspace, unified applications, access to College intranets and the Internet, compute servers, Library and Administrative services.

C2.11   To support these services the CCS provides a standard, stable, documented, supportable and sustainable College wide IT framework which is kept under regular review and development to ensure the service remains state of the art.

C2.12   The overall service support priorities operated by the CCS are:

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[21] Annex Y: College Libraries Management Committees Structure

- College network and network services infrastructure;

- Teaching Clusters and College wide Library services;

- Administrative computing;

- Research Clusters;

- Individual Users.

C2.13 Services provided include:

- Advice to College and academic departments on IT/IS strategy and developments in support of the College academic teaching and research activities.

- application software advice and support;

- computer support, maintenance and upgrade services;

- electronic mail and related services;

- Help Desk, information and training;

- network access and services;

- operating system support;

- security;

- support of teaching facilities;

- web services;

- workflow management.

Planning and Management Information Services (PMIS)

C2.14 The Management Information Services (MIS) section of the Division of Planning and MIS is responsible for the:

- development, co-ordination and implementation of Information Systems strategies for the College's administration;

- support and development for management and administrative systems and the IT infrastructures;

- provision of a central user support service for academic staff using the administration systems;

- provision of computing support for administrative divisions and non academic groups (such as IC companies) - over 700 PCs and 30 plus servers;

- development and support of the corporate database systems;

- provision of management information and associated reporting tools;

- provision, to an agreed specification, of programs to satisfy information and systems requirements;

- coordination of the administrative intranet, INTRINSIC.

C2.15 The development of the College's administration information systems is governed by an Information Systems Strategy formulated by the Administrative and Management Information Strategy Group, the key objectives of which are to:

- generate high quality management information;

- increase the effective use of these systems within College;

- rationalise the support and management of these systems to improve the service offered to the wider College community; and

- maximise the return on investment made in information systems.

C2.16 A key element in that strategy is the introduction of a corporate database to replace the core operational systems in use within the administration. The first phase of this programme was the implementation, in 1999 of the new, integrated Finance and Personnel information system known as ICIS and based on the Oracle financials package.

C2.17 The planned second phase of the programme is to replace the student management system in 2001-02. As with ICIS, the vision is to provide a system that meets both the needs of the central administration as well as the academic departments, by supporting student administration.

C2.18 The integration of administrative systems and the sharing of data between these applications to limit the amount of duplicate data handling is central to the strategy. One of the most common data groups held in the administrative systems is data on individuals, both staff and students. Personal details of staff and students are held in the Sports Centre, Library, CCS, and Occupational Health, as well as the student and staff management systems. To aid the sharing of data and the integration

between College systems, a common numbering system (the CID) has been introduced to identify individuals and corporate bodies associated with the College.

C2.19 A separate web based system which is central to all administrative systems, the CID generator, has been developed in house to control the allocation of CIDs to new individuals and organisations. This is the first time that a single identifier has been available for an individual who is both a staff member and a student, which can be used throughout the administrative systems. This CID number will remain with an individual for the duration of their association with the College and will aid the integration of systems. CIDs were introduced in parallel to ICIS and are therefore used within the finance and personnel systems, as well as within the Registry, Security and Library systems.

User Support

C2.20 An important part of the service offered by MIS to the College's administration is user support. The MIS User Support Services group provide a complete user support service to all users of the administrative computing systems ICIS, REGIC, etc and computer support for all of the administration. It offers training, advice, a library of leaflets and booklets packed with tips, and a User Support Helpdesk.

C2.21 MIS User Support is also the channel for purchasing new hardware, software and it offers advice using software, and purchasing software and hardware.

C3 Support services for students and staff

C3.1 The College provides a range of support services for students covering both academic and pastoral care. Those relating to students are described in detail in B19 above.

C3.2 Other support services offered by the College include:

The Health Centre

C3.3 The Health Centre is located at the South Kensington campus. Although the Health Centre is now largely independent of the College, students living in the Health Centre's catchment area can register with the Health Centre and students of Imperial College and the Royal College of Music not registered with the Centre as NHS patients can use the Health Centre during its regular opening hours. Staff can also use the Health Centre but will normally only be seen for urgent problems during working hours.

C3.4 The Doctors and Nurses provide general medical care. Help is also available for stress, study difficulties, pregnancy counselling and health promotion. A Consultant Psychiatrist and a Sports Physician attend weekly. Part-time Counsellors,

Psychotherapists and Physiotherapists are also available. All newly-registered patients are offered a basic medical examination. Examinations for employment, insurance, sports activities, etc can also be arranged and complementary medicine is also available, from private Practitioners working from the Health Centre. The dental clinic provides the full range of NHS treatments to staff and students.

C3.5   Alternative arrangements for medical support operate at the other campuses.

Occupational Health Service

C3.6   The College has a separate occupational health service to advise on the management of health issues relating to work and to provide specialist clinical services to protect against health hazards at work. The Occupational Health Service provides services to staff and research students based at South Kensington. It also provides vaccinations required for clinical work to all medical students. A part-time nurse advisor is based at Silwood Park to provide services to all staff and students working there. Occupational health services for staff and postgraduate students on other campuses and sites are provided by arrangement with the associated hospital's occupational health departments.

C4   Equality of opportunity

C4.1   The College has recently revised its equal opportunities policies and documentation in the context of the relevant Acts and as part of the regular review and updating carried out in consultation with the Equal Opportunities Consultative Committee which advises the Rector and the Director of Personnel.

C4.2   The College has been concerned for several years about the under-representation of women amongst academic staff at the more senior levels. Thus the Rector established a committee to advise him on how the College might create a more level playing field for women by removing any barriers that may exist in appointment or career advancement for highly qualified women, and how to ensure that numbers of such women in College are as high as possible. The Committee commissioned a Report on the Academic Progress of Women at Imperial College and various initiatives have already been taken as a consequence of the findings of that Report. These include the introduction of Maternity Fellowships to assist women to re-establish and maintain their research activity on return from maternity leave, and a project evaluating mentoring strategies which is being supported by the Athena Project. The College is developing a portfolio of "family friendly policies" designed to support all members of staff.

C4.3   The College is expanding the range of staff benefits and facilities such as access to health checks, sports facilities, social facilities on campus and family support services.

C4.4   The Director of Personnel has overall responsibility for the formulation, implementation and monitoring of the College's Equal Opportunities in Employment Policy[22] .

C5   Complaints mechanisms

C5.1   The College has a number of effective and confidential mechanisms by which students and members of staff may have complaints regarding academic and non-academic matters considered.

Academic Complaints

C5.2   The College has a series of procedures for appeal and complaints regarding academic matters. These include:

- Procedure for appeal against withdrawal due to academic insufficiency;

- Procedure for consideration of representations by candidates for first degree and taught masters degree examinations;

- Procedure for consideration of appeals by candidates for research degrees (this is a University of London, rather than a College Procedure);

- Appeal against the refusal to transfer a student from MPhil to PhD registration;

- Regulations for proceedings in respect of Examination Offences for University Awards: Appeal against the decision of an Examination Offence Hearing Committee (this is a University of London, rather than a College Procedure).

C5.3   Representations regarding examinations must be submitted to the Academic Registrar who will refer valid representations to the Board of Examiners for consideration. Students are not permitted to make representations against the results of examinations on academic grounds but may appeal on the grounds of administrative error or where there is a concern that the examination may not have been conducted in accordance with the relevant procedures/ regulations/ requirements for the examination. In particular, representations will be considered where there is: an allegation of irregularity in the conduct of the examination; new evidence of circumstances which might have adversely affected a candidate's performance; a request to check the addition of marks on scripts; a request to check that the correct marks have been ascribed to a candidate; an allegation that the final assessment does not reflect the performance of the candidate in the examination's individual elements.

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[22] Annex Z: Equal Opportunities in Employment Policy

Student Complaints

C5.4   The College has a published procedure for dealing with complaints by students which was approved by the Council in June 1999[23]. This provides for a four stage process as follows:

(i)   The complaint is raised initially with the individual responsible;

(ii)   The complaint may be referred to the relevant responsible authority such as a Head of Department or Division;

(iii)   The complaint may be referred to the Academic Registrar for investigation. The Academic Registrar will seek a resolution in consultation with the responsible authority;

(iv)   A report prepared by the Academic Registrar may be referred to the Pro Rector (Educational Quality) who will reach a conclusion on the complaint and determine an appropriate course of action.

C5.5   A copy of this procedure is provided to all students upon registration at the College. Additional copies are also available from the Students' Union and the Academic Registrar's Office.

C5.6   Procedures are also in place to hear appeals against disciplinary decisions (including Appeals against summary punishment, Appeals against the decisions of the IC Union Disciplinary Committee, the Residence Tribunal and the College Discipline Committee).

Staff Complaints and Grievances

C5.7   The discipline, grievance and dismissal procedures for academic staff are established under the College's Royal Charter and Statutes and are published as the Appendix to the Statutes[24] . Under these procedures, a member of the academic staff, having exhausted other remedies within the school, department, division, centre or other relevant area, may raise their complaint with the Head of School, Department, Division or Centre. If they remain dissatisfied with the result of this consideration, or if the complaint concerns the Head of School, Department, Division or Centre, the member of staff may apply in writing to the Rector for redress of their grievance. If the Rector is satisfied that the grievance can be considered he may either dispose of the complaint informally or refer the matter to a Grievance Committee for consideration. The Committee will determine whether or not the grievance is well founded and, if it is, make such proposals for redress as it sees fit.

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[23] Annex AA: Procedure for Dealing with Complaints by Students
[24] Annex BB: Appendix to the Statutes; Discipline, Grievance and Dismissal Procedures for Academic Staff

Whistleblowing

C5.8   The College has also recently introduced policies and procedures for the investigation of allegations of scientific misconduct and for dealing with instances of public interest disclosure (whistleblowing)[26]. The whistleblowing procedures are designed to enable employees, Governors, students, or other members of the College to raise, at a high level, concerns or to disclose information which the complainant in good faith believes shows malpractice or impropriety within the College. Under both procedures the College will seek to ensure that the identity of the complainant will remain confidential. However, it is ackowledged, and clearly signalled in both published procedures, that this may not be possible in all circumstances:

"The College will treat all complaints made in accordance with these procedures in a confidential and sensitive manner. The identity of the complainant will be kept confidential, if so requested, for as long as possible provided that this does not hinder or frustrate a proper investigation. However, the investigation process may reveal the source of the information, and the complainant may need to provide a statement as part of the evidence required. If further action is taken under the College's disciplinary or other procedures as a result of the complaint, the complainant may also be required to provide a statement or give evidence as part of that process."
Policy and Procedures for Dealing with Instances of Public Interest Disclosure
Paragraph 12

Role of the Visitor

C5.8   Under Section 22 of the College's Royal Charter any student or member of staff may also appeal to the College's Visitor, who is Her Majesty the Queen acting through the President of the Privy Council. It is normally expected that any student or member of staff making a representation to the Visitor will only do so once the College's internal procedures for the consideration of complaints and appeals have been exhausted.

C6   Administrative staff professional development

C6.1   The College is committed to providing a comprehensive programme of staff development activities and opportunities for all staff, and fostering an environment which encourages staff to take responsibility for their own development.

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[26] Annex CC: Policy and Procedures for the Investigation of Allegations of Scientific Misconduct and Policy and Procedures for Dealing with Instances of Public Interest Disclosure

Consequently the College does, and will continue to, invest in staff development and it ensures that, as far as resources permit, its staff have appropriate opportunities to develop both professionally and personally. In its response to the Universities and Colleges Employers' Association (UCEA) consultation on the Bett Report the College welcomed the priority in that Report given to people management skills and the need to invest time and resources on the training and development of all groups of staff.

C6.2   The Staff Development Statement, which is an integral part of the College's Equal Opportunities Policy, confirms that staff will have equitable access to staff development opportunities which are appropriate to their current or future role, whether they be part-time or full-time, or on fixed-term or open-ended contracts[27] .

C6.3   The College has established a Staff Development Unit as part of its Personnel Division to provide an extensive range of courses developed in response to identified need.   Thus there are specific programmes and courses designed to support academic, research and administrative staff, College appraisal schemes and equal opportunities policies as well as courses designed to meet the training needs of all staff [28] .

C6.4   The Staff Development Unit has a responsibility to coordinate, provide and evaluate relevant, responsive and cost-effective staff development activities which develop the skills, abilities and performance of staff. The Unit identifies staff development needs regularly by working closely with Heads of Departments and Divisions, those departmental and divisional staff development co-ordinators who have been selected by their Head to be the main link person on staff development matters, managers and individual staff. This exercise, together with an analysis of staff development needs identified during the appraisal process, provides the Unit with a comprehensive range of priorities upon which it needs to focus and deliver.

C6.5   In addition, each member of staff with staff management responsibilities is expected to encourage and support the development of his or her staff. Managers are required regularly to take stock of their staff's current skills and knowledge in order to identify whether these need to be developed to meet current roles and/or future challenges. The Unit places special emphasis upon providing support to managers, whether they be academic, administrative or technical, so that they may more easily fulfil their staff management and staff development responsibilities.

C6.6   Each member of staff is responsible for his or her own personal growth and development. Staff are expected to reflect upon their own performance, how their work may be changing, their career aspirations and identify their own staff development needs as a result. Staff should seek out opportunities and challenges to expand their skills and knowledge and gain the agreement of their manager where appropriate.

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[27] Annex DD: Staff Development Statement
[28] Annex EE: Imperial College Staff Development Programmes 2000-2001

C6.7   As part of the Personnel Division, the Unit is actively involved in personnel-related matters which have a direct bearing upon staff development, including the development and modification of appraisal schemes, appraisal training, coordinating workshops on personnel issues such as promotion, recruitment and selection, employee relations and equal opportunities, and organising a programme for research staff as part of the College's response to the Concordat.

Other Development Opportunities

C6.8   In addition to the courses offered by the Staff Development Unit, the Centre for Computer Services (CCS) offers a wide range of IT courses, while the MIS section of the Division of Planning and MIS also offers training and support for the College's administrative systems such as ICIS.

C6.9   The College's Safety Unit also provides a comprehensive health and safety training programme which is available to all staff and postgraduate students, mostly without charge. The quality of the sessions is maintained through the use of in-house expertise and the use of outside consultants where appropriate and certain courses lead to nationally recognised certification including the National Examination Board in Occupational Safety and Health (NEBOSH) Certificate. Courses in the programme can also be tailored to meet the requirements of individual departments and some courses are repeated throughout the year to enable as many people as possible to take part.

D   <u>**Environment supporting the Award of Higher Degrees**</u>

    Criteria

The College has an environment of academic staff, postgraduate and postdoctoral workers which fosters and actively supports creative research and scholarly activity

Staff of the College have acknowledged academic expertise

D1   **Research activity**

D1.1   Imperial College enjoys an international reputation for the quality of its research across all its disciplines. All 1100 academic staff are expected to engage in research and to publish regularly and almost all do. The College also employs 1500 research staff whose function is to undertake externally sponsored research. In 1998-99, the College received £M122 in research grants and contracts from external sponsors, the second highest total in the country. Of this amount, £M35 was from the research councils, £M32 from UK charities, £M16 from UK industry, £M10 from the EU Commission and £M16 from other overseas sponsors. All academic departments are successful in earning research income. In 1999-2000 some £M175 worth of research grants and contracts were awarded for 1500 projects. Many of these will be collaborative projects with partner HEIs or with industry.

D1.2   In all the Research Assessment Exercises undertaken, the College has been awarded high ratings for all of the Units of Assessments in which it was active. In the 1996 RAE only 4 out the 28 Units assessed were rated below 4. The College's weighted average score was 6.09 out of 7 (equivalent to just over 5 on the 1-5* scale). All bar 9% of the staff were declared as research active. The HEFCE research grant as a consequence of the RAE performance was £M55 in 2000-01.

D1.3   All departments supervise research students. In College as a whole 1800 FTE were registered in 1999-2000.

D1.4   Staff in all departments win international awards and prizes, are asked to speak at international conferences, and to join editorial boards of scholarly journals. They are appointed to panels awarding research grants, to councils of professional associations and to government committees. Currently over 50 staff and associated staff are Fellows of the Royal Society and 50 are fellows of the Royal Academy of Engineering.

D1.5   The College has pioneered the transfer of its expertise and technology to industry over many years. It has sophisticated mechanisms for doing this and has won DTI and HEFCE funding to support its work. It spins-out about one company a month from its research base.

D1.6   In all the above, details and examples would take too much space to describe but are available on request. Confidential information taken from the 2001 RAE submission will be available as evidence in support of the statements of research activity and the indicators of research esteem.

D1.7   The College supports new academic staff through mentoring schemes during their first few years. Senior staff are encouraged to include new staff in their bids for research grant and contracts as a way to assist them become established in their fields. Staff are entitled to apply for paid sabbatical breaks for research purposes, usually abroad, after two years service.

D1.8   The ethos of the College is such that research permeates almost all academic activity, including undergraduate teaching. All students benefit from the knowledge, insight and inspiration derived from staff who are international authorities in their fields. Such a culture is maintained principally through scrupulous selection of the highest quality academics to be members of staff. Regular seminar series in each department, often given by researchers from overseas who are visiting or working for a period in the College, maintain an international research culture. College wide events bring together staff working in cognate areas. A recently formed Research Committee establishes priorities for capital funding and co-ordinates large interdisciplinary bids. The recurrent funds available to departments are allocated on a formula basis, rewarding research performance and maximising the incentive to win more grants and contracts. All overheads received on a grant or contract are retained for use by the department, the centre imposes no direct 'tax'.

D1.9   The governance of research is regulated by policies which promote good practice and outlaw misconduct (see C5.8 and Annex CC). They develop principles of honesty, integrity, and openness through guidelines which are specific to broad areas of scientific research. They also include a framework for the supervision of research students in these matters. The College regulations on scientific misconduct govern plagiarism, piracy and fraud. Scientific misconduct is considered a serious disciplinary offence and, if proven after investigation and due process, would normally lead to dismissal.

D2   QAA Code of Practice on Postgraduate research programmes

D2.1   The Introduction to the Code of Practice concerning Postgraduate Research Programmes acknowledges that institutions already in receipt of research council support will have had to satisfy the requirements imposed by these bodies and are likely to have in place mechanisms which go further than the requirements of this section of the Code. That is very much the case with the College. In the current academic year, for example, the College has received 176 Research Council studentships and CASE awards.

D2.2 The College has a long tradition of training research students, reaching back well into the last century. Consequently there are well-established procedures in place which, together with the mechanisms operated by the University of London through its Regulations for the Degrees of MPhil and PhD, are consistent with the requirements of the QAA Code. These procedures are documented and communicated to students, academic staff and other stakeholders through the College and University *Academic Regulations*, the *Postgraduate Prospectus*, the *Freshers' Handbook*, the booklet *Research Students and Supervisors: their responsibilities and duties*[28] and through official Registry communications such as offer letters.

D2.3 The Graduate Studies Committee reviewed these procedures against the Code of Practice in 1999 and confirmed that, as predicted, the College was complying with the precepts contained within the Code. Some areas which could benefit from strengthening were identified and have been addressed. The main weakness was seen to be that there was no central monitoring that departments were carrying out their responsibilities in respect of research training. In response to this, the Graduate Studies Committee has initiated an annual survey of procedures followed by departments in respect of research degree programmes of study

D2.4 The College encourages departments to give research students access to appropriate taught courses that are relevant both to their discipline and to improving their general research skills. In particular the new Graduate School of Life Sciences and Medicine, incorporating the departments of Biology, Biochemistry, the biophysics section of Physics and the Medical School, offers 4 year PhD programmes. During the first year, courses on transferable skills are given and seminars and workshops arranged to promote interdisciplinary awareness.

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[28] Annex EE: Research Students and Supervisors: their responsibilities and duties

E   **Academic Staffing**

Criterion

The qualities and competences of staff are appropriate for an institution with taught degree awarding powers and research degree awarding powers

E1   Appointment of Academic Staff

E1.1   Through rigorous and well-established procedures the College strives to ensure that appointments of academic staff are appropriate to the College's aim to be counted among the leading institutions of the world for research, teaching and education in science, engineering and medicine.

E2   Senior Appointments

E2.1   Senior academic succession planning is a significant responsibility of the Rector. Those senior academic staff who have a specified leadership role, or who contribute to the development and management of College policy, are appointed as follows: The Rector is appointed by the Council; the Council appoints all other officers on the recommendation of the Rector in accordance with agreed regulations. Specifically, the Deputy Rector and Pro Rectors are full-time professors of the College who are appointed by the Council on the recommendation of the Rector; the Deans, who must also be full-time professors of the College, are elected by the full-time professors, readers and senior lecturers of their respective constituencies and the Senate is notified of the result; the Principal of the School of Medicine is appointed by the Council on the recommendation of the Rector; the Rector appoints Heads of Departments and Divisions on behalf of Council after consulting with all staff in the department or division in which the post is vacant. There is a Memorandum of Understanding (see A5.3) between the Rector and the Head of Department which sets out the major responsibilities of the appointment, together with guidance on the central support which is available to assist the Head of Department to undertake these responsibilities. The appointment of academic staff as appropriate for the academic strategy of each academic department, division or centre is one such responsibility.

E3   Approval to Appoint

E3.1   Annually, departments and divisions develop a staffing plan. Proposals and projections are made and budgets agreed accordingly at the Planning Round, the College's formal planning mechanism (A13). Against this background of an agreed staffing plan, the Management and Planning Group (MPG) considers applications to fill vacancies, or recruit to a new post, for all posts in all staff categories which are

fully or part-funded from general College income. The Rector, as advised by MPG, is also responsible for approving those posts which are funded through sponsorship arrangements, for example the NHS. Heads of Department seek approval to appoint to posts funded through research grants or contracts from the Research, Support and Development Division, which is headed by the Deputy Rector.

E3.2   Within the School of Medicine Heads of Divisions additionally seek agreement from the Principal's Advisory Group (PAG) for all academic posts, irrespective of the funding source, before applications are made to MPG.

E4   Recruitment and Selection

E4.1   Once approval to the post has been given, the recruitment and selection process is undertaken in line with College procedures. There is a defined membership of the selection committee for each level of non-clinical or clinical academic appointment and, in 1995, it was agreed that no distinctions were to be made in the appointment process between non-clinical lecturers on fixed-term contracts and those staff appointed with the expectation that they would become "permanent" on satisfactory completion of their probation.

E4.2   In addition to senior departmental or divisional representation on appointment panels, a Dean is included as a key member of the panel for all posts up to and including senior lecturer level in order to ensure that proper procedures are followed and standards maintained. Staff who are non-professorial, and staff who are drawn from an elected departmental or divisional panel, also sit on appointment panels for non-clinical and clinical senior lecturer appointments. There are specified rules which govern the involvement of the appropriate NHS Trust, Royal College and external assessors for clinical academic posts. For senior academic positions (Readers and Professors), the Rector personally approves the membership of the committee for each chair or readership appointment and he, or a senior colleague, chairs the selection committee which includes external experts in the field.

E4.3   For each academic appointment, the Head of Department (or a senior nominee, such as the Deputy Head of Department) is a key member of the panel. The Memorandum of Understanding between the Rector and Heads of Departments spells out that staff appointments (and promotions) are a significant undertaking for each Head of Department, indeed "probably a Head of Department's single most important task". All selection committees act in an advisory capacity and make a recommendation to appoint, via Personnel, to the Rector. The Rector has delegated the authority to approve the recommendations from Heads of Departments to the Pro Rector (Education Quality) and the Deputy Rector.

E4.3   Offers of academic appointment may only be made by Personnel after the Pro Rector (Education Quality) and the Deputy Rector have agreed the recommendation to appoint and the Deputy Rector has signed the employment contract.

E5   Governors' Lecturers

E5.1   As a separate initiative to reflect the College's continuing commitment to pursue excellence in teaching and research the College has introduced the Governors' Lecturers scheme, the second exercise of which was undertaken in 1999. The purpose of the scheme is to attract outstanding new non-clinical lecturers of excellent ability and potential, who will be committed to teaching and research at the highest level. The 1999 exercise attracted over 1000 firm applications, from which thirty new Lecturer posts were created following competition.

E6   Academic staff external experience

E6.1   Staff are requested annually to update their personal data recorded on the College Human Resources computer system. This update includes any academic or professional qualifications or honours which have been awarded in the previous year. In addition, the College maintains a central Register of Interests which records involvement in external activity whether it be industry and the professions or with national bodies, research councils, learned societies and other universities.

E6.2   As yet, no analysis of this information has been undertaken at College level to ascertain the proportion of academic staff who have experience in teaching, research, industrial or other professional activity external to the College. Anecdotal evidence suggests, however, that the academic staff of the College engage or have engaged in such activities to at least the same extent as would be found in other university institutions in the UK.

E6.3   The majority of academic staff have obtained higher degrees and doctorates, as recorded in the staff list contained in the College Calendar[30] .

Criterion

The institution's staff are actively engaged with the pedagogic development of their discipline.

E7   Academic Staff Probation

E7.1   Newly appointed academic staff at the junior levels (non-clinical lecturers and clinical senior lecturers) are given a probationary contract with a period sufficient to allow them to undertake professional development in pedagogy, which is obligatory before release from probation can be achieved. The probationary period is normally for three years; for clinical senior lecturers the probationary period is normally five

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[30] Annex GG: Imperial College Calendar 2000-2001

years, since these staff undertake clinical duties and thus require additional time to establish their teaching and research skills. Procedural points to highlight include the assignment of an Academic Adviser, whose role and duties are clearly spelt out and which focus upon providing guidance and feedback on the development of teaching, research and administrative skills, and the compulsory requirement for probationary non-clinical lecturers to attend four teaching and learning workshops during their probationary period (E8.2, E8.4). In addition to the regular reviews during probation, a final assessment is undertaken during the penultimate term by a Review Panel comprising a defined membership which for clinical lecturers includes an external expert to assess the clinical aspects of performance.

E7.2   After the Review Panel has met, the Head of Department sends his or her recommendation on whether the probationer should be released from probation to Personnel. The paperwork includes a report on teaching and research progress, confirmation of attendance at the compulsory courses and copies of student evaluation questionnaires. To ensure that consistent quality standards apply, the documentation is seen by, and approval given to the continuation of the appointment, by a Dean and the Pro Rector (Education Quality) before the contract is approved and signed by the Deputy Rector.

E8   Staff Development

E8.1   The College requires its staff to perform to high standards and to contribute towards the effective operation of their department or division. To help achieve this, the College is committed to providing staff development opportunities for all staff and to foster a learning and development environment which encourages staff to take responsibility for their own development (C6.1).

E8.2   Since the mid 1970s, the College has offered a portfolio of teaching development activities. This portfolio has now become the responsibility of the recently established IC Centre for Educational Development (A25.4, B17.4). The Undergraduate Studies Committee is responsible for agreeing required educational development, which includes courses which support both the development of non-clinical academic staff and the development of clinical staff to deliver the new medical curriculum. Current provision is for both new and experienced staff and aims to improve the design and delivery of undergraduate and postgraduate courses and thus enhance student learning. A suite of four workshops for academic staff is offered on university teaching methods covering technical presentation, including lecturing; student learning and student needs; small group teaching; and course design. Since 1994, workshops have also been offered which have been designed to improve the teaching skills of Graduate Teaching Assistants.

E8.3   Staff with educational development expertise are employed to deliver many of these courses and work with individuals and groups of staff on learning and teaching initiatives in departments and divisions. Directors of Undergraduate Studies,

Directors of Postgraduate Studies and Directors of Teaching have specific responsibilities for the design, delivery, assessment and evaluation of programmes within their departments or divisions. The formal provision is complemented by London Imperial Network of Education Development (LINKED), whose members meet regularly to discuss teaching and assessment issues and to help to disseminate good practice throughout College.

E8.4   In order for non-clinical lecturers to be released from probation, they must attend four of the learning and teaching workshops administered under the auspices of the Undergraduate Studies Committee, unless they have been granted exemption on appointment. Although it is not a compulsory requirement, probationary clinical senior lecturers who teach are strongly encouraged to attend this formal training in learning and teaching during their probationary period. Attendance at the workshops is normally a pre-requisite for registration for the College Certificate of Advanced Study in Learning and Teaching and forms one module of the programme (B17.4). Membership of the Institute of Learning and Teaching is being encouraged by the College, with financial assistance being provided to applicants.

E9   Academic Staff Appraisal

E9.1   The academic appraisal scheme was established in 1988 and reviewed in 1993. Appraisals are conducted biennially, and annually for non-clinical probationary lecturers. Heads of Departments are responsible for ensuring that appraisals are conducted. The documentation remains confidential to the Head of Department, the appraiser and appraisee, and the page which identifies staff development needs is returned to the Staff Development Unit for assessment and action.

E10   Promotion

E10.1   There is an annual promotion exercise in which all academic staff are assessed for promotion by department/division panels. For promotion to Professor, the panel consists of the Head of Department/Division and all the professors in the department/division. For promotion to Reader or Senior Lecturer the panel consists of the Head of Department/Division plus at least two other members of the department/division drawn from the professors, readers or senior lecturers. Recommendations from these panels are then passed to the Academic Promotion Committee (APC) which is chaired by the Rector. Personal applications are permitted even if the candidate is not recommended by the department/division panel; in these cases the views of the department/division panel are required by APC. Candidates, whether supported by department/division or not, are interviewed by members of APC and references, both nominated by the candidate and independent, are taken up. Final decisions are made at a full meeting of the APC. Interview panels for promotion to Senior Lecturer include the Pro Rector

(Educational Quality) whereas panels for promotion to Reader include the Pro Rector (Research).

E10.2 In judging the case for promotion to Senior Lecturer, Reader or Professor, it is College practice to take account of teaching, research and scholarship, administrative skills and the standing a candidate has in his or her subject; while candidates are expected to have achieved a high level in one or more of the above, they are also expected to have "achieved at least a reasonable standard in both teaching and research/scholarship". Clear guidance is given by Personnel on what evidence needs to be provided so that the standards of achievement which are being cited may be judged.

Criterion

Staff maintain high professional standards and willingly accept the professional responsibilities associated with operating in a university environment

E11   Professional standards and responsibilities

E11.1 As indicated previously (see A25.1, B17.4, D1), the College seeks to appoint and develop academic staff who will maintain through the high standard of their teaching and research the international reputation which the College enjoys. As members of the University of London they assume all the professional responsibilities expected of a university teacher, including for the majority of senior staff acting as external examiners at other universities and reviewers for relevant professional bodies. Sixteen members of the academic staff have served as subject reviewers for HEFCE/QAA teaching quality assessments and one has served as an academic auditor.

E11.2 Student feedback on the performance of staff in teaching is regularly received through a variety of means (see B5, B7, B11, B17). Although there are no formal procedures for obtaining feedback from employers, the high rate of employability of the College's graduates testifies to the value employers attach to the standards achieved by them. This was confirmed by employers consulted in the course of HEFCE/QAA subject reviews.

LIST OF ABBREVIATIONS

APC	Academic Promotion Committee
ACGI	Associate of the City and Guilds Institute
ARCS	Associate of the Royal College of Science
ARSM	Associate of the Royal School of Mines
CASLAT	Certificate of Advanced Study in Learning and Teaching
CCS	Centre for Computing Services
CIP	Capital Investment Plan
DIC	Diploma of Imperial College
EDC	Education Development Coordinator
GSC	Graduate Studies Committee
HoD	Head of Department
ICCED	Imperial College Centre for Educational Development
ICIS	Imperial College Information System
ICSM	Imperial College School of Medicine
ICU	Imperial College Union
LINKED	London Imperial Network for Education Development
MPG	Management Planning Group
MoU	Memorandum of Understanding
PAG	Principal's Advisory Group
PMIS	Planning and Management Information Services
ROBIC	Room Booking System for Imperial College
USC	Undergraduate Studies Committee