

The International Ocean Institute Virtual University

Project Funding Proposal for the Nippon Foundation



International Ocean Institute
Ms. Masako Otsuka, Director IOI - Japan
Dr. Gunnar Kullenberg, Executive Director of IOI

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A. Applicant information

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Date of establishment: 1972

Type of organization and institutional setting:

The IOI is an independent international non-governmental non-profit organization incorporated in The Netherlands, with a global coverage. It is accredited with the United Nations, ECOSOC, UNCSD, UNICPOLOS and several specialised agencies, e.g. IMO, UNESCO, and UNEP, UNCTAD and UNIDO.

The IOI has its Headquarters in Malta, established through an agreement with the Government of Malta; and 16 Operational Centres or Affiliates around the world. These are established through agreements with their Host-institutions. They are autonomous. A list is given in Annex 1.

The IOI has Statutes, last revised and adopted in 1991/92; a Governing Board and a Planning Council where the Directors of the Operational Centres are members. These bodies meet once a year. The Board is responsible for the management and the policy of the IOI, and approves the prospective budgets and accounts. The Executive Director is appointed by the Board as the Chief Executive Officer, and is inter alia responsible for putting into action the programme of the IOI as adopted by the Board, and under the responsibility of the Board.

The Board appoints an independent auditor, who also supervises the bookkeeping regularly and reports to the Board with regard to the financial statement.

Objectives of organization

1. The purpose of the International Ocean Institute is, under the guidance of the principle of the Common Heritage of Mankind, to promote education, training and research to enhance the peaceful uses of ocean space and its resources, their management and regulation as well as the protection and conservation of the marine environment.
2. Fundamental to the IOI System is:
 - emphasis on bringing direct benefits to people, especially the poor and other vulnerable sections;
 - safeguarding the ocean environment and its ecosystems;
 - creating trust, understanding and co-operation among the institutions participating in the IOI System.
3. To this end the IOI System will:
 - build mechanisms for sharing information and experiences;
 - develop effective and innovative solutions to the problems of megacities and coastal villages using appropriate high-technologies and establishing appropriate institutional mechanisms;
 - train those directly involved in the oceans in integrated management systems and the funneling of benefits to the poor;
 - help raise resources for the purpose.
4. In implementing these tasks the IOI System will identify gaps and seek to find collaborative solutions to meeting the critical needs through existing and, where necessary, new programmes.

Main activities and major achievements

The IOI is active in the areas of: education and training; development, policy research and feasibility studies; ocean governance; research and science applications; publishing and information sharing; advisory services, partnerships and networking; evaluation and fund raising.

The IOI has fairly extensive cooperation at global and regional level with the United Nations system, with other NGOs, and at national local level with NGOs and authorities. Major achievements include ocean governance and policy research helping raising the awareness of the need for adequate ocean governance to the level of the UN General Assembly, and the creation of UNICPOLOS; implementing a major global oceans training programme with support of UNDP/GEF/UNOPS in the period 1993 - 1998, in response to UNCED92 results, in particular Agenda 21, chapter 17, and to UNCLOS; and implementing training throughout two decades of mid-level civil servant from mainly developing countries in ocean and maritime affairs related to UNCLOS as well as regional and national priority issues; developing coastal community work in form of Eco-villages, sustainable livelihoods development and the Women and the Sea programme; building a network of leading institutions involved in marine and coastal affairs over a wide range of disciplines and sectors, closely linked to prominent universities, research and technological institutional in many different social and cultural settings; using this network to initiate and develop in an organized fashion the IOI University network, the IOIVU; organization since its start of the annual Pacem in Maribus Conference as a leading independent global forum for debate of ocean issues and governance, and examination of ideas to properly address these matters.

Reports on IOI for 1999 - 2000, and 2000 are attached.

Current activity priority

Currently the IOI is focusing on the further development of the IOI University (IOIVU) as a priority. We are also focusing on the coastal community work, women and youth programmes. With respect to other global and regional actions we are contributing to the preparations for Rio + 10 and to UNICPOLOS; and regional policy oriented leadership seminars, this year focusing on Africa.

The workplan for 2001 and 2002 was endorsed by the Board in 2000, together with budgets; as well as an indicative workplan for 2003.

Size of staff

The staff employed and paid by IOI is based at the Headquarters and at IOI Canada in Halifax, and amounts to 9 persons in all, of which 7 are professionals. The other staff working for IOI is doubling as members of the staff of the Host institutions of the Operational Centres. The IOI is only partially paying some assistance staff in the Centres. The professional Cadre amounts to about 30 persons, in 16 Centres.

Total Annual Income and breakdown

The annual income and breakdown as of 2000 is given for IOI Headquarters and for the Operational Centres in tables 1 and 2. In the Annual report for 1999 - 2000, the Auditors report for 1999, the income and expenditure account and the statement of affairs for 1999 are included.

Table 1. Headquarters income, 2000

Source	Amount USD
Transfer from 1999	71,800
CIDA	136,000
Private donation	200,000
Ocean Science and Research Foundation	150,000
UNEP	15,000
JFGE-Japan	40,980
Lighthouse Foundation	235,000
Total	848,780
Notional (in kind)	15,000

Table 2. Operational Centre Incomes, 2000

Source	Amount USD
Transfers from 1999	99,600
Transfers from Headquarters	280,200
Ocean Science and Research Foundation	325,000
From partners: UNEP, Swiss Re, OPEC, host Institutions, national foundations	465,000
Total	1169,000
Notional (in kind)	600,000

Total annual expenditures and breakdown

The annual expenditures and breakdown for Headquarters and the Operational Centres are given in Tables 3 and 4, respectively, for year 2000.

Table 3. Headquarters Expenditure, 2000

Category	Amount USD
Transfer to Operational Centres	280,200
Staff, travel, management	135,300
Material, equipment	25,800
Publications	2,300
Meetings in Malta	48,900
PIM Conference and IOI Meetings, Hamburg	259,000
External services	3,400
Total	754,900

Table 4. Operational Centres Expenditures, 2000

Category	Amount USD
Staff, travel management	185,000
Material, equipment	57,000
Publications	23,000
Coastal zones, youth, women	275,000
Research and applications	179,000
Training and applications	305,000
Conferences, workshops	85,000
External services	9,000
Total	1118,000

Previous Nippon Foundation's Overseas Grants

Table 5. Support received previously from the Nippon Foundation:

Year	Purpose	Location	Amount, USD
1993	Training Programme on deep-sea-bed mining and applications of related technology	IOI India, Madras	89,707
1994	Training Programme for managers, policy and project planners for high-technology based deep-sea-bed mining	IOI India, Madras	80,000
1995	Support of the Independent World Commission on the Oceans		390,00
1995	Training Programme on deep-sea-bed mining	IOI China	85,000
1995	Training Programme on coastal fisheries	IOI S. Pacific (Fiji)	64,515
1996	Training Programmes at IOI centers	IOI China, India, S. Pacific	268,594
1997	Training Programmes at the International Sea Bed Authority and IOI Centres	Jamaica, IOI China, India, S. Pacific	386,475

B. Project information

Title of the project

The IOI Virtual University (hereafter IOIVU)

Project site

IOI Headquarters
P.O. Box 03
Gzira GZR 01
Malta

Objectives / beneficiaries / target group

1. The main goal of the IOIVU is to contribute to the sharing of knowledge on the oceans and their potential wealth and challenges as a Common heritage of mankind, with special consideration for the needs of developing countries;
2. The IOIVU shall promote interdisciplinary education, training and research reflecting the complex nature of ocean space and maritime activities, where the multiplicity of related problems have to be considered as a whole in their interface;
3. The IOIVU shall provide Masters Degree in Ocean Affairs and Ocean Governance;
4. Through building on and using the unique structure, accumulated global experience in education, training and capacity building of the IOI Network and Host institutions, the IOIVU shall enhance the abilities of developing countries to manage and govern in a sustainable manner their marine and coastal resources for the benefit of their peoples, in harmony with the principles of modern international law and relevant international conventions and agreements;
5. The IOIVU shall provide the academic framework for encouraging and assisting students from any part of the world, and in particular from developing countries, to obtain post-graduate level education and advanced training, upgrading and supplementing their previous education and work-experience, as well as internationally recognised academic degrees;
6. It shall be a continuous objective of the IOIVU to advance innovative approaches towards solving some of the major problems presently besetting higher education.

Immediate Objectives of the project

Immediate Objective 1

To prepare selected core courses to be taken by all students of the IOIVU.

Output: Six to eight courses covering topics about which anyone involved in ocean management should have knowledge, and 2 optional courses, all tested and vetted through internal on-line delivery.

The topics include:

- 1 - The UNCLOS and UNCED: Ocean Governance and the Law of the Sea;
- 2 - Integrated Coastal Area Management;
- 3 - Coastal Community Development;
- 4 - Marine and Coastal Resources Economics;
- 5 - Integrated Management of Marine Pollution, in Particular Related to Land-based Sources;
- 6 - Coastal and Oceanic Ecosystems and Processes;
- 7 - Introduction to Living and Non-living Marine Resources;
- 8 - Matters Related to maritime Transport and Issues at Sea; to be prepared in cooperation with UNCTAD and WMU;
- 9 - Spatial Information Management and Decision Making Support;
- 10 - Public-private Partnerships in Ocean Management;

Immediate Objective 2

To specify Information Technology (IT) systems to be used for the IOIVU.

Output: Specifications of IT systems with guidelines and trained staff for use and service of systems, with agreed coordination and communication mechanisms for the on-line delivery.

Immediate Objective 3

To specify student entrance qualifications and information - outreach procedures for on-line users.

Output: An on-line information system and package on homepages of IOI and Centres specifying qualifications, requirements, durations of study, where to consult and other relevant information.

Immediate Objective 4

To specify registration system and procedures for on-line registration.

Output: On-line registration procedure available on homepage of IOI and of Operational Centres, with required user guidelines and instructions.

Beneficiaries of the project will be both developing and developed countries. The IOIVU will contribute to: (i), the development of an interdisciplinary and integrated culture of knowledge, inclusive and accessible to all, focusing on the realm of ocean affairs where knowledge must be interdisciplinary and comprehensive; and (ii), the enhancement of the abilities of particularly developing countries to develop and govern their own marine and coastal resources and environments sustainably for the benefit of their peoples in harmony with related international conventions and agreements. This is to be achieved through the establishment of an internationally recognised programme of study, leading to a masters degree, based on a network of education, training and research Centres of expertise in ocean, coastal and marine-related affairs and governance, working together in a partnership to provide for an interdisciplinary and comprehensive coverage of the required subject areas.

The overall development objective is to help address poverty eradication and establish self reliance through enabling developing countries in particular to develop and govern their own marine resources and create an enhanced solidarity between developed and developing countries within the framework provided by UNCLOS and UNCED 92 outputs and follow-up process.

The target group for the IOIVU will be mainly graduates in the area of ocean governance, marine affairs, management, and related areas who otherwise would have been deprived of access to high quality postgraduate education in the above areas of activity.

On a wider perspective all the governments, organizations and peoples interested in and realizing the need for implementation and enforcement of UNCLOS, UNCED 92 and related agreements and conventions, can be seen as interested target groups of the project.

Description of the project

Background

The new institutional academic arrangement proposed by the IOI responds to a number of challenges and new opportunities:

1. The interdisciplinary character of contemporary knowledge, which transcends the departmental divisions of traditional universities. Traditional universities, in many parts of

the world, are struggling to overcome the structural impediments to interdisciplinary learning. The IOI Virtual University could be a pilot experiment toward new approaches to this problem.

2. "Globalisation" and the communications revolution, facilitating global communication among universities and between universities and students, but still largely inaccessible to students in poor countries.
3. Financial constraints on students, especially in developing countries, which in most cases prevent them from extended sojourns in foreign countries to obtain a well recognised degree; and where they succeed, the brain drain, detracting from rather than adding to the transfer of knowledge to developing countries.
4. Financial restraints on Academia, globally, entailing more and more "downsizing" and "privatisation" of universities, which may endanger academic freedom as well as public higher education as a pillar of genuine democracy.

The need for restructuring of higher education is felt globally. As in international law and organisation, or in economic thinking, it is likely that the peculiar nature of the ocean environment and its resources may be most suitable for a pilot project for an innovative approach to the sharing of knowledge as a Common Heritage of Mankind. It would also appear that the evolving structure of the IOI, itself an innovative system reflecting in its activities an evolving world order reaching from the local community to the nation, the region, and the United Nations, with its accumulated experience and track record in training in ocean affairs, is uniquely suited for this pilot project in education.

The IOI mission is education, training and research, so as to enhance the peaceful uses of ocean space and its resources, their management and regulation as well as the protection and conservation of the marine environment. IOIVU will greatly enhance capabilities of IOI to deliver education to people in all parts of the world, and to make the high standards of postgraduate education affordable to all. The background idea of the project therefore is to apply existing and develop perspective educational technologies in the area of marine governance and to make them available to students in the whole world at the highest possible level, at affordable price, and in a fashion which is tailored to local situation.

Methodology

The VU concept here does not just mean "to go internet", but is rather an approach, by which the educational activities and programmes of the IOI Network of Operational Centres and of their prestigious Host institutions can be combined into one focused mechanism and purpose and also coupled with activities of other academic centres of excellence, to provide a truly international and interdisciplinary curriculum.

The IOIVU will not compete with the existing Universities, but supplement them. This is to be achieved through the consolidation, optimization, and full utilization of the unique structure and

accumulated global experience in education, research, capacity building and training of the IOI, in partnership with the Host-institutions of the Operational Centres and other interested partners.

Internal evaluation will be carried out through the IOI mechanisms and its Governing Board, and the interim Board of Governors of the IOIVU.

Activities

The IOI Executive Director and the IOI Headquarters will serve as a focal management and administrative service point. Regular reporting will be provided to the sponsors and the IOI governing bodies and partners. Through all activities there will be made use of the IOIVU Development Committee established by the Board of IOI and its technical advisory body as well as other partners in the IOI system.

The emphasis on the actions, sequence, and time required will vary between the Centres. Coordination is ensured through the Development Committee, technical advisory group and IOI Headquarters office through the Executive Director. Regular progress reports are to be required.

Activities for Immediate Output 1

For each of the course preparations some generic activities are envisaged:

- formation of necessary resource group at the responsible Centre;
- specification of content taking into account guidelines;
- collection of course material, reference books, information about other related courses;
- prepare draft curriculum, content of modules;
- arrange review of draft;
- prepare "final" version of course material, including electronic version;
- prepare plan for administration, delivery and maintenance of course;
- validate and test course through ^{internal}interior voluntary students, and finalise for on-line, outside delivery;
- translation into other than production language (e.g. Spanish, French, English).

Activities for Immediate Output 2

- Review of IT systems potentially available;
- Specification of requirements for courseware delivery, registration and administration, marketing and outreach, taking into account prepared indicative guidelines;
- Specification of long-term control and maintenance requirements, and preparation of related guidelines;
- Selection of the suitable IT systems and arrangements of required staff training and user guides.

Activities for Immediate Output 3

- Review related existing qualifications and entrance requirements for master degree studies, at partner institutions;
- Prepare the IOIVU requirements taking into account the purpose, the contents of studies and the different levels (master degree or professional enhancement);
- Test these requirements through consultations with partner institutions in different regions;
- Finalise and put on-line the specifications and guidelines.

Activities for Immediate Output

- Review of existing on-line systems, including those used for on-going IOI and partner courses, in consultation with student and teacher users;
- Drafting of IOIVU registration system and procedures for users;
- Testing of proposed system on-line through use of IOI Centres, and retrieving experiences;
- Revising and finalising the registration system and procedure and user guide;
- Translation into initial working languages (English, French, Spanish) and possibly others.

Significance of the project

The migration towards the ocean, the coastal urbanisation, the change of economic paradigm to a service economy, and the concern for global change, all has led to a current focus on the land-sea interface, the coast and the ocean, the ocean services and economics, the need for a related education and appropriate mechanism to achieve that, including the necessary enhancement of awareness and participation. The IOIVU aims to respond to these matters. The ocean is also really our last resource to help address poverty, inequality. The intersectoral, holistic and international, globally based education mechanism proposed in the establishment of the IOIVU provides a vision to proceed, which is at the same time realistic, pragmatic and achievable.

The significance of the project is therefore related to the need to enhance the abilities of developing countries to manage their own marine and coastal resources and environments sustainably for the benefit of their people, including eradication of poverty, in harmony with the related international conventions and agreements, specified through UNCLOS and UNCED 92 results and follow-up process. The effort to establish IOIVU responds to the call of Agenda 21, Chapter 36 for an integrated and comprehensive education process as a cross-sectoral theme required for implementation of most of Agenda 21. The timeliness of the establishment of the IOIVU is stressed and further institutionally justified through the call for a focus on education at Rio + 10.

Characteristics of the project (originality, innovativeness, features that distinguish this from other similar initiatives, etc.)

Undertaking the task to establish such a "Virtual University" is extremely ambitious, challenging and innovative. The Virtual University should accept students globally and award an interdisciplinary, internationally recognised master's degree. The institutional arrangement is without precedent. Through the global network of participating IOI Operational Centres and related host institutions a truly international institution is achieved in which students from all parts of the world can feel at home. The students will be at the graduate and mid-level career level. They will not have to move away from their home and employment, except for a short internship period; they can recognize some parts of the studies as coming from their own region, country and culture; they do not have to experience the cultural shock associated with living for an extended period in a foreign country away from their roots. The IOIVU will counter brain drain and migration, and build up confidence.

Expected outcome and long-term effects

The following project outcomes are envisaged:

- Education on a master / postgraduate level in area of marine affairs and management will become available to students from all countries of the world almost irrespectively of their financial capabilities.
- The IOIVU will set a new standard in distant learning in marine affairs. Through the capability to select courses from different sources, the student will be able to acquire not only good knowledge of the subject of his or her interest, but in particular become aware of the interdisciplinary and inter-dependences involve, and learn how to address these.
- The ideas of Common Heritage, humanitarian values of peace and culture, will find a new audience and media.
- Successful implementation of the project and launch of the IOIVU operations will lead to better return of investments in the University. At the beginning stages the need for some additional investments cannot be excluded but in the longer - term perspective the University should become self-sustainable.
- The increasing population of IOIVU graduates will form a factor in better management of ocean resources. In long - term perspective this should facilitate sustainable development of states operating at seas and at coasts and lead to healthier ocean environment.

Time frame (implementation schedule, e.g. preparation, phase 1, phase 2)

The Governing Board of IOI in November 1999 established an IOI Working Group charged with preparing the framework for the creation of the IOIVU (the preparatory phase of the project). The

Working Group report was presented to the IOI Governing Board in December 2000. The Board concurred with the suggestions overall and decided to proceed with the further development.

The next phase (this one) of the overall development of the IOI VU builds on the output of the preparatory phase. It focuses on the development, testing and checking of the core courses to be delivered on-line and available on CD. Furthermore, this phase includes the development of on-line formats and procedures for registration, specification of entrance requirements, qualifications, and the further specifications of the management and administration procedures and mechanisms. This phase is expected to require 1-2 years. At the end we anticipate to be able to operate on-line, and have a functioning administrative mechanism in place.

A 5 - year plan.

It must be stressed in this regard that the IOI has firmly decided to develop the IOIVU and has already committed significant effort and resources into this endeavour. At the same time we are not yet at the stage when we can have strict long – term planning of the activities with a detailed breakdown in time and costs. The basic reason is that the pace of the IOIVU development will depend strongly on the available financial support. It is noteworthy that the funding determines only the pace of the development. Educational establishments like IOIVU are the future of the higher education, and there is no doubt that the goal of starting the IOIVU operations will be eventually achieved.

The IOI Centres are fully prepared to take on the work of preparing the courses and developing other IOIVU infrastructure elements. There is a clear understanding of the sequence of steps leading to the start of IOIVU operations. It also needs to be noted that now we have established the IOIVU Governing Board and a Working Group on the IOIVU Development. The group will continue to develop the IOIVU.

Below an outline of activities over the immediate 5 years is provided. The information below is not a formally accepted plan but rather a vision of how the IOIVU will develop. Times of achieving certain milestones may change. The first report of the Working Group on development of the IOI Virtual University provides information, which has been formally discussed at the IOI meeting.

Table 6. Planned IOIVU development over a 5-year time frame

Activity	2000	2001	2002	2003	2004	2005
Development and documentation of IOIVU, identification of courses and partners	■	■	■			
Development of on-line core courses, testing and trials, documentation, establishment, testing of course delivery system		■	■	■		
Setting up of management, registration, tracking systems; coordination system		■	■			
Development of IOIVU financial mechanism and IOIVU marketing		■	■	■		
Further development and verification of on-line courses			■	■	■	
Inauguration of students and starting real operations			■	■		
Accreditation and acknowledgement of the IOIVU for degree awarding				■	■	
Awarding of first Master degrees and diplomas						■
Marketing and outreach campaign to seek private sponsors				■	■	■
Student entrances and sponsorships				■	■	■
Development of optional courses				■	■	■

Table 7: Development of capacity and estimated entrances of students

Year of Operation	Time	Active Centres	Courses per semester		Number of new students	
			Core	Optional	Capacity	Expected
1	2002	2 – 3	2	--	80	30
2	2003	5	5	1	200	80
3	2004	7	7	2	280	120
4	2005	9	7	4	280	200
5	2006	9	10	4	400	250
7	2008	10 – 12 and 2 partners	14	6	560	500
9	2010	14 and 4 partners	18	10	720	600

Qualifications of the organisation to undertake the project (organization's strength in the field, experience of personnel, financial capacity, etc.)

Training and education are basic activities of the IOI. These actions have developed over the decades to include not only regular courses with required participation, spanning over days to months, but also distance learning courses, post-graduate education, internships, upgrading of skills, community-based training and awareness creation with active participation, information dissemination, on-the-job training. In parallel, the subject range covered by the training has expanded, so that it presently includes ocean governance at global level with education about UNCLOS, UNCED and the related processes; regional perspectives and national-local concerns. The subjects are also specific for instance as regards mariculture or artisanal fisheries developments, marine pollution and coastal zone conditions. The community-based training done through the Eco-villages or Sustainable Livelihoods approaches is always including all relevant sectors so as to be of use in creating self sustainability and co-management actions.

Apart from development of human resources, the IOI system is involved with other development issues in most of the Centres, addressing poverty eradication; generation of self-reliant development in local coastal communities; resources management, development of eco-friendly technologies and use of traditional environmental knowledge; co-development and co-management with some focus on integrated coastal area management; sustainable livelihoods; mitigation of and adaptation to natural hazards, e.g. cyclones, storm-surges; empowerment of developing country communities to manage their coastal and EEZ resources.

Problems of coastal communities are addressed in an integrated way, with social, economical, environmental and survival aspects all taken into account in community driven projects, guided by IOI Centres in cooperation with local NGO's, and in consultation with local and national authorities as required. The basic approach involves co-management and sustainable Livelihood considerations. The innovative part lies in addressing the links between social, survival, economic and environmental needs, in a balanced fashion. This goes beyond integrated coastal area management. An IOI model is emerging. This is exemplified through interests shown by governments and other NGOs in our work and the expressed interest of donors to gradually develop a global project or programme on the basis of this approach and experiences. The impact on local communities is seen through the improved living conditions, the increased self-reliance and confidence, the establishment of local community-driven enterprises, e.g. mariculture, food processing, treeplanting and gardening, the increased interest in education.

Further development, use of the IOI network, drawing on its past experiences and the establishment of the IOIVU is our response to the challenge of new inter-sectoral and integrated education.

Project sustainability

The sustainability of IOIVU is the subject of constant attention. It is in the concept of the IOIVU that it will go through a period of infancy when intensive efforts will be undertaken to put every element of the University in its place, and a long mature life, which is possible if

- the curriculum is viable,
- the roster is willing to contribute and is satisfied with the on-going work,
- the financial mechanism is in place and produces the needed budget.

The dialogue with users is essential and is on-going.

Stability and constant development of the IOI in the past, continuing involvement of new capable people in the IOI activities, further refining of the running costs and required financial contributions from students corroborate the expectation that after the initial development phase, the IOIVU should reach the stable orbit.

IOIVU as a joint project

The project is conducted by the IOI and is a system-wide IOI activity. It means that the partners in this project include all the IOI Operational Centres, presently 16 in all, their Host institutions and co-operating universities.

The IOI network is providing the expertise, know-how, teaching experiences, and material through the Operational Centres. However, formally and from the management view point this is a project conducted by a single legal entity.

The day to day management of the project will be ensured by the Executive Director of IOI acting as interim Rector of the IOIVU appointed by the Governing Board of IOI. Activities will be carried out by the participating IOI Operational Centres with respect to preparations of courses, material, software, developments and testing, and specification of IT systems. The Executive Director will also work in association with and through the IOIVU Development Committee, established by the Governing Board of IOI, December 2000. As part of this mechanism a technical advisory group has also been established. These will both work through correspondence.

Presently the UNU, WMU, United Nations University for Peace, UNESCO and UNCTAD have confirmed willingness to co-operate and co-sponsor the IOIVU. Furthermore the developing and developed countries where there is the need for the capacity development are partners, and the students and the related employers. The cooperation with the UNU, WMU, UNESCO will provide for possibilities of consultations and inputs regarding curriculum extent, technology, tools and methods as regards outreach, information systems, languages, networking.

C. Finance information

Total budget of the project

The expenses, including costs of the development and testing of courses, marketing and information outreaching, management, course deliveries, registrations, fellowships are budgeted for the first 5 years. We are assuming a gradual start of the University.

Table 8: Estimated Expenses

Year	Expenditure type	USD
1	Core and optional course development	250,000
	Staff training	40,000
	Outreaching, marketing, technology, testing, administration	100,000
	Total	390,000
2	Core and optional course development	250,000
	Outreaching, marketing, technology, testing, administration	160,000
	Course deliveries	150,000
	Total	560,000
3	Course deliveries, 10 core and 5 optional	300,000
	Administration, marketing, staff, teachers	250,000
	Total	550,000
4	Course deliveries	300,000
	Internships, 20 @ 8000; (1)	160,000
	Administration, marketing, staff	200,000
	Total	660,000
5	Course deliveries	300,000
	Internships, 40 @ 8000	320,000
	Examinations, graduations	50,000
	Administration, marketing, staff	200,000
	Total	870,000
	GRAND TOTAL	3,030,000

Note (1): Internship is the period the student spends at a research institution, part of the IOIVU network, to do a small research project and thesis preparations. Normally this is expected to be 4 -5 months. The estimated costs are covering travel, accommodation/subsistence, fees to the host institution, insurances and material, but not scientific equipment.

Amount of grant being requested to The Nippon Foundation

This application is for support to 10 core courses development, USD 430,000.

Table 9: Core courses for first 5 years: costs of development

	Centre	Course	USD
1	IOI-Canada	UNCLOS and UNCED: ocean governance and Law of the Sea	30,000
2	IOI-SA	Integrated Coastal Area Management	25,000
3	IOI-India	Coastal Community Development	45,000
4	IOI-Pacific Islands	Marine and Coastal Resource Economics	45,000
5	IOI-SA	Integrated Management of Marine Pollution, in Particular Related to Land-based Sources	35,000
6	IOI-SA	Coastal and Oceanic Ecosystems and Processes	50,000
7	IOI-China, Japan	Introduction to Living and Non-living Marine Resources	55,000
8	IOI-Japan	Matters Related to Maritime Transport and Issues at Sea	50,000
9	Lead centre to be defined	Spatial Information Management and Decision Support	45,000
10	Lead centre to be defined	Public-Private Partnerships in Ocean Management	50,000
		Total	430,000

Income breakdown

Table 10: Estimated incomes for first 5 years

Year	Income source	USD
1	Existing IOI funds	100,000
	UNOPS application	200,000
	Nippon Foundation	90,000
	Total	390,000
2	Existing IOI funds	140,000
	UNOPS application	250,000
	Nippon Foundation	40,000
	Canadian Foundation	80,000
	German Foundation	50,000
	Total	560,000
3	Existing IOI funds	150,000
	Student sponsorships	40,000
	Foundations for internship support @ \$8000 per internship (10)	80,000
	Educational sponsors and co-sponsors for students	140,000
	Private (industry) sponsors	140,000
	Total	550,000
4	Existing IOI funds	150,000
	Student sponsorships	50,000
	Foundations for internship support	160,000
	Educational sponsors and co-sponsors for students	140,000
	Private (industry) sponsors	160,000
	Total	660,000
5	Existing IOI funds	150,000
	Student sponsorships	100,000
	Foundations for internship support	200,000
	Educational sponsors and co-sponsors for students	150,000
	Private sponsors, core courses	120,000
	Government sponsors, students	100,000
	Private sponsors, optional courses	50,000
	Total	870,000
GRAND TOTAL		3,030,000

Explanatory Note:

The figures are estimated expectations.

The student sponsorships are expected to come from employers of the students, or other sponsors expecting to employ students. These will of course have to be approached. Applications will be made to foundations for scholarships to cover the internship period of the students for the Masters

degree. The co-sponsors are also expected to provide some support in form of fellowships or course deliveries. The core courses as well as the optional courses will have to provide illustrations on how various technical and practical problems are solved in management, industry and applications. There will have to be examples shown and references to industry made. The plan is to approach relevant parts of the private sector and the industry, to ask for cooperation in presenting their process and product as example, and to invite co-sponsorship. Private enterprises (industries) from the developing and developed world will be approached, after we have had consultations. The same will be done with reference to educational institutions.

Expenditure breakdown

Please see the section on budget for overall breakdown. Here follows the breakdown for core-course developments. These are the main expenses for the first several years.

Table 11: Breakdown of course developments

No.	Centre	Course title, total cost and its breakdown	USD
1	IOI-Canada	UNCLOS and UNCED: ocean Governance and the Law of Sea	30,000
		- basic hardware and software for course development	4,000
		- consultations with academic experts (including travel)	5,000
		- development of course syllabus	1,000
		- creation of course content components	9,000
		- assembling of course content in digital format	5,000
		- salary for project coordinator	5,000
		- miscellaneous expenses including communications, materials and overhead	1,000
2	IOI-SA	Integrated Coastal Area Management	25,000
		- hardware and software for course development and management	4,000
		- consultations with academic experts (including travel)	3,000
		- licensing of course materials from SA-ISIS	5,000
		- modification of course content to suit IOIVU format	4,000
		- portion of salary for project coordinator	5,000
		- creation of course content components	3,000
		- miscellaneous expenses including communications, materials and overhead	1,000
3	IOI-India	Coastal Community Development	45,000
		- salaries and honoraria to course coordinator and research staff	9,000
		- basic hardware and software for course development	4,000
		- consultations with advisory group (including local travel in India)	6,000
		- creation of course content components	9,000
		- validation of course modules	5,000
		- conversion of the course into digital format and putting it on-line	10,000
		- miscellaneous expenses including communications, materials and overhead	2,000

4	IOI-Pacific Islands	Marine and Coastal Resource Economics	45,000
		course coordinator	6,000
		- services of curriculum subject matter experts, USP Marine Studies, USP Department of Economics, Australian National University, Dr. Padma Lal	15,000
		- travel and subsistence for consultations	5,000
		- pedagogical services: USP Extension	5,000
		- media services: USP Media Centre	6,500
		- computer hardware and software	5,000
		- miscellaneous expenses including communications, materials and overhead	2,500
5	IOI-SA	Integrated Management of Marine Pollution, in Particular Related to Land-based Sources	35,000
		- hardware and software for course development and management	4,000
		- consultations with academic experts (including travel)	6,000
		- modification of course content to suit IOIVU format	2,000
		- portion of salary for project coordinator	8,000
		- creation of course content components	9,000
		- copyright fees	1,000
		- digitising @ editing video of pollution events	3,000
- miscellaneous expenses including communications, materials and overhead	2,000		
6	IOI-SA	Coastal and Oceanic Ecosystems and Processes	50,000
		- hardware and software for course development and management	4,000
		- consultations with academic experts (including travel)	6,000
		- portion of salary for project coordinator	8,000
		- creation of course content components	9,000
		- copyright fees	5,000
		- specialised imaging of plankton & pelagic organisms	4,000
		- animation of oceanographic phenomena	5,000
- access to data and interactive models from CSIR	4,000		
- recorded interviews with coastal engineers	2,000		
- miscellaneous expenses including communications, materials and overhead	3,000		
7	IOI-China, Japan	Introduction to Living and Non-living Marine Resources	55,000
8	IOI-Japan	Matters Related to Maritime Transport and Issues at Sea	50,000
9	Lead centre to be defined	Spatial Information Management and Decision Support (an estimate of total with the breakdown expected to be similar to other courses)	45,000
10	Lead centre to be defined	Public-Private Partnerships in Ocean Management (an estimate of total with the breakdown expected to be similar to other courses)	50,000
GRAND TOTAL			430,000

François

Attachment 1
(please refer to your long time table)

Timeframe of IOIVU

Appointment of Academic Council:

This is for the initial period the Directors of participating IOI Operational Centres; the Rector; the Registrar (later); it was agreed in Hamburg, but can be confirmed in Dakar.

Appointment of Executive Committee:

Interim is same as IOI Executive Committee.

Technical Advisory Committee:

Hamburg 2000, re-confirmed in Dakar 2001;

All other Committees and services: to be analysed by the IOI Development Committee, which was appointed in Hamburg 2000;

I suggest your page 1 you insert Development Committee, Hamburg and delete the other Committees.

Tasks of Rector:

The establishment of possible committees will follow the analysis and report of the Development Committee, and the interim Rector; and thereafter decision by the Board.

Executive Committee:

Interim is the same as the IOI Executive Committee.

Publicity, information, marketing:

This is an on-going process which will continue throughout; Can refer to IOI Strategy Group and Development Committee; Homepage has been established here as www.ioivu.org and ioivu.net.

Outreach Targeting:

Teaching partners: to be identified over the coming 5 years; for now all participating IOI Centres and their Host institutions.

Furthermore, the partners or co-sponsors are also partners in curriculum development and review, e.g. UNESCO-IOC; UNU; WMU; UNCTAD.

Internship partners:

I prefer IOI Operational Centres and Host institutions be mentioned first; followed by possible other Organisations; please remember the internship period is supposed to be a period of doing research and thesis writing.

Research partners:

There will be others; I think you should emphasise Academic and Private institutions; IOI Centres and Host institutions; Why single out MIMA at this stage? This looks very hap-hazard.

Funding Partners:

Here my philosophy is that users would also fund it, including industries. These would be referred to in the course material. Clearly the private sector will also be in need of people with the offered education. It is not at all only governments or such related authorities. It is all sectors. Other large global NGOs should also become involved since the IOIVU graduates will also respond to their needs.

Your list of funding partners is only one bit of it. I suggest one gives that as: public sector (governments); foundations (e.g. Nippon, CIDA, SIDA, Rockefeller, development banks); private sector (offshore industries, tourism, coastal zone construction, waste management, fisheries, communications, etc.).

Outreach:

Consultation: include UNESCO-IOC;
All user sectors (public, private, governments).

Negotiation: same;

Agreement: very premature; is being sought with users sectors;

Homepage: We have established ioivu.org homepage run here.

Academic Council:

Appointment of curriculum:

Internship services: We already have some curriculum development; it is too early to say when formal appointments will be made. Not in Dakar.

Program development:

Is a continuous thing, cannot be given in such detail;

We have the basic pedagogy in the WG report;

Further developments through the Development Committee;

Program pedagogy evaluation: Course will be tested when developed;

Curriculum development: A draft was accepted in Hamburg through the WG report; please read it; This will be further developed by the Development Committee;

Curriculum/internship Services:

Course development: This is going on, all your points. We have listed 10 core courses and we have given a time schedule for their entering into service (in the application to Nippon, Table 7 and Table 6).

Internship program development:

Identification of hosts: First and foremost the hosts are all the IOI Centres and their Host institutions; then the partner universities, the partner international organisations, and the private enterprises.

Accreditation etc.: This is a task for the Development Committee to prepare guidelines and advice on requirements; on basis of WG report and other information. All the other parts are inherent in our WG report.

Intern management services:

Travel, accommodation: Obviously this is to be worked out through the administration and registration procedures. Travel, accommodation, fees are included in the estimated average costs of USD 8000 for an internship period of 4 months, under the assumption that the hosts will be one of the IOI Centres. If it is to be a UN Body or other organisation separate special arrangements must be made. However, these alternatives should not be primary choices.

Supervisor system:

Initially supervisors are sought from the IOI Centres and Host institutions. There is no planning for training of supervisors; we take it for granted that these people are capable of supervising the research and thesis writing.

The administration etc. services of supervisors are initially those of the Host institutions. The fees we pay for lecturers and internship periods should cover the costs.

The student-supervisor matching is initiated when the student starts the studies. One of the first actions is discussions/consultations with potential supervisors, chosen from the roster. Initially the roster is the centre directors and persons identified by them.

Admission Committee

All the points mentioned here are to be addressed by the Development Committee, using also the Technical Advisory Group. The analysis is expected to be ready during 2001-2002.

Technical Committee:

Initially this should be the Technical Advisory Group established in Hamburg.

Computing services:

I think we have here to mention several Centres; IOI-SA may be the central node through which the courses are delivered (radiated out), but other Centres also have much computer services. Also partners like UNU has this facility.

Several of the other points should be analysed by the Development Committee.

Administration and financial services:

Initially these are provided by IOI Headquarters.

General comment:

I think the scheme is very nice for our use in the Development Committee. However, I am against sending this outside at this stage. We should tell Nippon and others that we have had a WG and now have a Development Committee, formally established by the IOI Board. It is an organised development, not ad hoc.

101/100

International Ocean Institute

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1226 Le Marchant Street
Halifax, N.S. B3H 3E7*

*Tel. 1 902 494 1737
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Canada*

To: GEF
From: Elisabeth Mann Borgese
Founder & Hon. Chair
International Ocean Institute.

1. On behalf of the International Ocean Institute, I would like to apply to the GEF for support for the building up and running of the **International Ocean Institute Virtual University (IOIVU)** for the next 3 years. The amount requested would be between \$3 and \$5 million. It would be spent on course development and scholarships for candidates from poor countries. The project would fall under International Waters, Integrated Coastal Management, GPA, Biodiversity; Climate Change; Integrated Water Management; Capacity Building for all the above.
2. The IOIVU will consolidate and upgrade the training activities of the entire IOI network, consisting of Operational Centres in 17 countries in all parts of the world, and their prestigious host institutions. The IOIVU will be the only institution capable of granting an internationally recognized, broadly interdisciplinary Masters Degree in Ocean Affairs, Law of the Sea, and Ocean Governance, including all the sectors mentioned in paragraph 1 above, to qualified students, government officials, and the private sector anywhere in the world. The project is cosponsored by the United Nations University, UNESCO/IOC, and the World Maritime University. It has been adopted by UNOPS, which already has prepared a "Project Document and is raising the initial funding (\$500,000 "seed money") to get the operation started. A PR brochure as well as a technical project description are attached.
3. Our request addressed to the GEF is based on two special considerations: (a) Our track record with the GEF; (b) the special needs and opportunities forthcoming during the next three-year period.
4. In 1995, the IOI was among the first (or the first) NGO to receive GEF support in the amount of \$2.6 million enabling us to consolidate and expand our training programmes through the establishment of 4 Operational Centres in India, Fiji, South Africa, and Costa Rica. This project was completed in approximately 4 years. We out-performed the terms and conditions of the project document in every respect. Instead of 4 Centres, we established 6; we doubled the number of training hours and trainees. The only deficiency that had been noted in the UNDP evaluation of the completed project was that there was not enough cooperation with UNEP's regional seas programme. Actually, that was not our fault, but UNEP's. In the meantime, however, this has been more than corrected. I am now a member of Dr. Toepfer's

international steering committee for the GPA, and we are deeply involved both with the Intergovernmental Review of the GPA and with Rio+10.

5. Now another few years have gone by, and the Centres have grown from 6 to 17. One of the concerns of the GEF/UNDP had been that the Centres might not be "viable" and that they might collapse as soon as the grant money expired -- as happens so often in cases of development aid. Well, all of them are alive and active. I should add that the \$2.6 million grant and the establishment of the operational Centres has enabled us to raise an endowment fund of Swiss Fr 20 million for the IOI — another indicator of the success of the project.
6. The opportunities to utilize the IOIVU , during the next 2-3 years, are unique. Training and Capacity-building are called for, as priority needs, in all Conventions, Agreements, Protocols, Codes of Conduct, and Programmes adopted by UNCED and after, but the means that have been made available are woefully inadequate. Now the IOIVU wants to offer, through the 2001-2002 intergovernmental conferences, its unique global, regionally articulated network, with its broadly interdisciplinary programme that could serve the needs of all the above mentioned Conventions, Agreements, Codes of Conduct and Programmes. The IOIVU has already established important links with the UN system, through UNU, UNESCO/IOC WMU, and UNOPS. We are also still linked to Train-Seacoast through some of our Centres and would intensify our cooperation with that Programme in as far as possible.
7. The GEF has invested \$2.6 million to initiate this development. The investment has borne multiple fruits. It is fair to describe it as one of the GEF's success stories. The IOI is now poised for another major break-through in this development, at a moment when such a development is most needed. In this perspective, it might be worth while for the GEF to assist again

Ebrahim Mann Borgas

Proposal to the Rector of the IOIVU on the technical structure and further development of the IOIVU

1. Purpose of document

The purpose of this document is to:

- Formally establish the Technical Advisory Group through the confirmation of its membership and the elaboration of its mandate;
- Review the relevant elements of the preparatory work completed so far, and to understand where we are in terms of the technical development of the IOIVU;
- Propose optimum technological solutions for the IOIVU;
- Provide input to further applications for funds on the basis of a clearer understanding of the IOIVU operation.

2. Establishment of technical advisory group

During the IOI Planning Council and Governing Boards meeting in Hamburg (Minutes, Agenda Item 10 for the Planning Council, Agenda Item 12 for the Governing Board), it was decided that the IOIVU would have a technical advisory group, with Derek Keats as chairperson. The composition of this advisory group was not specified, but for expediency, during the IOIVU workshop in South Africa, this working groups was constituted of the Chairperson plus the following three members:

- Francois Bailet;
- Masako Otsuka;
- Vladimir Ryabinin.

We propose that this arrangement be formalized: the Technical Advisory Group would then consists of the above four people, who may co-opt others as required.

The terms of reference of the Technical Advisory Group would be to:

1. Facilitate the development of the IOIVU to the operational stage by proposing concrete actions to begin the process of building the technological infrastructure for the IOIVU;
2. Ensure that the IOIVU technological infrastructure development and subsequent expansion is of a high quality, is reliable, is user friendly and sustainable;
3. Oversee the coordination of the IOVU operational aspects which have technical components.

3. Characteristics of the current stage of the IOIVU development

We are approaching an important milestone in the technical design: a platform for preparation and delivery of course content, a system for the registration of students, and the management of credits and marks. Other dimensions are trailing. There are difficulties in getting acknowledgement of the IOIVU as a concept and difficulties in approval of proposals for funding by potential sponsors.

3.1. What is required:

- We may agree to use KEWL as the course hosting, management and delivery mechanism (See separate section and Appendix I);
- We may agree to base the technological development of the IOIVU around the IOI-SA, which will host the hardware;
- It is possible to build future planning on the above decisions as the technical component of the IOIVU will then be largely in place;
- Future applications for funds should be prepared with input from the Technical Advisory Group and IOI-SA;
- The further planning and eventual success of the IOIVU technical development, under the leadership of the IOIVU Rector, will benefit from the participation of all interested parties, which should be encouraged through the IOIVU discussion forum (<http://chats.uwc.ac.za:8080/~ioivudev>);
- To enable IOI headquarters to participate fully in all aspects of the development of the IOIVU, a technical upgrade needs to be completed in the office of HQ. This will allow headquarters to receive documents of any length, to print them in colour, and to participate in the discussion forum and the online manifestation of the IOIVU.

4. Proposed technical solution for the development and operation of the IOIVU

4.1. Hardware systems

The hardware systems for the IOIVU can be based on the experience that has been developed while designing and building the on-line courseware system for University of Western Cape (UWC). This system was designed and developed within IOI-SA under contract to the University's Teaching and Learning Technology Unit. We make the following assumptions, which derive out of this experience at UWC:

- We want to separate data from web server for a combination of security and efficiency reasons;
- We want to be able to provide for streaming media services (audio and video);
- We want to allow for real-time communication, including whiteboard;
- We want on-server data redundancy achieved through RAID-5 technology;
- We want to allow for near real-time backup onsite, as well as longer term backup off site;
- We want an integrated suite of systems wherever possible.

On the basis of these assumptions, it arises that the IOIVU will need to run a 4-server or 5-server architecture (Fig 1). The servers are all rack-mounted and housed in a common rack, something that also allows easy fibre-channel connections (Fig. 2).

There should be one server for handling the database (see software for description of database requirements) (Figs 1, 3). The database server will be behind the firewall, and will not have an externally accessible IP address. The web server will be a separate machine, and will be used to provide a web interface to the database, and to handle all content and scripting requirements as

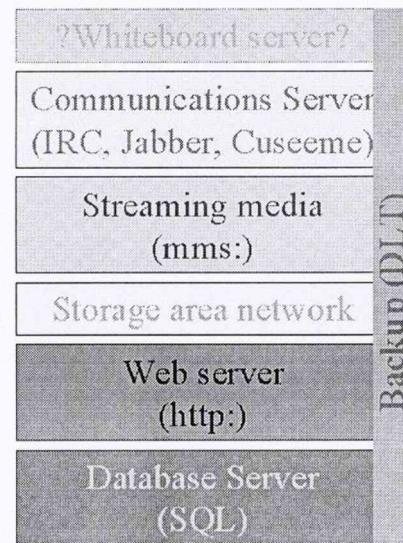


Figure 1. Design of the IOIVU computer architecture.

well as running the online learning software (Figs 1, 3). Both of these servers should ideally be dual CPU machines, with 512kb or 1 Gb of memory, and three 73Gb or higher fast SCSI disks. By having disks in groups of 3, we can enable RAID-5, which allows any one disk to fail without any loss of data, and also allows a failed disk to be hot-swapped without putting the server down. At UWC, both machines performing these tasks are IBM Netfinity 5100 servers.

The streaming media server should be a similar machine, but with a greater expansion capacity, and up to 2Gb or RAM (Figs 1, 3). The disk requirements are also greater, but initially the same disk configuration of 3X 73 Gb disks will be sufficient. At UWC, this machine is an IBM Netfinity 7100 server.

While we can run certain real-time communication services on the web server, communication services are problematic from a security point of view. It would therefore be best to run real-time communications from a separate server. For this we recommend a small, thin single-processor server with a single or dual 73 Gb disk, and about 512 Mb of memory (Fig 1).

Similarly, the whiteboard server can place a security risk on the web server, and may also over tax the system. For these reasons, the whiteboard server is best run on its own machine (Fig 1). This can also be a small, thin single-processor server with a single or dual 73 Gb disk, but should have at least 1GbMb of memory. However, we are still experimenting here, and the specifications may change once we learn more about the performance of the software.

To enable near real-time backup of data, we will need a fast device that is local to all of the servers (Figs 1, 3). The best system to use here is a fibre-channel disk array (Storage area network technology). The best combination of features and price that we have been able to locate for this technology is the IBM Fast-t storage area network device. It is recommended that it have initially an array of six 73 Gb or larger disks operating in the RAID-5 configuration.

For longer-term backup, a DLT tape backup system is recommended (Fig. 1). This allows the backing up of very large amounts of data spanning across multiple DLT tapes. We are presently evaluating some new DLT technology, and will be in a better position to make specific recommendations when this process is complete.

4.2. Operating system and supporting software

There are really only two choices as regards operating system: either Microsoft Windows 2000 Server, or a Unix or Unix derivative (such as Linux or FreeBSD). We do not have expertise in IOI-SA of running mission-critical services on Unix or Unix derived operating systems. However, we have several years of experience in IOI-SA with running such services on Windows NT and Windows 2000 servers. Furthermore, we also have several years of experience of scripting additional services on those platforms. While Unix and its derivatives are probably technically better, the total cost of ownership will be significantly higher for IOIVU as the systems are harder to maintain and the skills are in short supply and costly. We therefore recommend Windows 2000 as the operating system of choice for running the IOIVU, and following established procedures for a high-security operation.

Another reason for this recommendation relates to the choice of online learning software. If we use the system developed by IOI-SA as we recommend, then the software runs on the Windows 2000 platform, and does not run on Unix and related systems.

An exception to this would be made for the real-time communications services, which at present are best based around a Linux server running Jabber as the instant messaging server.

All user services should be integrated across all 4-5 servers using Lightweight Directory Access Protocol (LDAP). This is compatible with both Windows 2000 and Linux, as well as most other modern operating systems.

5. Learning system and management software

The learning system provides all the core functionality of the virtual university in that it includes the features for managing courses, learners, and educators. It should include a registration system, courseware development and management features, a marks and student-administration system, as well as all the tools needed to deliver an online course. The software should also include management features that are scalable and customisable to incorporate the administrative processes of the IOIVU as they develop.

There are three options as far as the online system is concerned.

- Provide managed web services, and let everyone develop content independently;
- Use a commercial package such as WebCt or CourseInfo;
- Use our own software, developed within IOI-SA, and currently being used by UWC to deliver online courses.

The first option is the most flexible, you get what you want, courses have a high degree of adaptability, and the incorporation of new technologies can be achieved. However, it would require the lecturers to have a high degree of skill in web development, know HTML, Javascript, Java, CGI or some Server-side scripting. Even with such skills, developing courses will be very time consuming. Furthermore, it is not suitable to creating the IOIVU brand, something that is crucial to the success of the IOIVU as an institution.

The second solution ensures that there is compatibility with other systems, ensures that there is backup support available worldwide, and guarantees sustainability inasmuch as it can be guaranteed. The commercial products also show ease of use (you don't have to be a web monkey), and management is built in. However, the software is closed-source, constrained, and proprietary. Generally, such systems are not suitable as the basis for application of cutting edge technologies in learning, although they are improving in this regard.

The third solution is the one that is recommended. Using our own software, called KEWL (Knowledge Environment for Web-based Learning), which has a number of advantages. One is cost, since the software is free. The second one is ownership; we own it, we know it, and we can extend its capabilities as we need new tools. The quality of tools is equal or better than that of the commercial products, and new tools are being added through collaborative research projects. The software is very extensible and customisable, since we know the code, as participants in the IOIVU workshop discovered. It was sometimes only a matter of a few minutes between suggesting a new feature and having it working. There is also a sense of community developing around KEWL; it is an IOI product. KEWL is very easy to use, easy to learn, yet extremely powerful and flexible at the same time.

KEWL is also developing an interest among the Open Source community, and we believe that this will become one of its great strengths over the coming years. Currently KEWL is being considered for adoption by Lancaster University in the UK, and there has been considerable

interest as a result of a recent magazine article which featured KEWL. This software is here to stay, and is set to have an impact worldwide. A project to train fisheries and coastal managers in the SADC region is also looking at the possibility of using KEWL, and there is great scope for synergy between this project and the IOIVU through this common platform as well.

Since the IOIVU is a virtual institution, its institutional processes will need to be developed accordingly, making full use of the necessary information technologies. As the requirements of the IOIVU institutional components develop, it will be easy and very cost efficient to incorporate them into the KEWL platform as it is developed by IOI-SA and Open Source. For example, administrative functions, including querying student accounts, alerting students and support personnel to problems with grades and accounts will be incorporated as required. Furthermore, it will be relatively simple to build into KEWL tools for scheduling and managing virtual committee meetings and holding virtual seminars and even broadcasting conferences. For further information on KEWL, please see Appendices I & II, and the website at <http://kewl.uwc.ac.za/>.

6. Content mirroring in IOI centres (for future consideration)

We may wish to cater for content mirroring in some of the (IOI) centres, although this should be an option that should only be undertaken by a particular centre if they have the technical expertise to ensure that it continues to work effectively. There is no commercial software available to facilitate this at present, and we would have to develop it ourselves. This will add a customisation cost to going live with the IOIVU.

However it could use the same technology that would be used to access the content off a CD ROM, but would require careful planning and scripting the links between the main IOIVU server and the mirror. The software will need an Export to mirror/CD-ROM capability, as well as a JavaScript-driven offsite content navigation tool. This will be discussed further and developed as part of another section.

The ways in which learners interact with the IOIVU are illustrated in the diagram on the next page. Student 1 would be accessing everything online. Student 2 would be accessing content via a local content mirror through the Internet or local Intranet, but would need to interact with the VU server via the Internet for any online, interactive activities, such as worksheets, group work, discussions, quizzes, etc.

Student 3 would be access content off a local CD-ROM, but like Student 2, would still have to be online to access interactive activities. Student 2 has the advantage of possibly speedier response if s/he has a good connection to the local mirror. Student 3 has the advantage of rapid access to content, but has the disadvantage that the content may not be quite up to date. Both Student 2 & Student 3 still have to be online for interactive activities. The situation indicated for Student 3 will be the most cost-effective approach to take in supporting learners who are in areas with limited bandwidth and weak Internet access. However, we cannot allow for a situation where there is **no** Internet access at all.

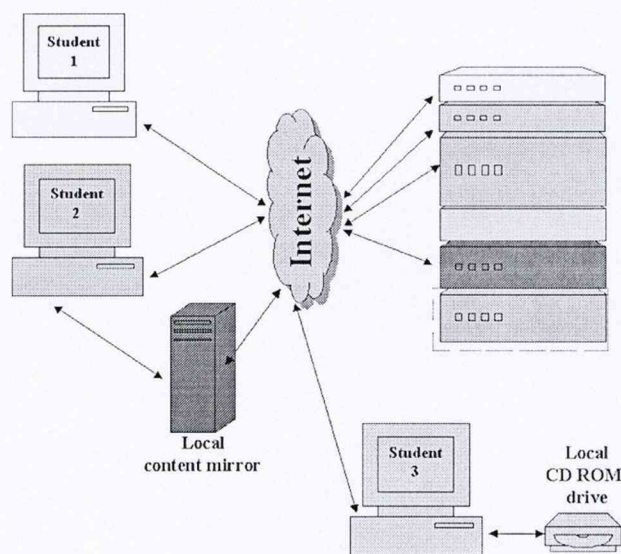


Figure 5. Content mirroring and use of content on local CD ROM.

7. Proposed items for inclusion in the action plan

We propose that IOI select:

1. IOI-SA as the hosts for the IOIVU servers;
2. KEWL as the courseware platform for IOIVU.

With the above decisions made, it will then become absolutely certain that the establishment of the IOIVU is technically achievable and a clear design leading to implementation is available.

Furthermore, as it is clear that the technological aspects of the IOIVU development may be implemented in a short timeframe, it is proposed to take the following actions in order to further facilitate the IOIVU development as a whole:

1. Incorporation of the IOIVU;
2. Establishment of IOIVU bank account(s);
3. Transfer of the IOIVU.org and the IOIVU.net domains to IOI-SA and start using them on the server that will host the IOIVU;
4. Explore the registration of IOIVU.edu (See Appendix II);
5. Actively use the discussion forum for the IOIVU development to escape from the current dominance of multiple bilateral communications;
6. After the IOIVU is established as an independent entity ("wholly-owned subsidiary"), prepare a contract between IOI and the IOIVU;
7. Introduce more transparency into the planning and allocation of funds for the development of the IOIVU through the use of formal contracts which contain itemized breakdown of expenses (See proposed breakdown of IOI-SA development costs in next section);
8. An IOIVU master document containing all information necessary for planning and fund-raising should be completed and made available.

8. Pedagogy

As the technological solutions for the IOIVU are nearing readiness, the efforts for the development of the IOIVU must shift to the pedagogical components in order for any further progress to occur.

2 | NEED: Thus far, there is only a general confidence that there is a strong need in the modern world for a masters level Ocean Affairs program. The IOIVU program proposes to respond to a large-scale trend of expanding coastal development, use of resources, migration towards the coast, etc. But what exactly will be needed in the future? We have not identified the narrower configuration of the education that we are going to deliver and what are the courses that lead to the graduation of a highly demanded specialist in marine affairs. It is time to start doing so.

2 | PROGRAM STRUCTURE: Course content development cannot occur without the proper elaboration of the Masters Program framework.

2
0

Considering the organization of credits for IOIVU courses, a number of things came up during the workshop in Cape Town, which may inform the process of thinking about credit. If we conceptualise credit in terms of contact time, then we are approaching the matter from an Instructivist perspective. In other words, we are thinking of the classroom as the place where everything happens, and have a notion of contact time that suggests that the lecturer is the centre of the learning process. Whereas, the reality is that we should be thinking about this from a Constructivist perspective. In other words, the student is at the centre of the learning process, and the metaphorical classroom is one of many resources to which students have access through the VU. The concept of "Contact Time" becomes even more nebulous in the context of online courses. It is thus difficult to centre course development and credit allocation around this idea. Conceptualisation of credits may be informed by recent developments in the South African higher education sector.

In the South African National Qualifications Authority (SAQA) framework, these problems have been taken into consideration. After an expert survey of credit allocation for degree and other programmes around the world, they arrived at a framework for standardizing on credit allocation for courses that are delivered in vastly different ways. Thus the SAQA framework is very applicable to the IOIVU, and may solve some of the problems outlined above if we adopt it or adapt it to our needs. SAQA came up with the idea of a notional hour, which may be a contact hour, an hour on some task, or an hour of self-guided study.

Under the SAQA framework, one module (equivalent to a half semester course at most universities) carries 100 notional hours, and constitutes 10 credits. A masters degree programme constitutes 12 modules, for 120 credits or 1200 hours. This is approximately equivalent to six one-semester courses at most universities, each having around 36 contact hours, and expecting 1:3 ratio between contact and "study" time. If we add to this, a thesis requirement and an internship, it matches almost exactly with most masters programmes around the world.

A decision on this matter is urgent because it impacts on the course development and planning. We propose to use the above course structure as the basis for the formal IOIVU courses. In order to facilitate and expedite this process, we propose the following programme structure based on the credit allocation described above:

Credits for Core and two groups of elective components of the IOIVU (note that this is illustrative, not what we are suggesting as the final programme)

Subject/ module name	Core	Group1 elective	Group2 elective
Ocean Affairs	20		
Ecosystems & processes in coastal areas	20		
Integrated Coastal Management		10	
Seabed resources		10	
Coastal Community		10	
Marine and coastal resource Economics		10	
Marine pollution GPA/LBA		10	
Ecosystems			10
Maritime transport		10	
Informatics		10	
Public-private partnerships		10	
Law, policy and management		10	
Socio-cultural anthropology of coastal communities		10	
Politics of the sea (1)			20
Politics of the sea (2)			20
Etc etc			10
Etc etc			10
Etc etc			10
Credits required	40	60	20

In this table, the concept of “core” refers to courses that **every** student must take. The two groups of electives allows us to control diversification over various knowledge domains.

Quality assurance is also essential. There is no doubt that the unique knowledge of the Interim Rector will help to identify weaknesses in the courses and their combination(s). At the same time, with stronger confidence in the success of the IOIVU technological implementation, the set-up of the Academic Council will be required.

First courses may be delivered to “guinea –pigs”, and this will ensure that the courses are completed and useable. It will also enable us to identify flaws in our procedures and correct them early.

Proposed actions:

- Establish the Academic Council;
- Identify gaps in modern education in marine affairs;
- Find combination of courses that leads to a sort of education that is likely to fill the gap;
- Focus current development activities on the development of the IOIVU academic curriculum and its component courses;

9. Overview of technical budget

The development of technological backbone of the IOIVU involves expenses. These costs include the initial cost of establishing the interim operation of the IOIVU, the technological support necessary to ensure the smooth operation, as well as acquisition of the long term technological basis for the IOIVU. It is important to realise that the hardware upon which the IOIVU operates will wear out and get outdated over a period of 3-5 years. Thus it is important to anticipate this and to spread technology replacement costs so that they don't all accumulate in one year. In addition, the customisation of the software to the evolving needs of the IOIVU will be an ongoing operational cost.

To speed up the initial operation of the IOIVU, prior to the acquisition of its own equipment, the IOIVU can be established on existing equipment in IOISA. This could be done by running on the existing course delivery system at UWC or on other servers that IOI-SA own. This will enable the IOIVU to be up and running as soon as we are ready to start making courses available. This will not be without cost, but this is a much more cost-effective solution in the short-term than waiting for funds to purchase the IOIVU's own equipment. Hence, a budget for achieving this is included.

In the long term, however, it will be necessary for us to acquire and manage our own equipment. It will also be necessary to replace equipment over a 3-5 year time period. Therefore, budgets for the purchase and maintenance of equipment for the IOIVU is included, as is a technical operational budget for the first 5 years.

Please note: this budget needs expansion of some of the line items.

The budget for all continuing items is given for 12 months from implementation.

Category	Item	Amount
Software customisations		
	Customisation of KEWL to meet the special needs of the IOIVU at startup	5000
	Further development of KEWL according to growing needs of IOIVU	7000
Interim hardware system		
	Set-up IOIVU on existing hardware in IOISA	2500
	Maintain IOIVU interim servers - 1 year	8000
	Provision of weekly backups	4000
Provision of technical support		
	Technical support to course developers & educators	6000
	Technical support to learners	3000
Other technical		
	Guaranteed access to outgoing bandwidth of minimum 128 kb/s	10000 guess
	Backup tapes	1000
	Disk drives	4000
	CD ROM disks	500
	Paper & printer consumables	300
Total funding for Interim period		51300

Notes:

1. The interim solution does not include near realtime backup, nor is there data redundancy through Raid-5.
2. Server is a dual processor Pentium III with 512 Mb RAM and c. 300 Gb of disk space.
3. Media streaming will be via the UWC streaming media server, so space will be limited
4. Communications services will be via PCs operating as servers
5. Database / web separation will probably not be possible in the interim unless IOI purchases a separate server

Hardware budget for the long term operation of the IOIVU. Most hardware will have a life expectancy of 3-5 years, so there will need to be a budget for successively replacing items within a 3-5 year time frame. Furthermore, additional storage will be required as the VU grows, and this will have to be budgeted annually.

Item	Amount
Server rack	3500
Database server	13000
Web server	13000
Streaming media server	25000
Communications server	8000
Whiteboard server	8000
DLT Tape backup system	7000
Storage area network	15000

Peripheral devices	2500
Backup tapes	3000
Software (Win 2000 x 4; SQL x 1)	7000
Subtotal	105000
Setup costs	7000
Total	112000

Annual operating budget for technological infrastructure

Item	Year 2	Year 3	Year 4	Year 5	
Hardware maintenance					
Equipment service	8000	8000	8000	8000	
Apportioned replacement costs	25000	25000	25000	25000	
Consumables					
Backup tapes	4000	6000	7000	8000	
Disk drives	5000	5000	5000	5000	
CD ROM disks	2000	2000	3000	4000	
Paper & printer consumables	800	1000	1200	1400	
Manuals & literature					
Technical manuals	1500	1500	1500	1500	
Support staff					
Systems administration					
Backup operation					
Technical support to academics					
Learner technical support					
Contribution to ongoing customization of KEWL	7000	7000	7000	7000	
Other technical					
Bandwidth	20000	30000	30000	30000	guess!
Subtotal	73300	85500	87700	89900	
Administration & overhead (10%)	7330	8550	8770	8990	
Total	80630	94050	96470	98890	

Notes: Year 1 budget is in the interim period budget



INTERNATIONAL
OCEAN INSTITUTE
CANADA

DALHOUSIE
University



FACSIMILE TRANSMISSION

To: Professor Alexander Yankov
Fax No 359 2 880 448

From: Elisabeth Mann Borgese
Fax No. 1 902 868 2455

Date: December 1, 1999

Subject: Charter for IOI Virtual University

Dearest Alex,

you may remember that, in a moment of weakness, you accepted to draft the charter for the IOI Virtual University! We were all very very happy by your acceptance.

In the meantime, I had occasion to discuss the matter with the Rector of the UNU. He loved the project and is ready to co-sponsor. I also had a talk with the Nippon Foundation, and they are ready to fund. It is now our goal to have a nice full "project document," ready for the official application for funding. This should be completed by the end of February. I really believe this is a project that will fly, and it will be another break-through for the IOI!

In case you don't have it, I am attaching a clean copy of the "concept paper" on which the Charter might be based. If you need any other assistance with documentation, please do let me know and we shall do our best.

Both the UNU and Nippon emphasized that this "virtual university" should be quite open to participation of other universities who might want to be participate. I see no difficulties with that. It would simply mean, that their relevant courses and willing faculty members should be listed along with ours. It seems there are already a couple of Japanese Universities that might be included; as well as Utrecht, the Mediterranean University, etc. But with our own institutions we do have a very strong core or starting point. Technology makes it possible to enlarge the network *ad lib.* -- of course, with the necessary quality controls.

Would it be possible to produce a first draft for the Charter by the end of February? That would be absolutely splendid! Do let me know!

I hope you have returned home safely and have recovered from the strain and stress, and I wish you a peaceful Christmas and a Merry Millennium!

Yours as ever,

E. L. Kelly



INTERNATIONAL
OCEAN INSTITUTE
CANADA

101/00
DALHOUSIE
University



FAXED

FACSIMILE TRANSMISSION

To: Dr. Noel Brown
Fax No 203 966 2305

From: Elisabeth Mann Borgese
Fax No. 1 902 868 2455

Date: December 1, 1999

Subject: IOI Virtual University

Dear Noel,

Just back from around the world. It was a rather fabulous journey.

Two things today:

1. I am attaching a "concept paper" adopted by our Governing Board at its Fiji session. Full project document will be ready by the end of February. From Fiji I went to Tokyo, had an excellent talk with the UNU Rector. UNU will cosponsor the project. Now we are after UNESCO, Peace University, and WMU. Nippon Foundation has already agreed to fund. So this, I think, is going to fly, and we are rather excited about it. Another break-through?
2. I am going to be in New York December 12, 13,14. Are you going to be around. Can we do things? Do let me know. We also have to discuss the media workshop project.

Love,

Elisabeth

The World Bank
Washington, D.C. 20433
U.S.A.

IAN JOHNSON
Vice President & Head
Environmentally & Socially Sustainable Development Network

RECEIVED DEC 16 1999

December 7, 1999

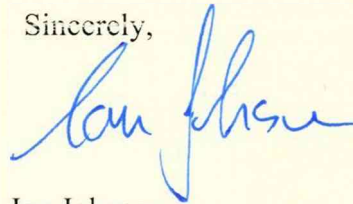
Ms. Elisabeth Mann Borgese
1226 LeMarchant Street
Halifax, Nova Scotia
Canada B3H 3P7

Dear Elizabeth,

Thank you for your letter of December 1, and the information on the "IOI Virtual University" project. The concept of an on-line university has been tried in the US and elsewhere in developed and developing countries. The African Virtual University (AVU) project, which was initiated in the Bank a few years ago, has advanced well. The distinction though is that AVU relies more on broadcasting of courses to institutions in Africa (where receiving stations in partner institutions are already in place) rather than using the Internet for transferring course content. While the IOI project merits further perusal, I think it is important to recognize that distinction especially since our experiences show that the requirement for financial resources and investments in technology infrastructure can be substantial, and should not be under-estimated if the project is to succeed.

Please keep me informed of the progress and best wishes for this holiday season.

Sincerely,



Ian Johnson

Attachment 3B

Conceptual Study Model
drafted by G. Kullenberg

1. Initiation

Student receives information on available courses, requirements and options, study entry requirements and related required documentation, and available study supervisors; costs, time schedules etc.; It is assumed that a student has a "home" base: e.g. school, university, work place, office, NGO; and possibly a sponsor.

2. Study entry

Student consults/approaches potential supervisor, presents the desires, aims and reasons for study; provides required information. After decision and acceptance by potential supervisor or advisor, student submits formal application to IOI-VU registrar office or related office, to become registered.

Registration requirements should in principle have been cleared through the consultation procedure, but related proofs and documents should be provided at registration.

Student should also formally concur with the study requirements at IOI-VU and have a tentative plan agreed with the supervisor. The supervisor should concur.

3. Study: courses

The courses are selected by student in consultation with the supervisor so as to meet the aims of the study, a time schedule is agreed, with contact frequencies etc.; and number of credits to be covered.

The student in consultation with the supervisor agrees on procedure: distance learning technique to be used; reporting to supervisor or teacher; possible available Centre to be used for confrontation consultations and advice, if and when required.

The reporting/contact schedule must be established and adhered to. There must be pressure on both sides to stick to agreements, meet deadlines, and turn arounds. This is just as important for supervisors, teachers, other advisors, as it is for the student.

There should be a confrontation schedule for student to meet with the supervisor. The frequency will depend on student quality and ambition. The related expenses should be included in calculated costs, and possible fellowship. It may also be that the supervisor visits the student, depending upon conditions. Such costs must then be born by IOI-VU. Such confrontations/consultations should at a minimum be coupled to completion at each course, or at least once per semester.

Adjustments may occur in the study as it moves along. However, there should be a rule to stick to the selected core courses. The optional courses could be changed or supplemented.

We have to agree on mode of testing or "examination". This could perhaps be associated with or part of the confrontations/consultations referred to above. These are meant to be advisory, explanatory and to ensure that the student has understood the course content. We have to assume, or ensure as part of the acceptance process, that the student is mature enough to wish all these matters to be fulfilled.

The courses as well as the other matters mentioned here (e.g. the consultations) should of course be recorded in the student record book. Copies of these records, properly signed, should be registered at the registrar office.

4. Study: internship

Having completed in a satisfactory way the core courses and optional courses to at least some pre-agreed level, the period of internship comes. Normally this should be at the home institution of the supervisor, but this may be adjusted if good arguments are presented, or if it is planned already from the start.

The internship should provide for the research work. This must, at least partly, be done or initiated with supervision. The internship should also include a writing period, either starting the thesis writing, or writing an essay if that option is chosen. It should be part of the education and degree award to ensure that the student has at least written something independently, even if under supervision. It will be a key later in the use of the education that the student is able to express matters in writing.

However, oral presentation abilities will also be required of the student after finished education. Hence internship period should include at least some (more than one) seminars to be given by the student. These should be given at the institution where internship is provided, in the presence of its students at a similar level and subject area in general, as well as supervisor and/or teachers.

The presentation of seminars as well as the writing (thesis or essay) should be recorded in student record book; and copied to registrar office of IOI-VU.

The internship period should have sufficient length, of at least some months or one semester, and costs should preferably be met 50/50 by the student and IOI-VU. This is to ensure that it is not seen as a "holiday trip". There should be identified a senior level undergraduate or a graduate student at the internship host institution to act as a "helper" or "guardian" or "whatever we wish to call it" for the IOI-VU student during the internship period.

In some cases, depending upon type of research work chosen, the internship period could be "sandwiched" with periods at the home-base of the student. This would mean that the student is doing part of the research at the home-base. This must of course be rather strictly controlled, and fully agreed by the supervisor, and accordingly recorded.

Such an approach may also be required or desirable depending upon the employment situation of the student.

5. Study: thesis writing

This should at least be initiated during the internship period. A rather strict time schedule should be established, agreed by the student and supervisor. The student should of course work independently as much as possible, but presumably in most cases rather frequent consultations with the supervisor will be needed. This will vary from case to case and also depend upon complexity of work. In any case, it must be ensured that a fully understandable and complete presentation is made in the agreed language. It is my opinion that we should accept thesis-writing in English, French or Spanish. Later other languages may be added. It poses great difficulties for students not well acquainted with English to write a good thesis in that language.

The thesis should upon completion and endorsement by the supervisor be formally submitted, for external endorsement, to two other teachers or advisors. These should be part of the IOI-VU faculty or should be noted by the IOI-VU Academic Council. The supervisor should identify them, in consultation as required. The whole process should be duly recorded in the student record book and IOI-VU Registrar office.

6. Study: knowledge control

Psychologically there is a need for some sort of formal knowledge control (examination). The students will demand it. This should be seen as part of the opportunity of study; to match your knowledge and understanding of the study subject with the supervisor or a teacher (professor) who is not previously known to you. The best way to do this is through an oral confrontation or dialogue. Such dialogues can be arranged as part of the whole process, as outlined here in this note.

7. Other matters

We need to decide on the student requirements, and not only the previous study requirements and language needs. We also need to consider if the student should have a sponsor, or should have an employment, or both. If the student is employed, the employer must of course give a formal agreement to student entry into the IOI-VU process. If the student is not employed we may well need to require a sponsor who knows the student. The sponsorship should not imply any financial commitments. Such are of course welcome but should then be separately specified.

We also need to have some rules on financing of the study. As a general rule the IOI-VU should not enter into any financial commitments for students. Financial support should be well regulated and be coupled to the IOI-VU financial mechanism.

Fellowships should be made available, but I feel they should not be covering all expenses. The student should pay something. These and related matters need to be fully analysed.

There should be regular reports to the IOI-VU Academic Council on the progress of studies and students. This may or may not be on an individual basis.

However, transparency, institutional information and awareness and acknowledgements are necessary elements for a credible operation. Hence the Academic Council must be informed about the study progress, thesis works, research, new developments etc., and accept consolidatory responsibility.

Elements of this note may enter into the IOI-VU Rules of Procedure.

8. Pilot phase elaborations

In the initial phase there will only be one or two packages centered around 4 or 5 core courses. These are expected to cover:

1. UNCLOS and UNCED;
2. Integrated Coastal Area Management, including living resources, and mariculture;
3. Co-management, response strategies, risk management;
4. Sustainable livelihoods, eco-villages, GPA-LBA related matters, community developments, elements related to technology transfer partnerships and use of traditional technology;
5. Marine and Coastal Resources economics;
6. Several optional courses on mariculture, data management, deep seabed questions, mining, marine pollution, processing of marine produce; and on specific oceanographic subjects.

Possible model packages could then be combinations of core courses: 1+4+5; or 2+3+4; or 1+2 and several optional ones; etc;

The related research work could deal with combinations of economics and resources management; relations between local/national and regional efforts within the UNCLOS + UNCED framework; cost-benefits of risk management and preparedness; cost-benefits of GPA-LBA implementations at local, national, regional levels; etc.

I feel that the Working Group should elaborate some such packages which can serve as guidelines. Credits should then also be identified.



International Ocean Institute

HEADQUARTERS

TELEFAX TRANSMISSION

Date: 29 August, 2000 No. of pages: 3

Attn: To Members of the IOI-VU Working Group

To: Prof. Elisabeth Mann Borgese
International Ocean Institute
Dalhousie University
Halifax, Nova Scotia
CANADA

Fax: +1 (902) 868 2455

From: International Ocean Institute
Headquarters
University of Malta
MALTA

Fax: +356 (-) 346 502

Subject: Update on IOI-VU development

Dear Colleague,

Here I will summarise the situation since June and the need for action from my perspective, so as to complete our Working Group report before the Board meeting, 1-2 December 2000. At the June meeting of the WG we agreed as follows:

1. The name: IOI VU
2. Separate financing must be generated

A draft proposal was prepared by me on the basis of available material. This proposal is being used, and has been re-shaped accordingly, by Elisabeth in discussions with the Nippon Foundation. We are seeking support from them in the form of a partnership, with a financial contribution matching that of IOI; so far in the range 200-300.000 USD for the initial work.

It was also the intention to approach a new German Foundation, but since we have submitted a proposal to that Foundation for support of the PIM Conference, we decided to wait with the IOI VU proposal.

-2-

3. The structure

A Registrar should be added. It was also suggested that we could perhaps link this function with an existing host-institution (university). However, we also agreed that the Rector and the Registrar ought to be in the same place (office). The Registrar may also be the legal council of the University, thus serving both functions.

We agreed that we should establish how registration is done in Univ. of Malta; USP; UWC; Dalhousie; IIT Madras; and WMU. I will endeavour to find out about Univ. of Malta and WMU, while the others would be done by Robin South, Derek Keats, Elisabeth, and R. Rajagopalan, respectively.

4. The courses and study structure

We agreed we would look more closely at the WMU and IIT Madras models, and the Commonwealth of Learning. I will look at the WMU approach; and I would assume that Rajagopalan reviews the IIT Madras one, and Elisabeth the Commonwealth of Learning one (in Vancouver). We agreed that 4 core courses would be prepared initially. The group of IOI Southern Africa would do the websiting of the courses following delivery from the other Centres. As I see it we could very well have more than one Centre participating in making a core course. This would help ensure involvement of several Centres.

We agreed that we would at first use only IOI-prepared core courses.

5. Faculty, supervisors

We agreed that the faculty would be made up of the teachers who participate in preparing and giving the courses. We would not at this stage prepare any list of faculty members.

We agreed that supervisors or mentors would in the first instances be selected from IOI among the IOI Operational Centre directors. We do not at this stage make a list of such supervisors/mentors.

6. Negotiations with the Host institutions

It is necessary to have a partnership in the IOI-VU with the Host institutions of the IOI Centres. We agreed that negotiations with the Host institutions should start now in the soft way, by informing the relevant authority of the IOI-VU idea and development. It was agreed that the Directors of participating Centres would initiate this process, and that I could be involved if and when required.

-3-

I can inform you that together with representatives of IOI China, I have had discussions about the IOI-VU with the Host institution in China. They are very positive and want IOI China to participate. There may also be another partnership developed with the Ocean University in Qingdao.

I invite you to start the soft way with negotiations with your Host institution so that we can get some experiences to include in our WG report.

7. Remaining Terms of Reference of WG

The Terms of Reference for our work were also given in the interim report for the June meeting (in Annex 1) which I assume you have.

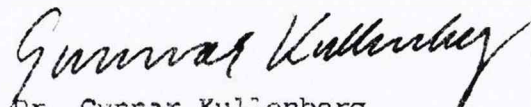
On the basis of the work so far including that given in this letter, I consider the state as follows (numbers referring to the Terms of Reference):

1. Charter: done.
2. Compile list: done.
3. Select 4 core courses: partly done, but we need to finalise including the titles, size, list of contents.
4. Credits - partly done; but need to study WMU and IIT Madras models also.
6. Roster of members; in June decided not to proceed beyond Operational Centres.
7. Coordinate preparation of core courses: needs to be done, but must await confirmation that funds are available; task has been initiated through the compilation of the proposal referred to above.
8. Prepare budget: this needs to be done.
9. Administrative structure: done.

I look forward to hearing from you on all these matters, as to your concurrence as well as your readiness to do your parts as indicated herein. We need to circulate the WG report to IOI Board members by the end of October at the latest, so I need your inputs in due course, preferably as soon as possible.

With best regards and thanks for your work and inputs.

Yours sincerely,



Dr. Gunnar Kullenberg
Executive Director

c.c. Chair, IOI;
Chair, Planning Council.

Dear Joy,

Thanks very much for your letter. Gunnar Kullenberg in Malta is just putting together an up-to-date document on our VU development, which I will send to you as soon as it is available, but it is already clear to me that we should cooperate with you. There will be many overlaps between our two Master's Degrees. We should form one network, and recognize each other's courses, whether core or optional.

We expect to register our first students in September 2001!

Let us keep in touch!

I won't be able to attend the two conferences you mention. IOI will be represented at the Coastal conference.

Warm regards,

Elisabeth

Dear Elisabeth,

Thank you for the prompt response.

When do you expect that your virtual university will become a reality?

Will the VU be a part of Dal or will it grant its own degrees?

I don't get to Halifax very often but I'm going to the Coastal Zone Canada 2000 conference in Saint John in September. Will you be attending as well? There is also a very interesting conference on Ocean and Coastal Policy taking place in Cancun between Nov 1-4 but it's a long trip.

As we are planning similar endeavours it is probably a good idea to exchange information so that we do not end up with 2 duplicate new wheels.

Our Advanced Diploma is a technically oriented program that caters to new and usually inexperienced graduates but the Masters programme will probably be geared to a more experienced practitioner. What is the target audience for your proposed programme? Will it focus on Maritime Law or Environmental Law or will you offer different streams? Will you offer all the courses from your VU? This technology is so new and the "experts" are still debating the learning outcomes of it all. We do indeed live in interesting times.

Joy

Joy Blundon

Fisheries and Marine Institute of Memorial University of Newfoundland

Office: 709-778-0312

FAX: 709-778-0535

e-mail: Joy.Blundon@mi.mun.ca

-----Original Message-----

From: EBorgese [SMTP:EBorgese@compuserve.com]

Sent: Wednesday, August 30, 2000 10:20 PM

To: Joy.Blundon
Cc: EBorgese
Subject: CZM and the web

Dear Joy,

Thanks for your message. There s s much going on in CZM, nationally and internationally, that it makes your head spin. We are in the process, at the IOI, to develop a Virtual University, with a Master's programme on oceans and the Law of the Sea. Integrated coastal management will be ne of the core courses. It would be nice to get in touch with you and to exchange experiences.

Do you ever come to Halifax?

With all good wishes,

Elisabeth Mann Borgese

----- Internet Header -----
Sender: Joy.Blundon@mi.mun.ca
Received: from gill.mi.mun.ca (gill.mi.mun.ca [192.75.24.252])
by spdmgaae.compuserve.com (8.9.3/8.9.3/SUN-1.9) with ESMTP id HAA22003
for <EBorgese@compuserve.com>; Thu, 31 Aug 2000 07:38:31 -0400 (EDT)
From: Joy.Blundon@mi.mun.ca
Received: from localhost (root@localhost)
by gill.mi.mun.ca (8.9.3 (PHNE_18979)/8.9.3) with ESMTP id IAA28263
for <EBorgese@compuserve.com>; Thu, 31 Aug 2000 08:57:21 -0230 (NDT)
X-OpenMail-Hops: 1

Subject: IOI - VU

Date: Fri, 01 Sep 2000 12:22:53 +0200

From: "I.O.I." <ioimla@kemmynet.net.nt>

To: Masako Otsuka <intercom@qb3.so-net.ne.jp>

CC: EBorgese@compuserve.com

Dear Masako

Here are some responses to your series of questions of 30 August.

I think it is ok for Nippon Foundation to start discussing with other universities in Japan. However, I would suggest this be done so as to first inform the Japanese universities about the idea of IOI - VU, that IOI is working on specifications, that UNU has agreed to co-sponsor, as has UNESCO through IOC, WMU and the UN Peace University. Please note that discussions with the Host institutions of the IOI Operational Centres are only just beginning, except in the case of IOI Canada where Elisabeth has discussed it early on with the President of Dalhousie, and obtained a positive response.

Now to your questions:

1-2: IOI - VU is part of IOI, and is therefore incorporated for the time being as IOI. In the Statutes incorporating IOI, there is specific reference to education and training, and award of certificates, diplomas or degrees. IOI is thus incorporated as an educational institution.

In due course when IOI - VU has become operational and introduced itself, then perhaps we may seek membership of University associations, e.g. the International Association of Universities.

1 - 3: As far as I can see there will be no difference between the status of the students. The IOI - VU will have to pay the fees to USP, or the student may be able to do it him/herself; in any case the fees for courses etc. will have to be paid, and for other matters too. This of course does not mean the IOI - VU student will have to pay fees for a 2-3 year study, but rather for the period he/she attends the USP, and specific courses taken at USP.

This question is also one which needs to be discussed and settled in negotiations with the host-institutions of the IOI Centers. This is also why these discussions with the Host institutions are so very important, and must be done in a transparent and careful fashion.

In the case of IOI Canada - Dalhousie University it would appear to be no problem initially. The IOI - VU student will of course also have to demonstrate the necessary credits, levels, background etc. which the university requires for a masters degree.

1 - 4: Yes, in principle. The IOI - VU would have to pay the necessary fees, and the student would have to fulfill the requirements of the studies / courses.

5 - 2: Budget. For the pilot phase we plan preparation of 4 - 5 core courses and at least 3 - 4 optional courses.

The experts of the IOI Centres who are involved in doing distance learning courses inform that costs for preparation of a one semester course are in the range of USD 30 - 50,000. The optional courses would be less costly, because they do not cover a whole semester. Thus the initial preparatory budget is in the range of USD 200,000 - 300,000. However, this should be spread over a period of a year, in the sense that all the courses do not have to be completed at the start of operations. We need to have a phased start, so as to be ensured that we are having the right level, subjects etc. We should remember that the IOI - VU builds on the experiences of IOI over about 2 decades of active education at international level.

I am surprised that the question "Why IOI" has not been asked. It may be that Elisabeth has already responded to it, but let me reiterate what I consider to be the basic reason. The IOI is the only existing international non-governmental organization dedicated to study and work on the ocean as a whole, address questions related to ocean governance, marine affairs, including of course coastal problems and social, economical, and cultural ones. The fact that IOI is inter-sectoral

international and global with IOI Centers in all parts of the world implies that IOI is not biased. The education is not unduly biased towards specific interests. The WMU or UNU cannot do what IOI potentially can do. They are both UN bodies, and are run by governments and the interests of governments; in addition WMU is very sectoral. A national institution like the Open University of UK cannot do it either - it will always be biased towards the interests of the UK. A leading national institution with great international status like Dalhousie University cannot do it either, for same reasons.

I hope this gives you some feeling why I at least consider the IOI - VU as a very high priority for IOI, and why I think it is very important that we launch it carefully and in a well organized fashion.

With best regards,

Yours sincerely,

Dr. Gunnar Kullenberg
Executive Director

Provisional Agenda for the First Session
of the IOI VU Interim Board of Governors,
Hamburg, Germany, 4 December 2000

- Item 1: Opening, Establishment, and Adoption of the Agenda;
- Item 2: Vision and mission of the IOI-VU;
- Item 3: Highlights and clarifications of developments so far and role of the Board of Governors;
- Item 4: Agreement on mechanism for further development and specification of intersessional work;
- Item 5: Consideration of and agreement on interim financial mechanism and funding requirements;
- Item 6: Consideration of communication and coordination mechanisms and procedures;
- Item 7: Date and place of next session;
- Item 8: Any other business and closing.

1-3. Virtual University

Nippon Foundation is negotiating with Japanese Universities that could be a part of IOI Virtual University Network, including Tokyo University, Tokai University, Tokyo Fishery and Marine University, etc. If negotiations go well, the support from the Nippon Foundation will become more likely.

Nippon Foundation is suggesting that the name of the IOI-VU would carry a phrase "Pacem in Maribus" which would embody the philosophy of the University.

2. Cooperation

2-1. Liaison for IOI-India and Japan Foundation of Global Environment

This year the IOI-Japan assisted Prof. R. Rajagopalan, Director of IOI-India, in the translation of an application for a grant from the Japan Foundation of Global Environment (JFGE) for the "Conservation of Coastal Environment through Environmental Education and Capacity Building in Poor Coastal Communities" project. As all project documents need to be translated into Japanese, the IOI-Japan will continue assist the IOI-India in this capacity on an on-going basis.

2-2. Regional Cooperation between IOI-Japan and IOI-China

Dr. Tsutomu Fuse of IOI-Japan is cooperating with Dr. Hou Wenfeng, Director of IOI-China, in the creation of the "Proposal on Analysis and Research on Current Situation of Environmental Quality of the Yellow Sea and the East China Sea and Strategy Research." In 2001 IOI-Japan and IOI-China intend to launch a working group for the actualization of this project. Support from the Nippon Foundation will be requested.

Annotated Provisional Agenda for the First Session
of the IOI VU Interim Board of Governors,
Hamburg, Germany, 4 December 2000

Item 1: Opening, Establishment and Adoption of the Agenda

The Chair is expected to call the meeting to order at 11.30 hrs on 4 December 2000, at the International Tribunal for the Law of the Sea in Hamburg.

The Chair will recall that the Interim Board of Governors is constituted in accordance with the Charter of the IOI VU by the Governing Board of the IOI for a transitional period. In addition representatives or observers have been invited of organisations who have expressed their interest in co-sponsoring the IOI VU or who are considering such a possibility. It is proposed that representatives of co-sponsoring organisations be ex-officio members of the Board.

According to the Charter the Board of Governors should have up to 10 members. However, to this First session of the Interim Board all members of the IOI Governing Board have been invited.

The meeting will be invited to adopt the Provisional Agenda (Document IOI VU/1/1) as circulated or amended as required. The Executive Director will briefly introduce the documentation for the session.

The Executive Director will inform on the procedure for the reporting of the meeting and the preparation of the report.

Item 2: Vision and mission of the IOI VU

The purposes of the IOI VU are given in the Charter, and they are also further elaborated in the report of the IOI Working Group of 1999 (Document B/39/12/1). Article 3 of the Charter specifies the purposes as follows:

1. The Fundamental objective of the University is to contribute to the sharing of knowledge on the oceans and their potential wealth and challenges as a Common Heritage of Mankind, with special consideration for the needs of developing countries.
2. The University shall promote interdisciplinary education, training and research reflecting the complex nature of ocean space and maritime activities, where the multiplicity of related problems have to be considered as a whole in their interface.
3. Through its unique structure, accumulated global experience in education, training and capacity building, the

University shall enhance the abilities of developing countries to manage and govern in a sustainable manner their marine and coastal resources for their peoples in harmony with the principles of modern international law and relevant international conventions and agreements.

4. The University shall provide the academic framework for encouraging and assisting students from any part of the world, in particular from developing countries, to obtain post-graduate level education and advanced training, upgrading and supplementing their previous education and work-experience, as well as internationally recognised academic degrees.
5. It shall be a continuous objective of the University to advance innovative approaches towards solving some of the major problems besetting higher education at the end of this century and on the eve of the next millennium.

These points are all reflecting the mission and role of the IOI. In particular point 3 mirrors the mission statement of the IOI, which is:

"The mission of the International Ocean Institute is to promote education, training and research to enhance the peaceful uses of ocean space and its resources, their management and regulation as well as the protection and conservation of the marine environment, guided by the principle of the Common Heritage of Mankind."

Article 1 of the Charter suggests a definition of the IOI VU, which is also reflected in section 9 of the Working Group report, as follows:

"A network of education, training and research centres of expertise in ocean, coastal and marine-related affairs and governance, joined together in a partnership so as to provide for an interdisciplinary and comprehensive coverage of the subject areas."

The Board of Governors may wish to reflect on the implications of these specifications for the functioning of the IOI VU and the Board itself and its composition.

Item 3: Highlights and clarifications of developments so far and role of the Board of Governors

The Executive Director will recall the report of the IOI Working Group (Document B/39/12/1) and present a summary of the deliberations of the Governing Board of the IOI when it reviewed the report. He will point out the conclusions and recommendations.

The Governors are invited to raise questions requiring clarifications, and help identify points which may need further analysis.

The role of the Board of Governors is specified in the Charter in Article 7, which is reproduced here for easy reference.

Article 7: The Board of Governors

1. The Board of Governors shall be composed of not more than ten members, drawn from a list of educational, research institutions or other entities with recognised expertise in maritime matters, so as to ensure that the composition of the Board as a whole meets the requirements of equitable geographical representation and adequate participation by persons with appropriate knowledge of the needs of developing countries.
2. The composition of the Board shall be approved by the Governing Board of IOI.
3. The members of the Board shall be appointed for three years and may be re-appointed.
4. The Board shall exercise the following functions and powers:
 - (a) formulate the general principles and policies which shall govern the activities of the University;
 - (b) adopt the statutes, procedural rules, bylaws, regulations and other documents relating to the implementation of the present Charter and the conduct of the activities of the University;
 - (c) approve the work programme and budget of the University, on the basis of proposals submitted by the Rector;
 - (d) make recommendations it may deem appropriate for the effective functioning of the University;
 - (e) consider the requirements and arrangements under which institutions and individuals involved in ocean affairs may be associated with the University in order to ensure the achievement of the highest academic and professional standards for advancing the purposes and principles of the University;
 - (f) determine the credits and awards requirements, in consultation with partner universities and other competent educational institutions;
 - (g) examine the programmes for education, training, capacity building and research proposed by the Rector and make suggestions to this effect to the Academic Council;

- (h) consider the Annual Report for the work of the University submitted by the Rector;
- (i) study the methods of financing of the University with the view to procure adequate funds for effective operations and autonomous functioning of the University;
- (j) appoint the members of the Academic Council;
- (k) establish the subsidiary organs.

The Interim Board is invited to comment on the most appropriate way for it to perform the tasks and suggest what services and communications will be required so as to make it work. It is also suggested that the Interim Board considers its composition and agrees in a preliminary way on principles for selecting Governors, taking into account the guidelines provided in Article 7 of the Charter. These considerations will then be brought to the attention of the IOI Governing Board.

Item 4: Agreement on mechanism for further development and specification of inter-sessional work

The Governing Board of IOI established a Working Group on development of the IOI Virtual University at its meeting in Fiji, November 1999. The report of that Working Group (Document B/39/2/1) was presented to the Governing Board of IOI at its meeting on 1-2 December 2000, in Hamburg. In the report it is proposed that the Working Group continues as an appropriate mechanism to carry on the further development, and Terms of Reference for its work are proposed. These are also provided here in Annex 1.

It is assumed that the Governing Board of IOI will endorse the proposal, possibly with modified Terms of Reference. Hence it is desirable that the Interim Board of Governors for the IOI VU also reviews this mechanism, its composition and tasks, and possibly identifies additional tasks emerging from its own analysis. The Board of Governors is invited to do this.

The Board is also invited to advise on priority tasks to be carried out and reported to its next session. These points will be communicated to the Working Group. The report of the Working Group will be provided to the next session of the Board of Governors as well as to the Governing Board of IOI.

The Board may also in this context consider the possibility of appointing an acting or interim Rector. Following preliminary considerations of this matter, it is suggested that the Board instructs the Executive Committee of IOI, also acting as the Interim Executive Committee of IOI VU, to discuss this further at its mid-term meeting in June 2001. Depending upon how far the development, including the financial basis, has proceeded, the Executive Committee may then be delegated to make a decision for an interim appointment, to be confirmed subsequently by the

Board.

Item 5: Consideration of and agreement on interim financial mechanism and funding requirements

Chapter III of the Charter gives guidance as regards finance and budget. It specifies that the budget shall be prepared by the Rector and shall be approved by the Board of Governors. It is expected, as it is a necessity, that dedicated financial resources will be obtained for the operation of the University. These should be kept in a special account to be established by the Rector on approval by the Board of Governors. There shall be an external audit mechanism, appointed by the Board.

Furthermore, an overall budget estimate for the development period and the initial operational years is presented in the Working Group report (Document B/39/12/1). It is envisaged that formal proposals seeking support for the development phase will be prepared on the basis of the decisions by the Governing Board of IOI and the Interim Board of Governors for the IOI VU. It is planned that these proposals will be submitted to several different foundations. It is important to identify the most appropriate foundations and also potential donor agencies.

During the initial development phase and part of the transitional period it will be necessary to utilize the financial mechanism of the IOI Headquarters to manage the funds provided for the development of the IOI VU. It is suggested that this be maintained until an interim Rector has been appointed. The Rector should then establish the special account and fund dedicated to the IOI VU, to be approved by the Board. This may still be done using the IOI Headquarters facilities. As an interim measure the Board may consider appointing the same Auditors as appointed by the IOI Governing Board for IOI.

The Interim Board of Governors is invited to review the financial mechanism, the budget estimates, and identify possible further requirements or gaps, and advice on the interim mechanism as well as on preparations of proposals and suitable foundations and donor agencies.

The Board should also advise on to what extent an initiative as the IOI VU can help address some of the most important current concerns of the society such as poverty reduction, comprehensive security and employment. These matters are inherently part of the vision behind and rationale for establishing the IOI VU, and it is most important that the Governing Body brings them out. Hence the Board is requested also to consider these fundamental points, in the context of the financing of the IOI VU.

Item 6: Consideration of communication and coordination mechanisms and procedures

It is important in the development phase and transitional period that we have clear lines of communication and decision making as regards the inter-sessional work. It is proposed that the

Executive Director of IOI functions as the focal point for the further work until such time when an interim Rector is appointed. It is not yet clear when this will be, but in any case not until the June 2001 meeting of the Executive Committee of IOI. That meeting will also consider an interim report of the IOI VU Working Group. The acting Chancellor of the IOI VU is a member of the IOI Executive Committee and will also be able to represent the Board of Governors.

The major coordination role during this period of the development phase will fall on the Executive Director of the IOI, as focal point. He will work through the IOI VU Working Group.

The Board of Governors and the representatives and observers of the co-sponsors or potential co-sponsors should be kept regularly informed on how the development proceeds. This will be done through correspondence.

It is proposed that the interim report of the IOI VU Working Group also be provided to the Board of Governors.

Responses and other concerns regarding the IOI VU should also be communicated through the IOI Executive Director until an interim Rector is appointed.

The Board is invited to review the coordination and communication needs and the plans as indicated here, and possibly as amended by the IOI Governing Board.

The Board of Governors may also wish to indicate a representative who could attend the June 2001 meeting of the IOI Executive Committee to complement the acting Chancellor.

Item 7: Date and place of next session

It is proposed that the Interim Board of Governors arrange its sessions during the development phase at least in conjunction with the sessions of the IOI Governing Board. The next session of that body is planned to take place in Dakar, Senegal in November 2001. The Board of Governors may wish to comment on preferred timing and take note of the procedure and specify deadlines for receipt of confirmations of dates.

Item 8: Any other business and closing

The Governors may wish to raise any other matters arising as a result of the discussions. Matters identified before the meeting starts should be raised at the approval of the Provisional Agenda.

The meeting shall close not later than 18.30 hours on 4 December 2000.

Proposed
Terms of Reference for the Development Committee
or Working Group of December 2000

The Working Group shall continue the process of development of the IOI-VU, and in particular address the following needs or issues (given in no order of priority):

1. Specification of registration procedures for on-line registration and related process, and required parallel hard copy system;
2. Specification of student entrance qualifications and acceptance requirements;
3. Specification of function of the Registrar office;
4. Specification of IT systems to be used of or for the IOI-VU;
5. Coordination of preparations of initial core and optional courses for on-line delivery, including reviewing of the compatibility, e.g. as regards hours or length of study, and faculty of teachers and supervisors;
6. Analysis of needs for management and quality assurance, such as various committees, and their working procedure and terms of reference;
7. In-depth and considered analysis of running costs and alternatives of paying;
8. Follow negotiations with Host institutions and possibly provide advice and some harmonization;
9. Help in preparing fund-raising applications and in liaison with Co-sponsors and Foundation;
10. Help in preparation/drafting of Financial Rules and Regulations for the management of the funds of the University;
11. Help in preparing/drafting initial statutes, bylaws, procedural laws and other documents relating to the implementation of the Charter and the conduct of activities of the University.

The Working Group shall work in close association and consultation with the Acting or Interim Rector, when appointed. The Working Group shall report to the Governing Board of IOI (or the Board of Governors of the IOI-VU), with an interim report to the mid-term May-June 2001 meeting of the Executive Committee of IOI.

**Report of IOIVU technical working group
Hamburg, December 1, 2000.**

1. Lead-time for starting classes.

A minimum lead time of 9 months from when funds are available will be needed. Hence starting Feb 2002 is a more realistic time to begin registering students in the IOIVU. This is the start of the academic year in the southern hemisphere. There are a number of activities that will require immediate initiation, and funds will have to be allocated quickly for this.

2. Training session

It is clear that the important issues of developing and running online courses are not well understood within IOI because few of us have this experience. Because of this, we should run a training session for Center Directors as soon as possible; no later than Malta in June. It is crucial to have a course in online learning for directors/course developers/lecturers that makes use of the online system. This can be developed by IOI-SA, but would need to be costed. There are about five centres ready to develop courses now; if possible, funds should be secured to send five people to IOI-SA for a training session lasting at least one week. They should preferably bring a variety of materials.

It is important to realise that curriculum development and pedagogy are more important than the technology. The technological issues are largely trivial. Therefore, our "train-the-trainer" component must focus on curriculum and pedagogical issues.

Recommendation: IOI-SA be commissioned to develop both a workshop and online train-the-trainer course immediately. Cost: \$30 000

3. Centre based curriculum development group

Because online learning represents a change of teaching-and-learning philosophy and approach for most people, it will be useful if each centre forms a curriculum development group of all the course developers, pedagogical experts, subject matter experts involved in developing IOIVU online courses.

4. The nature of online learning resources

Online learning resources can take a variety of forms. The most basic one will be the online textbook, which will be used to create navigable pages, each containing text and a supporting graphic (static or animated), as well as potentially some degree of interactivity. We should avoid live video as it is very expensive and not didactically sound. However, the use of appropriate recorded video is appropriate, but has severe bandwidth and storage limitations.

Content should be developed as HTML, preferably not in a word processor since word processors tend to use XML and complex stylesheets that make it difficult to

split the content into presentable units. Any number of tools can be used for creating HTML content, this will be one of the topics covered in the train-the-trainer module.

5. Supporting and Managing online classes

Technically, it is possible to use advanced technologies, such as voice-over-IP, IP-based videoconferencing, avatar-based MUDs, shared white boards, web-based application sharing and others. However, bandwidth considerations are likely to limit the applicability of these technologies for the first 2-3 years of operation of the IOIVU. Much of the class management will therefore be done using threaded discussion forums. Threaded discussion forums will also serve to carry out the interaction among learners, as well as between learners and educators. Group activities, such as role-playing and group discussion, will also take place through asynchronous threaded discussion.

6. Use of CD-ROM technology

Material on a CD will probably be necessary, at least during the first two years, because of instability of Internet access and bandwidth congestion in developing countries. This creates enormous, but not insurmountable challenges for the technology side of the IOIVU. It effectively precludes integration of IOIVU online learning materials into commercial software, and will require customization of the delivery mechanism / software that we use. The application of CD-ROM content within a courseware management system will require a high degree of customization, and this should be initiated immediately as soon as funds are available.

The CD-ROM disc will contain content, as well as the structure of the website and absolute links to any areas that require online interactivity. These include discussion forums, bookmarking, worksheets, marks checking, chatrooms, etc.

Recommendation: IOI-SA be commissioned to work on software to enable CD-ROM based materials to integrate with online management. Cost: \$8 000

7. Course delivery

It must be emphasized that online courses require a heavy input from the educator. Managing an online course takes **at least** as much time as running a classroom-based course, often more. It also requires a level of comfort with the technology. One of the common myths about online learning is that it can be individualized and people may progress at their own rate. This is not true; an online course needs to have a start date, and all participants need to be at approximately the same level because international collaboration is one of the most powerful learning tools. Furthermore, it is impossible for any lecturer to manage a course effectively where multiple participants are at different points of progress through the content.

Because not all countries have widespread, easy Internet access, some centres will have to be innovative in seeking methods to ensure that we reach the people that we want to reach. Examples could include providing access through on-site computer centres, partnerships with commercial organizations or Internet cafes, identification of community computer centres, etc.

8. Funding

We should not rely on the good graces of a single donor. We need a high-quality, short, marketing type of document that can assist in securing funds and other types of donations. We also need to have the program clearly spelled out, and presentable. IOI needs to dedicate the time of one person to drive this process full time for the next several months, this person will be responsible for coordinating the process, including fund-raising. Both of these items need to be made available via the IOI website.

Recommendation: IOI-Canada (R. Race & F. Bailet) be commissioned to develop a marketing brochure for fund raising. Cost: \$5 000

- Develop online
tt course & tt
materials

- Customization
of software

- Establishment
of processes

Course development

- Course
development

- Delivery

1 2 3 4 5 6 7 8 9



funds

Trainer training

Registration



International
Ocean
Institute

HEADQUARTERS

COPY

PROS/IOI VU

Attn: Participants of the IOI VU Interim Board of Governors,
Hamburg, Germany, 4 December 2000

12 December, 2000

Dear participant,

Please find attached the minutes of our meeting. Please let me know of any corrections or additions you may wish to make, if possible before mid-January 2001.

I wish to thank you for your effort in attending, and for your contribution and interest in the development of the IOI VU. I look forward to continued cooperation with you in this matter.

With Greetings of the Season and best regards.

Yours sincerely,

Gunnar Kullenberg
Dr. Gunnar Kullenberg
Executive Director

Att.

N.B.

ORIGINAL MINUTES + ANNEXES HAVE BEEN SENT
TO YOU BY AIR MAIL. THIS IS FOR ANY COMMENTS
YOU MAY HAVE.

IOI Headquarters
Malta, December 2000

Draft Minutes of the First Session
of the IOI VU Interim Board of Governors,
ITLOS, Hamburg, Germany, 4 December 2000

Item 1: Opening, Establishment, and Adoption of the Agenda

The Chancellor of the University serving as chair of the Board of Governors, Professor E. Mann Borgese called the meeting to order at 11.30 hrs on 4 December 2000. She welcomed all and in particular noted with great appreciation the presence of the Rector of the World Maritime University, Professor Dr. Carl Laubstein, representing the WMU and of Mr. Peter Pissierssens representing the Executive Secretary of IOC of UNESCO; both representing these partners of the IOI VU. She furthermore noted the presence of observers from the Nippon Foundation, in particular the Executive Director, Mr. H. Terashima. Dr. I. Olicunine was also attending as an observer for IOC of UNESCO. The Chair noted that the representatives of the other co-sponsors, namely UNU and the United Nations University for Peace were unable to attend due to other commitments. Reference was also made to UNITAR and UNCTAD as possible partners of IOI VU. The Chair noted that the UNCTAD representative had already provided some support and expressed strong interest.

The Chair recalled that the Interim Board of Governors was constituted in accordance with the Charter of the IOI VU. She informed that the Charter had been adopted by the Governing Board of IOI at its meeting on 1-2 December 2000.

She noted that the meeting had been called in due order, that the Provisional Agenda and Annotated Provisional Agenda had been circulated in advance in October 2000. The report of the IOI Working Group on the development of the IOI VU, established by the IOI Governing Board in November 1999 had likewise been circulated in advance to all participants. She noted that the documents had been duly received by most participants. She informed the meeting that minutes would be prepared by the interim Rector, the Executive Director of IOI.

Following the invitation of the Chair, the meeting adopted the provisional agenda as circulated (Annex 1). The Annotated Agenda is attached for easy reference as Annex 2. The list of participants is attached as Annex 3.

Item 2: Vision and mission of the IOI-VU

The background is given in the Annotated Agenda (Annex 2). It was noted that the Governing Board of the IOI had reviewed the proposals and specifications, all presented in the Report of the IOI Working Group on the development of the IOI VU.

The Board of Governors took note of these specifications and expressed general concurrence. It was noted that we should adhere to the presentations given in the Charter.

Item 3: Highlights and clarifications of developments so far and role of the Board of Governors

The Executive Director of IOI briefly introduced the report of the IOI Working Group on the development of the IOI VU. He invited questions and suggestions in particular from those present who were not participating in the discussions of the IOI Governing Board, which had in general concurred with and endorsed the report, subject to minor clarifications. In particular the IOI Board had noted the need for achieving acknowledgement of the University as such so as to ensure acceptance of the degree. The requirements for such acceptance in The Netherlands should be investigated. The Board member Ambassador Pinto had confirmed his willingness to pursue this matter in The Hague. The summary of the discussion in the IOI Board meeting regarding the IOI VU is attached hereto as Annex 4, for easy reference.

The Board of Governors took note of this development. Reference was made to existing resources in IOC of UNESCO as regards data exchange, GOOS and other programmes available on CD; the representative of IOC expressed readiness to provide such inputs to courses and course preparations, provided proper acknowledgement is made. The Chair expressed and stated that from this meeting onwards the partners are involved in the planning and development of the IOI VU. She also noted that UNCTAD had provided some course material on CD.

The Board stressed the need for excellence in the courses and delivery, and the need to get proper accreditation and acceptance. The UNESCO Curriculum department could provide advice and assistance.

It was noted that the World Maritime University had achieved full accreditation and membership of the Association of European Universities, and partnerships with leading Universities in Scandinavia such as the Universities of Copenhagen and Lund. Joint courses were developed and delivered. It was recommended that the IOI VU should pursue the same line of development.

The observer of the Nippon Foundation noted that it must be clear who will give the degree of the IOI VU. The Chair responded that the VU will be granting the degree. The IOI VU should be incorporated as an educational institution, as a university. This can only be achieved when the package of courses and delivery system is in place, and can be reviewed. We are now in this development phase. A strategy involving several of the IOI Operational Centres had been endorsed by the IOI Governing Board. This includes efforts to raise necessary funds. The Board noted the provisional budget presented in the Working Group report and expressed some concern that the amounts were not sufficient. It was also noted that there existed many virtual universities, e.g.

for professional development in the USA and in Canada. Contacts should be sought with these to obtain advice and information. The chair emphasized that the IOI VU is an international effort at the global level with interdisciplinary and inter-sectoral requirements to address ocean governance in an integrated way which is nowhere else done.

The observer from the Nippon Foundation stressed that he found the idea very interesting. An integrated approach to ocean governance is equally important for all countries, and therefore the IOI VU should also direct itself to developed countries. He noted that the Nippon Foundation provides considerable support to the WMU through giving 25 fellowships. The WMU had started rather sectorially but had now achieved full accreditation as a university through the efforts of the current Rector, meaning that also developed countries are sending students to WMU. The Nippon Foundation considered this very important. The IOI VU should form a network embracing also universities in developed countries. The Nippon Foundation had contacted several Japanese Universities to find out the interest in joining the IOI VU effort. If the responses are positive and Japanese Universities join the IOI VU then possibilities will increase to support the IOI VU. We support that the IOI VU gives the degree, and that courses can be developed through IOI Operational Centres and other Universities, and delivered through an agreed system, at a global level. We are presently evaluating internally our interest in the IOI VU.

The Chair thanked the observer from the Nippon Foundation and welcomed the idea of having Japanese Universities associated with the IOI VU. She also confirmed that universities in other developed countries were being approached, e.g. in Germany, Sweden, Ireland, Canada, Australia. These contacts will be pursued.

The Interim Board considered that a balanced representation of various sectors should be on the Board. It was agreed that desired profiles of Governors could be developed intersessionally. It was also agreed that there should be a reference in the Charter to having ex-officio representatives of the co-sponsoring organizations on the Board of Governors. Professor Yankov would insert such a clause.

Item 4: Agreement on mechanism for further development and specification of intersessional work

For background information to the item reference is made to the Annotated Agenda (Annex 2).

It was noted that the Governing Board of the IOI had endorsed that the continued development of the IOI VU be pursued through a Development Committee, and had established this committee, with the terms of reference as indicated in Annex 1 to the Annotated Agenda. It was noted that an interim report of the Committee is expected to be presented to the meeting of the IOI Executive

Committee in May or June 2001. The Board of Governors concurred. It stressed the accreditation and acknowledgement process as being of high priority. It noted that representatives of the co-sponsors could be corresponding members of the Development Committee. They should be kept informed about the work, and would be willing to provide input. The Board concurred with the suggestions made in the Annotated Agenda (Annex 2 here).

Information was provided by the Director of IOI-Southern Africa, Professor D. Keats, on the technical capacity at his institute, the on-line course delivery system available there, and the distance learning course developments which are going on there. It is envisaged that the IOI VU can start using these facilities. There is thus no need to invest in technical facilities, although some adjustments or tailoring to the IOI VU specifics will have to be made. The IOI VU core course developers will be brought together there in spring of 2001 to be trained in understanding the best practice and pedagogical requirements for on-line delivery. This will also be an on-line learning course for course developers. The ICAM course developed by IOI-SA will go on-line with on-line registration of global coverage early 2001. In response to the concern about the costs of the IT systems for on-line delivery, Professor Keats stated that the on-line delivery system at his institution was prepared for a cost of about 40,000 USD, with computers and suitable linkages. He stressed that core courses of the IOI VU would be run through one system. We will have to use CD ROM so that the material is always available. We need to develop software for its usage so it can be connected to the server. This is now being addressed with support from IOI. Professor Keats stressed that on-line delivery of courses include much interaction with all in the classes. Hence it is not practical with large numbers; classes should be limited to about 20 students.

Item 5: Consideration of and agreement on interim financial mechanism and funding requirements

For background reference is made to the Annotated Agenda.

The Chair stressed the need to secure the funding required for the development of the first package of core courses and some optional courses. The Working Group had estimated this cost to be about 350,000 USD, for 6 core courses and 2 optional courses. It is necessary to have secured this funding before starting delivery of any of the courses as part of the IOI VU even if they are ready. She urged all to help in raising these funds and expressed a strong sense of urgency in this respect. It was suggested by the Board that we should approach different foundations, as well as organizations; UNESCO was mentioned, as well as the foundation of Professor F. Mayor, and Ambassador Bhagwat-Singh promised to approach UNOPS in New York. The UN Foundation could also be approached through the DPCSD.

On an interim basis the funds for IOI VU will be managed through the IOI Headquarters under the responsibility of the Executive

Director acting as interim Rector. There will be established a special account marked IOI VU. The auditing will initially be carried out by the external auditors of the IOI.

The representative of IOC of UNESCO mentioned that they may be able to provide for scholarships to the students, following a recommendation from the IOI VU. Support would then be provided directly to the student.

The Chair very much welcomed this expression of support, and thanked for all ideas and suggestions made. They will be followed-up.

Item 6: Consideration of communication and coordination mechanisms and procedures

Background information is provided in the Annotated Agenda.

The Board concurred with the suggestions made in the annotations.

It was agreed that the co-sponsoring organizations would indicate their technical experts who could help in the further development. A technical advisory group is needed, and part of such a group had initiated work during the present meetings. Various guidelines will be needed, some exist. We need to use the best available technology as well as the best knowledge.

We can invite co-sponsors and observers also to the meeting of the IOI Executive Committee in May or June 2001.

Item 7: Date and place of next session

The Chair proposed that the next session be organized in the same way as this one, in conjunction with the Pacem in Maribus Conference 2001, in Dakar, Senegal. This would most likely be in early November, probably 6-11 November.

The Board expressed agreement with this approach, and requested that the date be communicated as soon as possible.

Item 8: Any other business and closing

No other business was raised. The Chair thanked all participants and expressed the trust that we have now initiated a very valuable process. She closed the meeting at 16.00 hours.



INTERNATIONAL
OCEAN INSTITUTE
CANADA

DALHOUSIE
University



FAXED

FACSIMILE TRANSMISSION

To: Dr. Gunnar Kullenberg
Fax No 356 346 502

From: Elisabeth Mann Borgese
Fax No. 1 902 868 2455

Date: December 12, 2000

Subject: IOIVU Draft minutes

Dear Gunnar,

I think the minutes are just fine. I have no changes to suggest.

Except that we had decided to write the name IOIVU, not IOI VU. It does not really matter.

Love,

DALHOUSIE UNIVERSITY ARCHIVES DIGITAL SEPARATION SHEET

Separation Date: July 18, 2016

Fonds Title: Elisabeth Mann Borgese

Fonds #: MS-2-744

Box-Folder Number: Box 338, Folder 3

Series: Administrative records of the International Ocean Institute

Sub-Series: Administrative records

File: Project proposal for the International Ocean Institute Virtual University

Description of item:

File contains a photocopy of the following newspaper article (from an unknown publication):

“Baupläne für die Virtuelle Universität”

Reason for separation:

1 page removed from digital copy due to copyright concerns.

PROJECT PROPOSAL

Title: The International Ocean Institute Virtual University (IOIVU)

Project Number: XXX/01/YYYY/A/ZZ/31

Starting Date: March 2001

Duration: 2 years (initially)

Budget: US\$ 500,000
(excluding executing agency support cost)

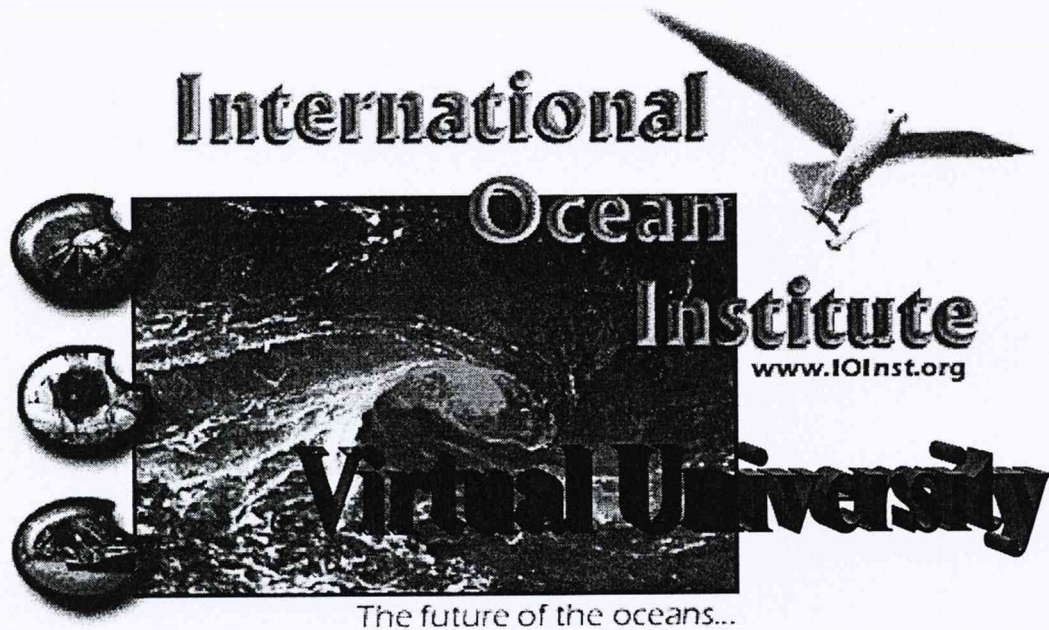
Sector: 2130 Environment
Sub-Sector: 11 Education

Implementing Agency: International Ocean Institute

Executing Agency: United Nations Office for Project Services

Brief Description:

This programme will contribute to: (i), the development of an interdisciplinary and integrated culture of knowledge, inclusive and accessible to all, focusing on the realm of ocean affairs where knowledge must be interdisciplinary and comprehensive; and (ii), the enhancement of the abilities of particularly developing countries to develop and govern their own marine and coastal resources and environments sustainably for the benefit of their peoples in harmony with related international conventions and agreements. This is to be achieved through the establishment of an internationally recognised programme of study, leading to a masters degree, based on a network of education, training and research Centres of expertise in ocean, coastal and marine-related affairs and governance, working together in a partnership to provide for an interdisciplinary and comprehensive coverage of the required subject areas.



Application for Financial Support

***International Ocean Institute
2001***



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Executive summary of the project

Project title	The International Ocean Institute Virtual University (IOIVU): preparation of core online courses
Project start	1999
Implementing organisation	International Ocean Institute through the IOI Headquarters
Contact	Dr. Gunnar Kullenberg, Executive Director, IOI, and Interim Rector, IOIVU
Address	P.O. Box 3, Gzira, GZR 01, MALTA
Telephone, Fax:	+ (356) 346 528, + (356) 346 502
e-mail	ioimla@kemmnet.net.mt
Web-sites	www.ioinst.org , www.ioivu.org
Requested funding	US \$ 50,000.00 (fifty thousand US Dollars)

The goal of the IOI Virtual University (IOIVU) is to enhance the abilities of particularly developing countries to develop and govern their own marine and coastal resources and environment sustainably for the benefit of their people and in harmony with related international conventions and agreements. This is to be achieved through the establishment of an internationally recognised programme of education, leading to a masters degree, based on a network of universities, training and research Centres of expertise in ocean, coastal and marine-related affairs and governance, working together in a partnership to provide for an interdisciplinary and comprehensive coverage of the required subject areas.

The project should make high quality education in marine affairs at the postgraduate level accessible and affordable to mid-career specialists from all over the world. Undertaking the task to establish such a "Virtual University" is ambitious and innovative. The Virtual University should award an interdisciplinary, internationally recognised master's degree. Through the global network of participating IOI Operational Centres and related host institutions a truly international institution will be achieved, in which students from all parts of the world can feel at home. They will not have to move away from their home and employment, except possibly for a short internship period. Some parts of their studies will come from their own region, country and culture. They do not have to experience the cultural shock associated with living for an extended period in a foreign country away from their roots. The IOIVU will counter braindrain and migration, and build up confidence.

The two attached documents provide

- a presentation the IOIVU "Background, Design, and Implementation"
- and
- a collection of papers adopted by the Governing Board forming the basis for establishing the IOIVU (including the IOIVU Charter).

The IOI network through all the Operational Centres will be providing additional expertise, know-how, teaching experiences, and material. The co-sponsors and network partners, including Host institutions of the Centres, will be providing advice and additional existing material. The cooperation with the UNU, WMU, UNESCO will provide for possibilities of consultations and inputs regarding curriculum extent, technology, tools and methods as regards outreach, information systems, languages, and networking.

Since 2000, the overall financial contribution of IOI to the IOIVU development is estimated at approximately US\$ 150,000. Funds for further IOIVU development are included in the IOI budget. A dedicated IOIVU account is being established. The allocation of requested funds will ensure that the IOI will be able to speed up the IOIVU development.

Previous applications

This application supersedes all previous applications. It is prepared taking into account recent achievements in the technical implementation of the IOIVU, which were based on results obtained with the help of existing IOI funds.

A brief summary of the state of the IOIVU development

The IOIVU design and implementation is an on-going process. This paragraph lists, very briefly, only some important elements of the work. More detailed information is available in the attached documents.

An analysis of the available courses has been completed. The IOI has developed in-house a powerful and original hardware and software platform for the course development and delivery. This work is approaching operational stage and the platform is already in working condition. Some training courses outside the IOIVU system have already been delivered on a trial basis with this platform. The developed software will be classified as an Open Source and, in full agreement with the spirit of the IOI, will be made available at no charge for all interested users. The IOIVU organisational structure has been defined. The IOIVU Charter has been adopted. Presently the UNU, WMU, United Nations University for Peace, UNESCO and UNCTAD have confirmed willingness to co-operate in the IOIVU.

It is possible to state that the legal basis for the IOIVU and its technological platform are approaching operational status. There is a clear understanding what is required in terms of the curriculum development. The funding is needed to consolidate these and to develop other necessary elements of the university.

IOI-Southern Africa	Integrated Coastal Area Management	5.000
Activities	Preparation of the electronic version of course material	4.000
	Writing the CD-ROMs	1.000
IOI – India	Sustainable Development in Coastal Communities	15.000
Activities	Formation of necessary resource group	1.000
	Specification of content	1.000
	Collection of course material, reference books, information about other related courses	3.000
	Preparation of module content	5.000
	Review of the draft course content	1.000
	Preparation of the electronic version of course material	5.000
4. IOI – Pacific Islands	Marine and Coastal Resources economics	15.000
Activities	Formation of necessary resource group	1.000
	Specification of content	1.000
	Collection of course material, reference books, information about other related courses	3.000
	Preparation of module content	5.000
	Review of the draft course content	1.000
	Preparation of the electronic version of course material	5.000
TOTAL		50.000

Management arrangements

The management of the project will be ensured by the Executive Director of IOI acting as interim Rector of the IOIVU appointed by the Governing Board of IOI. Activities will be carried out by the participating IOI Operational Centres. The Executive Director will also work in association with and through the IOIVU Development Committee, established by the Governing Board of IOI, December 2000.

Regular reporting will be provided to the sponsors and the IOI governing bodies and partners. The IOI Headquarters office will serve as a focal management and administrative service point.

Expected end of project situation

This is the second phase of the overall development of the IOI VU, building on the output of the first phase. It focuses on the preparation, testing and checking of the initial core courses to be delivered on-line. This phase is expected to require approximately a year of work. At the end we anticipate to be able to deliver the listed core courses of the IOIVU on – line.



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Telephone, Fax:	+ (356) 346 528, + (356) 346 502
e-mail	ioimla@kemmnet.net.mt
Web-sites	www.ioinst.org , www.ioivu.org
Requested funding	US \$ 250,000.00 (two hundred and fifty thousand US Dollars)

The goal of the IOI Virtual University (IOIVU) is to enhance the abilities of particularly developing countries to develop and govern their own marine and coastal resources and environment sustainably for the benefit of their people and in harmony with related international conventions and agreements. This is to be achieved through the establishment of an internationally recognised programme of education, leading to a masters degree, based on a network of universities, training and research Centres of expertise in ocean, coastal and marine-related affairs and governance, working together in a partnership to provide for an interdisciplinary and comprehensive coverage of the required subject areas.

The project should make high quality education in marine affairs at the postgraduate level accessible and affordable to mid-career specialists from all over the world. Undertaking the task to establish such a "Virtual University" is ambitious and innovative. The Virtual University should award an interdisciplinary, internationally recognised master's degree. Through the global network of participating IOI Operational Centres and related host institutions a truly international institution will be achieved, in which students from all parts of the world can feel at home. They will not have to move away from their home and employment, except possibly for a short internship period. Some parts of their studies will come from their own region, country and culture. They do not have to experience the cultural shock associated with living for an extended period in a foreign country away from their roots. The IOIVU will counter braindrain and migration, and build up confidence.

The two attached documents provide

- a presentation of the IOIVU "Background, Design and Implementation"
- and
- a publication "International Ocean Institute Virtual University" containing documents adopted by the Governing Board, including the IOIVU Charter, that form the basis for establishing the IOIVU.

Purpose of this application

The purpose of this application is to seek financial assistance, which would support on-going efforts of IOI in developing the essential elements of the IOIVU and supplement financial investments into IOIVU that have been and are being made by the IOI.

The assistance would make it possible to achieve the following important immediate results:

- fully develop initial essential online core courses to be taken by all students of the IOIVU and create basic components of optional courses;
- finalise the first phase of development the IOIVU information technology (IT) systems with guidelines and trained staff for use and service of systems for the course preparation and on-line delivery;
- specify student entrance qualifications and information - outreach procedures for on-line users;
- develop the on - line registration procedure with required user guidelines and instructions.

The requested financial assistance, if received, will contribute the completion of a decisive stage in the IOIVU development, which will make it possible to have essential elements of the IOIVU in place and operational.

Contribution of IOI: in cash and kind

The IOI has been active in delivery of education and training since its foundation in 1972. Prior to 1999 the IOI had developed a network of education and training centres and had invested a lot into preparation of courses on various subjects of marine activities. It has established a reputation as one of the leading training institutes in the world in marine affairs. The IOI courses provide a good insight into marine and coastal governance, management, international regimes, environmental protection, and other matters. Hence the fundamental role of the IOIVU would be to consolidate all these activities into a co-ordinated, systematic, affordable inter-disciplinary programme, accessible through the Internet and internships.

Since mid-1999 the IOI has embarked on specific and systematic investments into the IOIVU. It is a planned work, which was initiated by the Executive Director of the IOI in 1999. In 1999 this was enforced through an active contribution of a special working group on the IOIVU and the IOI President. They developed its Statutes, vision, structure, curriculum, a vision of technical design, and several other important components. Since December 2000, this work has been continuing and expanding through the IOIVU Development Committee. A Working Group on Technical design was also established in 2001. There is a special IOIVU discussion forum on the Internet. The progress is being constantly reviewed.

IOI through the Operational Centre in the South Africa has been developing a software package named KEWL (Knowledge Environment for Web-based Learning). This software will be used as the basic platform for the course preparation and delivery. It is open source software, and by developing it IOI contributes to the distant learning beyond the IOI network.

In April - May 2001 the IOI conducted a training course for on-line course developers from China, Costa-Rica, Fiji, India, Malta, and South Africa. The total cost of this event was US\$ 35000.

The IOI network through all the Operational Centres will be providing additional expertise, know-how, teaching experiences, and material. The co-sponsors and network partners, including Host institutions of the Centres, will be providing advice and additional existing material. The cooperation with the UNU, WMU, UNESCO will provide for possibilities of consultations and inputs regarding curriculum extent, technology, tools and methods as regards outreach, information systems, languages, and networking.

Since 2000, the overall financial contribution of IOI to the IOIVU development is estimated at approximately US\$ 150,000. Funds for further IOIVU development are included in the IOI budget. A dedicated IOIVU account is being established. The allocation of requested funds will ensure that the IOI will be able to speed up the IOIVU development.

Previous applications

This application supersedes all previous applications. It is prepared taking into account recent achievements in the technical implementation of the IOIVU, which were based on results obtained with the help of existing IOI funds.

A brief summary of the status of the IOIVU development

The IOIVU design and implementation is an on-going process. This paragraph lists, very briefly, only some important elements of the work. More detailed information is available in the attached documents.

An analysis of the available courses has been completed. The IOI has developed in-house a powerful and original hardware and software platform for the course development and delivery. This work is approaching operational stage and the platform is already in working condition. Some training courses outside the IOIVU system have already been delivered on a trial basis with this platform. The developed software will be classified as an Open Source and, in full agreement with the spirit of the IOI, will be made available at no charge for all interested users. The IOIVU organisational structure has been defined.

The IOIVU Charter has been adopted. Presently the UNU, WMU, United Nations University for Peace, UNESCO and UNCTAD have confirmed willingness to co-operate in the IOIVU.

It is possible to state that the legal basis for the IOIVU and its technological platform are approaching operational status. There is a clear understanding what is required in terms of the curriculum development. The funding is needed to consolidate these and to develop other necessary elements of the university.

Objectives, outputs and activities

Objective 1

To prepare essential core courses to be taken by all students of the IOIVU.

Output: four core courses covering topics about which anyone involved in ocean management should have knowledge, and 5 optional courses, with core courses all tested and vetted through internal on-line delivery.

The topics include:

- 1 - The UNCLOS and UNCED: Ocean Governance and the Law of the Sea;
- 2 - Integrated Coastal Area Management;
- 3 - Sustainable Development in Coastal Communities;
- 4 - Marine and Coastal Resources Economics;
- 5 - Integrated Management of Marine Pollution, in Particular Related to Land-based Sources;
- 6 - Coastal and Oceanic Ecosystems and Processes;
- 7 - Introduction to Living and Non-living Marine Resources;
- 8 - Maritime Transport
- 9 - Public-private Partnerships in Ocean Management;

Output 1

Ready for use versions of the core courses and five optional courses prepared for the on-line delivery.

Activities for Output 1

For each of the course preparations some generic activities are envisaged:

- formation of necessary resource group at the responsible IOI Centres;

- specification of content taking into account existing guidelines developed by the IOI;
- collection of course material, reference books, information about other related courses;
- preparation of draft curriculum, content of modules;
- review of the draft;
- preparation of output version of course material, including electronic delivery version,
- validation and testing the course through interior voluntary students, and its finalisation for on-line, outside delivery;

Objective 2

To develop further and implement the first operational version of the IT system to be used for the IOIVU.

Activities for Output 2.1

- Specification in detail the requirements for KEWL as the system for courseware delivery, registration and administration, marketing and outreach, taking into account prepared indicative guidelines;
- Specification of long-term control and maintenance requirements, and preparation of related guidelines;
- Finalisation of development of the IT systems and arrangements of required staff training and user guides.

Output: operational version of KEWL as IT system, with guidelines and trained staff for use and service of systems, with agreed coordination and communication mechanisms for the on-line delivery.

Objective 3

To specify student entrance qualifications and information - outreach procedures for on-line users.

Activities for Output 3

- Review related existing qualifications and entrance requirements for master degree studies, at partner institutions;
- Prepare the IOIVU requirements taking into account the purpose, the contents of studies and the different levels (master degree or professional enhancement);

- Test these requirements through consultations with partner institutions in different regions;
- Finalise and put on-line the specifications and guidelines.

Output: An on-line information system and package on homepages of IOI and Centres specifying qualifications, requirements, durations of study, where to consult and other relevant information.

Objective 4

To specify the system and procedures for on-line registration.

Activities for Output 4

- Review of existing on-line systems, including those used for on-going IOI and partner courses, in consultation with student and teacher users;
- Drafting of IOIVU registration system and procedures for users;
- Testing of proposed system on-line through use of IOI Centres, and retrieving experiences;
- Revising and finalising the registration system and procedure and user guide;
- Translation into initial working languages (English, French, Spanish) and possibly others.

Output: On-line registration procedure available on homepage of IOI and of Operational Centres, with required user guidelines and instructions.

Inputs and budget

The IOI network is providing the expertise, know-how, teaching experiences, and material through the Operational Centres. The IOI-Southern Africa, in particular, is providing KEWL, the IT platform for course development and delivery.

The co-sponsors and network partners, including Host institutions of the Centres, are providing advice and additional existing material.

The cooperation with the UNU, WMU, UNESCO will provide for possibilities of consultations and inputs regarding curriculum extent, technology, tools and methods as regards outreach, information systems, languages, networking.

The funds requested are required for curriculum and on-line course preparations; staff training in some IOI Centres; testing of courses through formal but internal delivery; course delivery system adjustments, software and hardware; for translation of course material, and preparation of on-line registration system.

Table 1: Courses: costs of development (to develop final version for the four courses and operational versions of other five courses)

No.	Centre	Course	USD
1	IOI-Canada	UNCLOS and UNCED: ocean governance and Law of the Sea	27,000
2	IOI-SA	Integrated Coastal Area Management	23,000
3	IOI-India	Sustainable Development in Coastal Communities	42,000
4	IOI-Pacific Islands	Marine and Coastal Resource Economics	42,000
5*	IOI-SA	Integrated Management of Marine Pollution, in Particular Related to Land-based Sources	10,000
6*	IOI-SA	Coastal and Oceanic Ecosystems and Processes	10,000
7*	IOI-China, Japan	Introduction to Living and Non-living Marine Resources	15,000
8*	IOI-Japan	Matters Related to Maritime Transport and Issues at Sea	10,000
9*	IOI-Costa-Rica	Public-Private Partnerships in Ocean Management	10,000
TOTAL:			189,000

*Note: finding requested for courses 5-9 is needed to initialise the work on them. At the end of the project the five courses 5-9 will be operational and available on-line, but some additional work will be needed to finalise them. It is expected that some overlap of the activities on the development of core courses 1-4 will help IOI to reduce the overall costs of preparing courses 5-9.

Table 2: Costs of activities aimed at output 2 -4

No.	Centre	Output	USD
2	IOI-SA	Course development and delivery hardware and software – the first operational version	30,000
3	IOI Headquarters,	Specification of student entrance qualifications and information - outreach procedures for on-line users	10,000
4	IOI Headquarters and IOI - Southern Africa	On-line registration system	13,000
2-4	IOI HQs	Co-ordination activities	8,000
TOTAL:			61,000

Table 3: Breakdown of course development costs

No.	Centre	Course title, total cost and its breakdown	USD
1	IOI-Canada	UNCLOS and UNCED: ocean Governance and the Law of Sea	27,000
		- basic hardware and software for course development	2,000
		- consultations with academic experts (including travel)	3,000
		- development of course syllabus	1,000
		- creation of course content components	5,000
		- assembling of course content in digital format	9,000
		- salary for project coordinator	5,000
		- miscellaneous expenses including communications, materials and overhead	2,000
2	IOI-SA	Integrated Coastal Area Management	23,000
		- hardware and software for course development and management	2,000
		- consultations with academic experts (including travel)	3,000
		- licensing of course materials from SA-ISIS	5,000
		- modification of course content to suit IOIVU format	4,000
		- portion of salary for project coordinator	5,000
		- creation of course content components	3,000
		- miscellaneous expenses including communications, materials and overhead	1,000
3	IOI-India	Sustainable Development in Coastal Communities	42,000
		- salaries and honoraria to course coordinator and research staff	9,000
		- basic hardware and software for course development	2,000
		- consultations with advisory group (including local travel in India)	6,000
		- creation of course content components	8,000
		- validation of course modules	5,000
		- conversion of the course into digital format and putting it on-line	10,000
		- miscellaneous expenses including communications, materials and overhead	2,000
4	IOI-Pacific Islands	Marine and Coastal Resource Economics	42,000
		- course coordinator	6,000
		- services of curriculum subject matter experts, USP Marine Studies, USP Department of Economics, Australian National University, Dr. Padma Lal	15,000
		- travel and subsistence for consultations	5,000
		- pedagogical services: USP Extension	5,000
		- media services: USP Media Centre	6,500
		- computer hardware and software	2,000
		- miscellaneous expenses including communications, materials and overhead	2,500
5	IOI-SA	Integrated Management of Marine Pollution, in Particular Related to Land-based Sources	10,000
		- course coordinator	2,000
		- creation of course content components	5,000
		- travel and subsistence for consultations	2,000
		- miscellaneous expenses including communications,	1,000

		materials and overhead	
6	IOI-SA	Coastal and Oceanic Ecosystems and Processes	10,000
		The same breakdown as for course No. 5	
7	IOI-China, Japan	Introduction to Living and Non-living Marine Resources	15,000
		The same breakdown as for course No. 5	
8	IOI-Japan	Matters Related to Maritime Transport and Issues at Sea	10,000
		The same breakdown as for course No. 5	
9	IOI Costa-Rica	Public-Private Partnerships in Ocean Management	10,000
		The same breakdown as for course No. 5	

Management arrangements

The management of the project will be ensured by the Executive Director of IOI acting as interim Rector of the IOIVU appointed by the Governing Board of IOI. Activities will be carried out by the participating IOI Operational Centres. The Executive Director will also work in association with and through the IOIVU Development Committee, established by the Governing Board of IOI, December 2000.

Regular reporting will be provided to the sponsors and the IOI governing bodies and partners. The IOI Headquarters office will serve as a focal management and administrative service point.

Expected end of project situation

This is the second phase of the overall development of the IOI VU, building on the output of the first phase. It focuses on the preparation, testing and checking of the core courses to be delivered on-line. This phase is expected to require approximately a year of work. At the end we anticipate to be able to deliver all core courses and several optional of the IOI on – line and have the course developing and delivery software fully operational.

Risks involved

The main risk is related to the time scales and cost estimates of preparing and testing the on-line courses. This risk is minimised through the existing experience of the participating IOI Centres and the existing infra structure, hardware and software. Co-operation between IOI and other partners and the UN system is already well established; and experiences from previous programmes are fully available, including in working with local communities. The sustainability of an adequate institutional infrastructure and

management for the IOI system is secured through an Endowment Fund and through existing agreements between IOI and the host institutions of the Centres.

Attachments

A presentation of the IOIVU “Background, Design and Implementation”

A publication “International Ocean Institute Virtual University” containing documents adopted by the Governing Board, including the IOIVU Charter, that form the basis for establishing the IOIVU



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Executive summary of the project

Project title	The International Ocean Institute Virtual University (IOIVU): preparation of core online courses
Project start	1999
Implementing organisation	International Ocean Institute through the IOI Headquarters
Contact	Dr. Gunnar Kullenberg, Executive Director, IOI, and Interim Rector, IOIVU
Address	P.O. Box 3, Gzira, GZR 01, MALTA
Telephone, Fax:	+ (356) 346 528, + (356) 346 502
e-mail	ioimla@kemmnet.net.mt
Web-sites	www.ioinst.org , www.ioivu.org
Requested funding	US \$ 50,000.00 (fifty thousand US Dollars)

The goal of the IOI Virtual University (IOIVU) is to enhance the abilities of particularly developing countries to develop and govern their own marine and coastal resources and environment sustainably for the benefit of their people and in harmony with related international conventions and agreements. This is to be achieved through the establishment of an internationally recognised programme of education, leading to a masters degree, based on a network of universities, training and research Centres of expertise in ocean, coastal and marine-related affairs and governance, working together in a partnership to provide for an interdisciplinary and comprehensive coverage of the required subject areas.

The project should make high quality education in marine affairs at the postgraduate level accessible and affordable to mid-career specialists from all over the world. Undertaking the task to establish such a "Virtual University" is ambitious and innovative. The Virtual University should award an interdisciplinary, internationally recognised master's degree. Through the global network of participating IOI Operational Centres and related host institutions a truly international institution will be achieved, in which students from all parts of the world can feel at home. They will not have to move away from their home and employment, except possibly for a short internship period. Some parts of their studies will come from their own region, country and culture. They do not have to experience the cultural shock associated with living for an extended period in a foreign country away from their roots. The IOIVU will counter braindrain and migration, and build up confidence.

The two attached documents provide

- a presentation the IOIVU "Background, Design, and Implementation"
- and
- a collection of papers adopted by the Governing Board forming the basis for establishing the IOIVU (including the IOIVU Charter).

Purpose of this application

The purpose of this application is to seek the initial financial assistance for the development of versions of four on-line courses, which will work on – line forming the core part of the IOIVU curriculum.

The assistance, if received, will enable IOIVU to

- collect initial resources for the development of the on-line core courses;
- prepare the first version of the working courses and start using them in a trial mode.

This means that the first, yet limited but already working prototype of the IOIVU will be created.

Contribution of IOI: in cash and kind

The IOI has been active in delivery of education and training since its foundation in 1972. Prior to 1999 the IOI had developed a network of education and training centres and had invested a lot into preparation of courses on various subjects of marine activities. It has established a reputation as one of the leading training institutes in the world in marine affairs. The IOI courses provide a good insight into marine and coastal governance, management, international regimes, environmental protection, and other matters. Hence the fundamental role of the IOIVU would be to consolidate all these activities into a co-ordinated, systematic, affordable inter-disciplinary programme, accessible through the Internet and internships.

Since mid-1999 the IOI has embarked on specific and systematic investments into the IOIVU. It is a planned work, which was initiated by the Executive Director of the IOI in 1999. In 1999 this was enforced through an active contribution of a special working group on the IOIVU and the IOI President. They developed its Statutes, vision, structure, curriculum, a vision of technical design, and several other important components. Since December 2000, this work has been continuing and expanding through the IOIVU Development Committee. A Working Group on Technical design was also established in 2001. There is a special IOIVU discussion forum on the Internet. The progress is being constantly reviewed.

IOI through the Operational Centre in the South Africa has been developing a software package named KEWL (Knowledge Environment for Web-based Learning). This software will be used as the basic platform for the course preparation and delivery. It is open source software, and by developing it IOI contributes to the distant learning beyond the IOI network.

In April - May 2001 the IOI conducted a training course for on-line course developers from China, Costa-Rica, Fiji, India, Malta, and South Africa. The total cost of this event was US\$ 35000.

The IOI network through all the Operational Centres will be providing additional expertise, know-how, teaching experiences, and material. The co-sponsors and network partners, including Host institutions of the Centres, will be providing advice and additional existing material. The cooperation with the UNU, WMU, UNESCO will provide for possibilities of consultations and inputs regarding curriculum extent, technology, tools and methods as regards outreach, information systems, languages, and networking.

Since 2000, the overall financial contribution of IOI to the IOIVU development is estimated at approximately US\$ 150,000. Funds for further IOIVU development are included in the IOI budget. A dedicated IOIVU account is being established. The allocation of requested funds will ensure that the IOI will be able to speed up the IOIVU development.

Previous applications

This application supersedes all previous applications. It is prepared taking into account recent achievements in the technical implementation of the IOIVU, which were based on results obtained with the help of existing IOI funds.

A brief summary of the state of the IOIVU development

The IOIVU design and implementation is an on-going process. This paragraph lists, very briefly, only some important elements of the work. More detailed information is available in the attached documents.

An analysis of the available courses has been completed. The IOI has developed in-house a powerful and original hardware and software platform for the course development and delivery. This work is approaching operational stage and the platform is already in working condition. Some training courses outside the IOIVU system have already been delivered on a trial basis with this platform. The developed software will be classified as an Open Source and, in full agreement with the spirit of the IOI, will be made available at no charge for all interested users. The IOIVU organisational structure has been defined. The IOIVU Charter has been adopted. Presently the UNU, WMU, United Nations University for Peace, UNESCO and UNCTAD have confirmed willingness to co-operate in the IOIVU.

It is possible to state that the legal basis for the IOIVU and its technological platform are approaching operational status. There is a clear understanding what is required in terms of the curriculum development. The funding is needed to consolidate these and to develop other necessary elements of the university.

Project output

The first version of the four IOIVU core courses prepared for the on-line delivery.

Project Activities

For preparation of the courses the following activities are envisaged:

- formation of necessary resource group at the responsible IOI Centres;
- specification of content taking into account guidelines;
- collection of course material, reference books, information about other related courses;
- preparation of draft curriculum, content of modules;
- review of the draft;
- preparation of course material, including electronic version.

The first version of the courses will be in English.

Inputs and budget

The IOI Centres Canada, Southern Africa, India, and Pacific Islands (based in Fiji) will lead the preparation of the respective courses. The course at IOI - Southern Africa is in more advanced stage of preparation for on – line delivery than the other respective courses. However, in all the cases most of the course material exists, and traditional (i.e. not on – line) deliveries of the courses have been done for some time except the case of IOI-India. The emphasis on the actions, sequence and time required will therefore vary between the participating Centres.

It should be emphasised that funds requested through this application are required to focus on initial activities of preparing the online courses. Long-term training activities of the IOI, existence of the courseware development and delivery platform developed by the IOI, special training of course developers through a workshop in Cape Town, and multiple similar activities make it possible to keep the costs of putting initial core courses online to the minimum.

The budget breakdown is given in the following table.

IOI centre	Course	Cost, US\$
IOI - Canada	UNCLOS and UNCED: Ocean Governance	15.000
Activities	Collection of additional course material, reference books, information about other related courses	2.000
	Preparation of module content	3.000
	Review of the draft content including on – line version	2.000
	Preparation of the electronic version of course material	8.000

IOI-Southern Africa	Integrated Coastal Area Management	5.000
Activities	Preparation of the electronic version of course material	4.000
	Writing the CD-ROMs	1.000
IOI – India	Sustainable Development in Coastal Communities	15.000
Activities	Formation of necessary resource group	1.000
	Specification of content	1.000
	Collection of course material, reference books, information about other related courses	3.000
	Preparation of module content	5.000
	Review of the draft course content	1.000
	Preparation of the electronic version of course material	5.000
4. IOI – Pacific Islands	Marine and Coastal Resources economics	15.000
Activities	Formation of necessary resource group	1.000
	Specification of content	1.000
	Collection of course material, reference books, information about other related courses	3.000
	Preparation of module content	5.000
	Review of the draft course content	1.000
	Preparation of the electronic version of course material	5.000
TOTAL		50.000

Management arrangements

The management of the project will be ensured by the Executive Director of IOI acting as interim Rector of the IOIVU appointed by the Governing Board of IOI. Activities will be carried out by the participating IOI Operational Centres. The Executive Director will also work in association with and through the IOIVU Development Committee, established by the Governing Board of IOI, December 2000.

Regular reporting will be provided to the sponsors and the IOI governing bodies and partners. The IOI Headquarters office will serve as a focal management and administrative service point.

Expected end of project situation

This is the second phase of the overall development of the IOI VU, building on the output of the first phase. It focuses on the preparation, testing and checking of the initial core courses to be delivered on-line. This phase is expected to require approximately a year of work. At the end we anticipate to be able to deliver the listed core courses of the IOIVU on – line.

Risks involved

The main risk is related to the time scales and cost estimates of preparing and testing the on-line courses. This risk is minimised through the existing experience of the participating IOI Centres and the existing infra structure, hardware and software. Co-operation between IOI and other partners and the UN system is already well established; and experiences from previous programmes are fully available, including in working with local communities. The sustainability of an adequate institutional infrastructure and management for the IOI system is secured through an Endowment Fund and through existing agreements between IOI and the host institutions of the Centres.

In an unlikely scenario when the IOIVU is not given support by other sponsors and its pace of development is slower than expected, the existence of four online courses will be anyway of considerable value for potential trainees from developing and developed countries. So, there will be no loss of funds.

Attachments

A presentation of the IOIVU “Background, Design and Implementation”

A publication “International Ocean Institute Virtual University” containing documents adopted by the Governing Board, including the IOIVU Charter, that form the basis for establishing the IOIVU.



***Application for
Financial Support***

***International Ocean Institute
2001***



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Web-sites	www.ioinst.org , www.ioivu.org
Requested funding	US \$ 250,000.00 (two hundred and fifty thousand US Dollars)

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- specification of content taking into account existing guidelines developed by the IOI;
- collection of course material, reference books, information about other related courses;
- preparation of draft curriculum, content of modules;
- review of the draft;
- preparation of output version of course material, including electronic delivery version,
- validation and testing the course through interior voluntary students, and its finalisation for on-line, outside delivery;

Objective 2

To develop further and implement the first operational version of the IT system to be used for the IOIVU.

Activities for Output 2.1

- Specification in detail the requirements for KEWL as the system for courseware delivery, registration and administration, marketing and outreach, taking into account prepared indicative guidelines;
- Specification of long-term control and maintenance requirements, and preparation of related guidelines;
- Finalisation of development of the IT systems and arrangements of required staff training and user guides.

Output: operational version of KEWL as IT system, with guidelines and trained staff for use and service of systems, with agreed coordination and communication mechanisms for the on-line delivery.

Objective 3

To specify student entrance qualifications and information - outreach procedures for on-line users.

Activities for Output 3

- Review related existing qualifications and entrance requirements for master degree studies, at partner institutions;
- Prepare the IOIVU requirements taking into account the purpose, the contents of studies and the different levels (master degree or professional enhancement);

The funds requested are required for curriculum and on-line course preparations; staff training in some IOI Centres; testing of courses through formal but internal delivery; course delivery system adjustments, software and hardware; for translation of course material, and preparation of on-line registration system.

Table 1: Courses: costs of development (to develop final version for the four courses and operational versions of other five courses)

No.	Centre	Course	USD
1	IOI-Canada	UNCLOS and UNCED: ocean governance and Law of the Sea	27,000
2	IOI-SA	Integrated Coastal Area Management	23,000
3	IOI-India	Sustainable Development in Coastal Communities	42,000
4	IOI-Pacific Islands	Marine and Coastal Resource Economics	42,000
5*	IOI-SA	Integrated Management of Marine Pollution, in Particular Related to Land-based Sources	10,000
6*	IOI-SA	Coastal and Oceanic Ecosystems and Processes	10,000
7*	IOI-China, Japan	Introduction to Living and Non-living Marine Resources	15,000
8*	IOI-Japan	Matters Related to Maritime Transport and Issues at Sea	10,000
9*	IOI-Costa-Rica	Public-Private Partnerships in Ocean Management	10,000
TOTAL:			189,000

*Note: finding requested for courses 5-9 is needed to initialise the work on them. At the end of the project the five courses 5-9 will be operational and available on-line, but some additional work will be needed to finalise them. It is expected that some overlap of the activities on the development of core courses 1-4 will help IOI to reduce the overall costs of preparing courses 5-9.

Table 2: Costs of activities aimed at output 2 -4

No.	Centre	Output	USD
2	IOI-SA	Course development and delivery hardware and software – the first operational version	30,000
3	IOI Headquarters,	Specification of student entrance qualifications and information - outreach procedures for on-line users	10,000
4	IOI Headquarters and IOI - Southern Africa	On-line registration system	13,000
2-4	IOI HQs	Co-ordination activities	8,000
TOTAL:			61,000

		materials and overhead	
6	IOI-SA	Coastal and Oceanic Ecosystems and Processes	10,000
		The same breakdown as for course No. 5	
7	IOI-China, Japan	Introduction to Living and Non-living Marine Resources	15,000
		The same breakdown as for course No. 5	
8	IOI-Japan	Matters Related to Maritime Transport and Issues at Sea	10,000
		The same breakdown as for course No. 5	
9	IOI Costa-Rica	Public-Private Partnerships in Ocean Management	10,000
		The same breakdown as for course No. 5	

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Regular reporting will be provided to the sponsors and the IOI governing bodies and partners. The IOI Headquarters office will serve as a focal management and administrative service point.

Expected end of project situation

This is the second phase of the overall development of the IOI VU, building on the output of the first phase. It focuses on the preparation, testing and checking of the core courses to be delivered on-line. This phase is expected to require approximately a year of work. At the end we anticipate to be able to deliver all core courses and several optional of the IOI on – line and have the course developing and delivery software fully operational.

Risks involved

The main risk is related to the time scales and cost estimates of preparing and testing the on-line courses. This risk is minimised through the existing experience of the participating IOI Centres and the existing infra structure, hardware and software. Co-operation between IOI and other partners and the UN system is already well established; and experiences from previous programmes are fully available, including in working with local communities. The sustainability of an adequate institutional infrastructure and



***Background, design
and implementaion***

***International Ocean Institute
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Executive summary

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Implementing organisation	International Ocean Institute through the IOI Headquarters
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The project should make high quality education in marine affairs at the postgraduate level accessible and affordable to mid-career specialists from all over the world. Undertaking the task to establish such a "Virtual University" is ambitious and innovative. The Virtual University should award an interdisciplinary, internationally recognised master's degree. Through the global network of participating IOI Operational Centres and related host institutions a truly international institution will be achieved, in which students from all parts of the world can feel at home. They will not have to move away from their home and employment, except possibly for a short internship period. Some parts of their studies will come from their own region, country and culture. They do not have to experience the cultural shock associated with living for an extended period in a foreign country away from their roots. The IOIVU will counter braindrain and migration, and build up confidence.

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Objectives

1. The fundamental objective of the University is to contribute to the sharing of knowledge on the oceans and their potential wealth and challenges as a Common heritage of mankind, with special consideration for the needs of developing countries.
2. The University shall promote interdisciplinary education, training and research reflecting the complex nature of ocean space and maritime activities, where the multiplicity of related problems have to be considered as a whole in their interface.
3. Through its unique structure, accumulated global experience in education, training and capacity building, the University shall enhance the abilities of developing countries to manage and govern in a sustainable manner their marine and coastal resources for their peoples in harmony with the principles of modern international law and relevant international conventions and agreements.
4. The University shall provide the academic framework for encouraging and assisting students from any part of the world, in particular, from developing countries, to obtain post-graduate level education and advanced training, upgrading and supplementing their previous education and work-experience, as well as internationally recognised academic degrees.
5. It shall be a continuous objective of the University to advance innovative approaches towards solving some of the major problems besetting higher education at the end of this century and on the eve of the next millennium.

The overall development objective is to help address poverty eradication and establish self reliance through enabling developing countries in particular to develop and govern their own marine resources and create an enhanced solidarity between developed and developing countries within the framework provided by UNCLOS and UNCED 92 outputs and follow-up process.

Context

The coast, including the adjacent land and coastal ocean, has always attracted the human population. Here land, ocean, atmosphere and most human activities as well as most humans meet and interact. The processes and forces associated with this interaction are enormous. The coast is a resource in its own right, which also harbours many other resources.

Through the interaction between ocean and land at the coast, good conditions are fostered for agriculture, forestry, fresh-water resources in land; for food production in the coastal waters, for transportation, trade and urbanisation. Many are the conflicts, which have arisen and can arise between competing interests.

Other coastal resources of great demand include: building material (sand, gravel etc.), minerals,

salt, fresh-water through desalination, which is increasingly required to meet freshwater demands, renewable energy through currents and tides and waves, mariculture, which is increasing. Over 90% of all marine food produce results from the coastal zones. About 1-2 billion people depend upon this as their only source of (animal) protein. The coastal ecosystems also serve as a cleaning agency for our waste products, most of which ultimately end up in the sea. The increasing population pressure is putting an enormous demand on the coast. Recent assessments show that the capacity of the coastal waters to cope with the waste inputs has been reached. The coast is already over-exploited in many parts, and before long the capacity of the coast around the world to cope with the growing population pressure will be surpassed. The rise of the human population from 2 to 6 billion persons over the last 50 years is indeed the major global change.

Part of the global change is the migration of populations towards the coast, the ocean. Now about 50% of the world population lives within some tens of kilometers from the ocean. This trend is occurring in North America, Southeast Asia, India, South America, Africa. It is demonstrated by the enormous coastal urbanisation since about 1950, and the development of coastal megacities. In 1950 only London and New York were over 8 million people; in 1975 there were 11 coastal megacities of over 10 million; in 1992-1993 we had 23 such centres, with 17 of these in developing countries. The forecast for 2015 is that we will have 36 such population concentrations at the coastal ocean, with 30 in the developing world.

Through the EEZ concept of the Law of the Sea the coastal states are given full rights of the resources, but also full responsibility for management, for environmental conditions, pollution etc. This provides the potential for a focussed and identified management. However, we know that it does not yet work as it could. There is a need to build capacity and provide education and enhance public awareness. The problems are related to most of the major current issues: climate change, sea level rise, frequency and strength of cyclones, typhoons, possibly El Nino and La Nina; freshwater availability and sanitation - sewage disposal being a universal issue; eutrophication and marine biological diversity, human health and harmful algal blooms, marine pollution; coastal changes; food production and food safety and the relation to proper nutrition of large parts of poor populations. The importance of aquaculture is increasing as a food production activity and will continue to expand. However, serious food safety hazards associated with aquaculture have been demonstrated, including: parasites, bacteria, antimicrobial resistance, endocrine substances; effects of residues from agrochemicals, veterinary drugs, heavy metals.

The achievement of proper ocean governance is a major objective of the IOI. The work of IOI in this field is based on the comprehensive international environmental law, which is in place through the United Nations Convention on the Law of the Sea which entered into force in November 1994, in combination with the results and agreements coming out of UNCED 1992 and the related follow-up processes. A central theme of IOI is the application of the Common Heritage of Mankind principle.

In order to achieve the objective the IOI mission is focussed on education, training and research, so as to enhance the peaceful uses of ocean space and its resources, their management and regulation as well as the protection and conservation of the marine environment.

Training and education are basic activities of the IOI. These actions have developed over the decades to include not only regular courses with required participation, spanning over days to

months, but also distance learning courses, post-graduate education, internships, upgrading of skills, community-based training and awareness creation with active participation, information dissemination, on-the-job training. In parallel, the subject range covered by the training has expanded, so that it presently includes ocean governance at global level with education about UNCLOS, UNCED and the related processes; regional perspectives and national-local concerns. The subjects are also specific for instance as regards mariculture or artisanal fisheries developments, marine pollution and coastal zone conditions. The community-based training done through the Eco-villages or Sustainable Livelihoods approaches is always including all relevant sectors so as to be of use in creating self-sustainability and co-management actions.

Apart from development of human resources, the IOI system is involved with other development issues in most of the Centres, addressing:

poverty eradication; generation of self-reliant development in local coastal communities; resources management, development of eco-friendly technologies and use of traditional environmental knowledge; co-development and co-management with some focus on integrated coastal area management; sustainable livelihoods; mitigation of and adaptation to natural hazards, e.g. cyclones, storm-surges; empowerment of developing country communities to manage their coastal and EEZ resources.

Problems of coastal communities are addressed in an integrated way, with social, economic, environmental and survival aspects all taken into account in community driven projects, guided by IOI Centres in cooperation with local NGO's, and in consultation with local and national authorities as required. The approach involves co-management and sustainable Livelihood considerations. The innovative part lies in addressing the links between social, survival, economic and environmental needs, in a balanced fashion. This goes beyond integrated coastal area management. An IOI model is emerging. This is exemplified through interests shown by governments and other NGOs in our work and the expressed interest of one Donor (JFGE) to gradually develop a global project or programme on basis of this approach and experiences. The impact on local communities is seen through the improved living conditions, the increased self-reliance and confidence, the establishment of local community-driven enterprises, e.g. mariculture, food processing, tree planting and gardening, the increased interest in education.

Expected outcome and long-term effects

The following project outcomes are envisaged:

- Education on a master / postgraduate level in area of marine affairs and management will become available to students from all countries of the world almost irrespectively of their financial capabilities.
- The IOIVU will set a new standard in distant learning in marine affairs. Through the capability to select courses from different sources, the student will be able to acquire not only good knowledge of the subject of his or her interest, but in particular become aware of the interdisciplinary and inter-dependences involved, and learn how to address these.

- The ideas of Common Heritage, humanitarian values of peace and culture, will find a new audience and media.
- Successful implementation of the project and launch of the IOIVU operations will lead to better return of investments in the University. At the beginning stages the need for some additional investments cannot be excluded but in the longer - term perspective the University should become self-sustainable.
- The increasing population of IOIVU graduates will form a factor in better management of ocean resources. In long - term perspective this should facilitate sustainable development of states operating at seas and at coasts and lead to healthier ocean and coastal environments.

Prior efforts of the organisation

The formal creation of IOI in 1972 followed the first Pacem in Maribus Conference held in Malta in 1970. In the 1970's and early 1980's the IOI primary task continued as a think-tank for various ideas regarding the development of the Law of the Sea. The participants were individuals who were willing to cooperate and contribute by individual motivation in a partnership, which essentially worked like a family. One early aim was also the raising of awareness about the participation in the Law of the Sea development process, besides the production and testing of ideas. From the start there was always ensured the linkage between the non-governmental and inter-governmental mechanisms. The base was in Malta and there was a close linkage to the Government of Malta.

The next stage came with the development and establishment of the Training programme for the Law of the Sea, and the associated connection with Canada and the Dalhousie University. This action of training was also a fund-raiser, and Canada contributed much through CIDA.

The next transition occurred through the preparatory work for UNCED 92 and the related first UNEP-GEF project in support of a wider training programme including the development of a network of training centres. This was the UNDP/GEF/UNOPS Project Support for Regional Oceans Training Programme, approved in 1993 for a 4-5 year period. The final evaluation report was published in March 1998. This project led to the establishment of 4 regional Operational Centres namely IOI Costa Rica, IOI India, IOI Senegal and IOI South Pacific. However, the process triggered the development also of the Operational Centres in China, Japan, Romania (Black Sea), and Southern Africa up to the end of 1997. In addition there already were Centres in Canada and Malta. Thus all the major ocean regions were covered by the end of 1997.

This project made it possible to create a network and an expansion of the Organisation, and expand the activities to include local, national - regional and global levels. This development also meant a transition to a professional society with professionals participating driven by professionalism and also tied through their posts to the Host institutions of the Operational Centres. This linkage ensures a close relation to national institutions.

The Pacem in Maribus Conference in Halifax 1998 marked the transition to the next phase of the IOI development, in addressing the crisis of knowledge and the opportunities associated with the new information system. One challenge we need to address in this period is how to transform a network of institutions into a comprehensive and active mechanism, while maintaining flexibility and autonomy.

Our response to the challenge of new inter-sectoral and integrated education, the further development and use of the IOI network and drawing on its past experiences is the establishment of the IOI Virtual University.

Accordingly the Governing Board of IOI in November 1999 established an IOI Working Group charged with preparing the framework for the creation of the IOI VU (the first phase of the project). The Terms of Reference are given in Annex 1 hereto. The Working Group report was presented to the IOI Governing Board in December 2000. It is provided in Attachment 1 hereto. The Board concurred with the suggestions overall and decided to proceed with the further development, as proposed in the report. It established a Development Committee charged with the specific task, and Terms of Reference as given in Annex 2 hereto.

Qualifications of the IOI to develop IOIVU

Training and education are basic activities of the IOI. These actions have developed over the decades to include not only regular courses with required participation, spanning over days to months, but also distance learning courses, post-graduate education, internships, upgrading of skills, community-based training and awareness creation with active participation, information dissemination, on-the-job training. In parallel, the subject range covered by the training has expanded, so that it presently includes ocean governance at global level with education about UNCLOS, UNCED and the related processes; regional perspectives and national-local concerns. The subjects are also specific for instance as regards mariculture or artisanal fisheries developments, marine pollution and coastal zone conditions. The community-based training done through the Eco-villages or Sustainable Livelihoods approaches is always including all relevant sectors so as to be of use in creating self sustainability and co-management actions.

Apart from development of human resources, the IOI system is involved with other development issues in most of the Centres, addressing poverty eradication; generation of self-reliant development in local coastal communities; resources management, development of eco-friendly technologies and use of traditional environmental knowledge; co-development and co-management with some focus on integrated coastal area management; sustainable livelihoods; mitigation of and adaptation to natural hazards, e.g. cyclones, storm-surges; empowerment of developing country communities to manage their coastal and EEZ resources.

Problems of coastal communities are addressed in an integrated way, with social, economical, environmental and survival aspects all taken into account in community driven projects, guided by IOI Centres in cooperation with local NGO's, and in consultation with local and national authorities as required. The basic approach involves co-management and sustainable Livelihood

considerations. The innovative part lies in addressing the links between social, survival, economic and environmental needs, in a balanced fashion. This goes beyond integrated coastal area management. An IOI model is emerging. This is exemplified through interests shown by governments and other NGOs in our work and the expressed interest of donors to gradually develop a global project or programme on basis of this approach and experiences. The impact on local communities is seen through the improved living conditions, the increased self-reliance and confidence, the establishment of local community-driven enterprises, e.g. mariculture, food processing, treeplanting and gardening, the increased interest in education.

Further development, use of the IOI network, drawing on its past experiences and the establishment of the IOIVU is our response to the challenge of new inter-sectoral and integrated education.

Project justification and institutional framework

Justification

The need and hence the overall justification of the project is inherently defined in the global problem presented in section A herein. The basic justification for the project is the need to enhance the abilities of developing countries to develop and manage their own marine and coastal resources and environments sustainably for the benefit of their people, including eradication of poverty, in harmony with the related international conventions and agreements, specified through UNCLOS and UNCED 92 results and follow-up process. The effort to establish IOIVU responds to the call of Agenda 21, Chapter 36 for an integrated and comprehensive education process as a cross-sectoral theme required for implementation of most of Agenda 21. The timeliness of the establishment of the IOI VU is stressed and further institutionally justified through the call for a focus on education at Rio + 10.

The migration towards the ocean, the coastal urbanisation, the change of economic paradigm to a service economy, and the concern for global change, all has led to a current focus on the land-sea interface, the coast and the ocean, the ocean services and economics, the need for a related education and appropriate mechanism to achieve that, including the necessary enhancement of awareness and participation. The IOIVU aims to respond to these matters. The ocean is also really our last resource to help address poverty, inequality. The intersectoral holistic and international globally based education mechanism proposed in the establishment of the IOIVU provides a vision to proceed which is at the same time realistic, pragmatic and achievable.

The new institutional academic arrangement proposed by the IOI should respond to a number of challenges and new opportunities:

1. The interdisciplinary character of contemporary knowledge, which transcends the departmental divisions of traditional universities. Traditional universities, in many parts of the world, are struggling to overcome the structural impediments to interdisciplinary learning. The IOI Virtual University could be a pilot experiment toward new approaches

to this problem.

2. "Globalisation" and the communications revolution, facilitating global communication among universities and between universities and students, but still largely inaccessible to students in poor countries.
3. Financial constraints on students, especially in developing countries, which in most cases prevent them from extended sojourns in foreign countries to obtain a well recognised degree; and where they succeed, the brain drain, detracting from rather than adding to the transfer of knowledge to developing countries.
4. Financial restraints on Academia, globally, entailing more and more "downsizing" and "privatisation" of universities, which may endanger academic freedom as well as public higher education as a pillar of genuine democracy.
5. It shall be a continuous objective of the University to advance innovative approaches towards solving some of the major problems besetting higher education at the end of this century and on the eve of the next millennium.

The need for restructuring of higher education is felt globally. As in international law and organisation, or in economic thinking, it is likely that the peculiar nature of the ocean environment and its resources may be most suitable for a pilot project for an innovative approach to the sharing of knowledge as a Common Heritage of Mankind. It would also appear that the evolving structure of the IOI, itself an innovative system reflecting in its activities an evolving world order reaching from the local community to the nation, the region, and the United Nations, with its accumulated experience and track record in training in ocean affairs, is uniquely suited for this pilot project in education.

The VU concept here does not just mean to go internet, but is rather a structure and approach by which the educational activities and programmes of the IOI Network of Operational Centres and of their prestigious Host institutions can be combined into one focused mechanism and purpose and also coupled with activities of other academic centres of excellence, to provide a truly international and interdisciplinary curriculum.

The IOIVU will not compete with the existing Universities, but supplement them.

Institutional framework and structure

The IOIVU institutional arrangement is without precedent. The IOI Virtual University is a network of education, training and research centres of expertise in ocean, coastal and marine-related affairs and governance joined together in a partnership so as to provide for an interdisciplinary and comprehensive coverage of the subject areas. Through the global network of participating IOI Operational Centres and related host institutions a truly international institution is emerging. This is to be achieved through the consolidation, optimisation, and full utilisation of the unique structure and accumulated global experience in education, research, capacity building and training of the IOI, in partnership with the Host-institutions of the Operational Centres and

other interested partners.

The IOIVU is a part of the IOI. It is, at least initially, incorporated through belonging to the IOI. In accordance with the Statutes of the IOI as an educational institution the IOIVU is incorporated as an educational institution. It may be appropriate at a later stage to seek accreditation from University Associations, such as the International Association of Universities.

The main elements of the structure are:

- the Board of Governors;
- the Chancellor;
- the Academic Council;
- the Rector;
- the Faculty;
- the Registrar.

The University is governed by a Charter, and the Statutes of the IOI. The functions of the Board of Governors, the Chancellor, the Academic Council, the Rector, and the Registrar are indicated in the Charter, providing the basic Terms of References for these functions (see attached document 1).

IOI Operational Centre Directors are willing to serve as supervisors and advisors as well as give courses, as the case may be. In addition there could be selected personalities on the faculty who are associated with marine affairs and ocean governance over a broad perspective. Students or candidates would thus have a list of such persons from which they could choose a thesis supervisor and possibly advisor, and from whom they could seek advice in general. Initially at least it is expected that this service for the Virtual University would be on a voluntary basis. However, a teacher giving courses or a supervisor for thesis work and review would have to receive some form of financial remuneration.

Since an association will be sought with universities and research institutions outside of the IOI network, these institutions may also be invited to suggest or provide faculty members who could serve as advisors or supervisors, as well as give courses. Such suggestions would of course also be expected from co-sponsoring institutions.

Partners

The partners in this project include all the IOI Operational Centres, presently 17 in all, their Host institutions and co-operating universities. Presently the UNU, WMU, United Nations University for Peace, UNESCO and UNCTAD have confirmed willingness to co-operate in the IOIVU. Furthermore the developing and developed countries where there is the need for the capacity development are partners, and the students and the related employers.

On a wider perspective all the governments, organisations and peoples interested in and realising the need for implementation and enforcement of UNCLOS, UNCED 92 and related agreements

and Conventions, can be seen as interested beneficiaries of the project.

Coordination and management arrangements

The management of the project will be ensured by the Executive Director of IOI acting as interim Rector of the IOIVU appointed by the Governing Board of IOI. Activities will be carried out by the participating IOI Operational Centres with respect to preparations of courses, material, software, developments and testing, and specification of IT systems. The Executive Director will also work in association with and through the IOIVU Development Committee, established by the Governing Board of IOI, December 2000, with Terms of Reference and membership given in the attached reference document. As part of this mechanism a technical advisory group has also been established. These will both work through correspondence.

Regular reporting will be provided to the sponsors and the IOI governing bodies and partners. The IOI Headquarters office will serve as a focal management and administrative service point.

Expected end of project situation

This is the second phase of the overall development of the IOI VU, building on the output of the first phase. It focuses on the preparation, testing and checking of the core courses to be delivered on-line and available on CD. Furthermore, this phase includes the development of on-line formats and procedures for registration, specification of entrance requirements, qualifications, and the further specifications of the management and administration procedures and mechanisms.

This phase is expected to require 1-2 years. At the end we anticipate to be able to go fully on-line, and have a functioning administrative mechanism in place. The results of this phase are to include:

1. 6-8 core courses and 2 optional courses available for on-line delivery, tested through internal voluntary studies, and related databases;
2. on-line procedures for student registrations and information outreach giving requirements and expectations;
3. specifications and selections of IT systems to be used for the IOIVU with related guidelines and databases as required;
4. specifications of quality control and assurance, with related working procedures and on-line tools;
5. dedicated home pages or websites, providing required information, such as contacts, study aims, list of content of available courses, suggested packages of study options, costing and financial requirements, schedules, entrance requirements, languages which can be used (English, Spanish, French; others depending upon participating Operational Centres and partners in Japan, China);
6. identified faculty for course deliveries, supervision, quality control, various languages, consultations;
7. strategy for the first operational phase of the IOIVU, including number of students, operational costs;

8. additional financial resources mobilised into a dedicated trust fund for the IOIVU.

The curriculum

The Curriculum will be interdisciplinary, comprehensive, and responding to the purposes and objective. The structure is specified as:

1. Post graduate or advanced graduate levels (from 3 years of other university study onwards): core courses, optional courses; thesis (research) work; examination; this part aims at providing a Masters degree.
2. Advanced training in specific subjects, through existing or new courses of IOI or the Host institutions of the Operational Centres; as an option the participation in such advanced training could be given a certificate and a credit, provided there is an examination.
3. Upgrading or supplementary education and training in the form of professional development courses, through individual courses, with examination and certificate as an option. This part could respond to expressed needs for short and specified courses. If considered more appropriate such courses could alternatively be included in part 2.

The Master's Degree Programme of the IOI Virtual University will have three components:

1. A number of courses will have to be completed, each one with an established number of credits. These courses can be taken through any one of the IOI Operational Centres and Affiliates and/or in their host institutions. They also can be taken through distance-learning arrangements, which should be the primary learning method of the IOIVU.
2. There will be an internship of one quarter, which can be completed in any of the IOI Operational Centres or Affiliates. However, internships in other institutions including UN bodies may also be considered, provided it can be practically arranged and scheduled.
3. There is a thesis requirement. Students can select their supervisor and thesis committee from the roster of the Virtual Faculty.

Any degree awarded by the Virtual University shall be comparable to and have the quality of current mainstream degrees at the same level awarded by any of the participant institutions hosting the IOI Operational Centres.

Regular courses from an endorsed partner university can be accepted as part of the curriculum in local-national language. The thesis work anticipated to be in English, French or Spanish.

Available courses will be listed in a database so as to be easily found and assessed. Students would select from this list, in consultation with their individual advisor, so as to obtain sufficient course credits. A list of existing courses within the IOI Centres and Host institutions has been compiled and categorised. It is available in attached document.

The online courses will cover at least the following topics:

- UNCLOS and UNCED: Ocean Governance and the Law of the Sea;
- Integrated Coastal Area Management;
- Sustainable development in Coastal Communities;
- Marine and Coastal Resources economics;
- Integrated management of marine pollution, in particular related to land-based sources;
- Spatial information management and decision making support;
- Coastal and Oceanic ecosystems and processes;
- Introduction to living and non-living marine resources;
- Matters related to maritime transport and issues at sea; to be prepared in cooperation with UNCTAD and WMU;
- Public-private partnerships in ocean management.

It may not be possible to deal with all of these topics initially, so a phased approach is proposed, based on existing and on-going initiatives, and the phased development of new courses.

In order to obtain logic for selection of core courses it was thought advisable to have some course structure as indicated here:

- I. Courses providing generic, overall knowledge, on the basis of mainstream, accepted understanding.
- II. Courses giving special knowledge on ocean subjects of regional nature, such as semi-enclosed seas, upwelling systems, 'LME's', legal, social and economic instruments or subjects, EEZ rights.
- III. Courses giving knowledge about local, national, sub-regional conditions, cultures, social systems, traditional knowledge.

The courses in these categories would meet the various needs of students. In some cases the courses could also be professional development courses.

Core courses to be taken by all students would be in category I. However, there could also be optional core courses or activities within categories II and III. The selection of such optional core courses would depend upon the study direction chosen by the student, and what emphasis the student would prefer, including in the independent research and thesis work required for a masters degree.

For the present we have opted to propose as initial core courses for all students a selection from such existing courses as have been tested internationally. These have been supplemented as required so as to obtain an initial package, which can meet the aims, scope, and focus of the IOIVU.

In the initial phase there will be two or three packages centred around 4 or 5 core courses. These are expected to cover:

1. UNCLOS and UNCED: Ocean Governance;
2. Integrated Coastal Area Management;
3. Coastal Community Development;
4. Marine and Coastal Resources economics.

Several optional courses on mariculture, data management, deep seabed questions and mining, marine pollution, processing of marine produce; and on specific oceanographic subjects, will also be developed.

Possible model packages could then be combinations of core courses: 1+4, or 2+3+4; or 1+2 and several optional ones; etc.

The related research work could deal with combinations of economics and resources management; relations between local/national and regional efforts within the UNCLOS and UNCED framework; cost-benefits of risk management and preparedness; cost benefits of GPA-LBA implementations at local, national, regional levels.

The basic strategic approach of the IOIVU is to build and draw on the experiences and corporate knowledge available at the Operational Centres and their Host institutions. In several cases these have many years of experience also in distance education and have sophisticated facilities and highly trained pedagogical and editorial staff. The curriculum of the IOIVU can only achieve the aim of providing an education across the several sectors of society, which need to be taken into account in ocean and coastal governance, through the combination and offering of courses and research opportunities from many sources. The IOIVU will not compete with the existing Universities but supplement these.

An IOIVU Master Degree programme comprises a number of 5 or 6 post-graduate courses, and a research project with preparation of a thesis. The study time should be 1-2 years.

A conceptual presentation of the study path and strategy is also provided in Attachment 1 hereto, including: initiation, information; study entry; study: courses; study: internship; study: thesis writing; study: knowledge control.

The role of information technology

It is crucial that IOIVU adopts a suitable information technology (IT) system from the beginning. This is not simply a matter of finding out whether host institution software is compatible with the IOIVU needs. The IOIVU requires a system that is compatible with the technical implication of its objectives. IOIVU also needs to maintain long-term control of its most important core functionality. The IT systems must provide for courseware delivery, administration, and should contribute to outreach and marketing.

Courses will be gradually made available as distance learning modules. IOI - Southern Africa, IOI Canada, and IOI - PI through USP are advanced as regards preparation and use of distance

learning modules and related tools. Substantial computer networks and infrastructures have been put in place. Computer laboratories exist which are used to develop low-cost video-conferencing tools and techniques to support distance learning.

Requirement for the courseware delivery system

Based on our experiences in some IOI Centres, and several years of research into best practice in the delivery of online courses, the following requirements were specified. The course delivery system should:

- be central and target core courses;
- facilitate individual centres providing content according to a template system, and the loading of courses to the server;
- provide for student tracking;
- enable online assignments and simple tests;
- integrate with the administration system to control access to virtual classrooms;
- incorporate online discussion systems and integrate access with the administrative system;
- include a notice board facility;
- enable content management (e.g. uploads done through a document management system);
- enable multimedia content provision;
- be resource-based and learner centred;
- notify learner, learning manager and rector of weak progress and suggests interventions;
- provide access to a virtual library;
- make provision for content delivery via CD-ROM whenever possible.

Specifications for content to be converted to online courses

The following specifications would need to be met in order for course content to qualify for conversion to an online course by some of the Centres. Content should:

- be suitable for 12 hours per week, including assignments, online discussion and other activities;
- include the full text of the course reader and bibliography in electronic format;
- include at least rough diagrams, as well as descriptions of interactivity required for diagrams and illustrations;
- include, where diagrams have to be developed, a full description and hand drawn facsimile;
- include a list of expected outcomes;
- include a description, preferably in point form, of the expected background required by participants;
- contain study questions targeted at the content and learning outcomes;
- include a simple, 10-question, weekly self-assessment test in multiple choice, short-answer, true/false or drag-drop form;
- present a list and description of assignments, and mechanisms for their submission;

- describe online discussion topics, their duration, and give names and e-mail addresses of discussion leaders;
- present all names and contact details (especially e-mail) for people delivering the course;
- provide the name and e-mail address of the course manager, who will be responsible for administration of the database system for progress tracking;
- present all virtual library materials, provided that there are no copyright issues;
- suggest websites for the links page, and give the name and e-mail address of the person who will be responsible for maintaining the links page via database updates.

Proposed technical solutions for the development and operation of the IOIVU

KEWL as basic software platform

A team of educational researchers and programmers, lead by Professor Derek Keats at the IOI – Southern Africa based at the University of the Western Cape, has developed an Open Source (i.e. free) educational software package called the Knowledge Environment for Web-based Learning (KEWL). KEWL is a suite of integrated software tools for developing, delivering and managing online courses. The Centre has been running undergraduate courses in an online environment for a number of years, during which time it has been researching best practices for online learning, and it was this that led to the development of KEWL.

KEWL was built around the idea of constructivist learning, where students are placed at the centre of the learning process and are expected to construct their own knowledge using a variety of resources and tools. Although there is a little bit of Open Source code in KEWL, most of the code for KEWL was created from scratch by Derek Keats and Martin Cocks at IOI-SA. Other people are now making contributions as well, and KEWL is starting to attract people who share the Open Source philosophy from other parts of the world.

KEWL can be used by an institution or a department to run a site that delivers online learning via the WWW. Using the built-in tools, the average person can probably have an online course up and running in a few days if the content already exists in text and related formats. Currently available tools include:

- Create, manage, delete a course
- Create, add and delete users
- Security and permissions
- Add users to a course or make a course completely open
- Add frequently asked questions to a course
- Add content to a course, edit content, delete content
- Content navigation tools
- Add Outcomes

- Add Essays and allow essay booking on a first come first-served basis
- Administer marks, students view their own marks but not others, marks can be connected to the central campus database housing student records
- Notice board for displaying course notices
- Internal private messaging (similar to email, but built in)
- Popup study questions on for each content page
- Online worksheets, facility to add comments and marks, linked to marks administration tool
- An events calendar per course, as well as a personal events calendar per user
- An in-basket tool per student where students can store files or upload assignments done in wordprocessor, spreadsheet, presentation or other format
- A supporting documents area per course where educators can upload supporting documents for the course, and students can download them
- A web-based folder management system allowing educators to create courses with content that is external to the KEWL database, as well as import course material in just about any format imaginable
- A threaded discussion forum per course
- A real time text-based chatroom per course
- Educators' and learners' lounges
- Facilities to take notes on any content page and compile them together with and without the content
- Bookmark the last page you were on and return to it in another session from another computer
- Edit, insert and delete content pages from within the content itself if permissions allow
- Simple personal homepages
- Ability to use streaming audio and video within course content
- A writing centre that is still being developed, but that contains open content about writing developed by UWC's writing centre.

Tools under development to be available before the end of 2001 include:

- A web touring tool allows web tours to be conducted per course, and includes text chat.
- Voice chat features for the web tour
- Shared whiteboard tool per course, including text chat (voice added later)
- Tools for managing and adding streaming media
- Student tracking, monitoring and alerting tools (e.g. students in difficulty in multiple courses can be alerted by email, fax or cellular phone SMS; mentors and faculty advisors can also be notified similarly)
- A module to allow KEWL's marks admin and student tracking system to communicate with a central administration database

Tools for which Open Source programmers are being sought include:

- Reflector based videoconferencing with Java client, one room per course
- Multiple choice and short answer quiz development, management, and delivery tools
- Curriculum planning tools that generate the framework for a course (probably Java)
- Document collaboration tools with per-user change tracking using XML
- Import and export standards-based content and test items

Although it is easy to get a simple course into KEWL, the system is completely flexible, and someone who has extensive HTML and web development skills can easily develop very complex courses using any available tools, such as Dreamweaver, Frontpage, Firstpage 2000, Netscape Composer, Hotdog, etc. Authors familiar with database integration can even develop special database features, while still taking advantage of KEWL's built in tools. Kewl includes a course in how to use KEWL to develop online courses. The current version is 0.5Beta, and although it is still considered Beta, it is quite stable.

Registration and administration system

Using features built in KEWL the registration and administration system will

- process online application forms;
- enable the registrar to register learners for courses;
- automate notification of host institutions of registrations;
- enable the entering and tracking of marks and credits;
- enable students to check their own marks;
- advance and graduate students, and move them into an alumni database on graduation;
- facilitate preparation of reports, including release of grades;
- incorporates an administrative document management system;
- links to content for learner log-ins and tracking, as well as for lecturer and administrative log-ins and access to content;
- enforce pre-requisites but allows manual over-ride;
- provide the output for financial management;
- is e-commerce enabled;
- allow pre-registration through the marketing system.

Contribution of software platform to the marketing and outreach system

Using KEWL it will be possible to

- provide detailed information about the VU, courses, target audience, etc.;
- provide syllabus (prospectus) of VU courses;
- enable requests for further information;
- enables application and pre-registration through a link to the administrative system;
- provide interactive content.

KEWL has been selected as the courseware platform for UWC and is already available for University of Western cape staff wishing to develop and use online courses. A branded version of KEWL will be used by the SA-ISIS project to deliver learning resources for the South African Integrated Spatial Information System.

The website for KEWL is located at <http://kewl.uwc.ac.za>. Once KEWL is out of the Beta stage of development, IOI-SA will offer technical support on a fee basis to any organisation wishing to implement a KEWL site. Sites wishing to implement it on their own can do so at no cost.

Furthermore, to promote the idea of OpenContent - content that can be used, duplicated and modified as long as it is kept open - IOI-SA and UWC are willing to host on their own server any course that makes its content available according to the OpenContent license (see <http://www.opencontent.org>).

Hardware systems

The hardware systems for the IOIVU will be based on the experience that has been developed while designing and building the on-line courseware system for University of Western Cape (UWC). This system was designed and developed within IOI-SA under contract to the University's Teaching and Learning Technology Unit. The following assumptions can be derived out of this experience:

- One would want to separate data from web server for a combination of security and efficiency reasons;
- One would want to be able to provide for streaming media services (audio and video);
- One would want to allow for real-time communication, including whiteboard;
- One would want to achieve on-server data redundancy achieved through RAID-5 technology;
- One would want to allow for near real-time backup onsite, as well as longer term backup off site;
- One would want an integrated suite of systems wherever possible.

On the basis of these assumptions, it arises that the IOIVU will need to run a 4-server or 5-server architecture (Fig 1). The servers are all rack-mounted and housed in a common rack, something that also allows easy fibre-channel connections (Fig. 2).

There should be one server for handling the database (see software for description of database requirements) (Figs 1, 3). The database server will be behind the firewall, and will not have an externally accessible IP address. The web server will be a separate machine, and will be used to provide a web interface to the database, and to handle all content and scripting requirements as well as running the online learning software (Figs 1, 3). Both of these servers should ideally be dual CPU machines, with 512kb or 1 Gb of memory, and three 73Gb or higher fast SCSI disks. By having disks in groups of 3, it will be possible to enable RAID-5, which allows any one disk to fail without any loss of data, and also allows a failed disk to be hot-swapped without putting the server down. At UWC, both machines performing

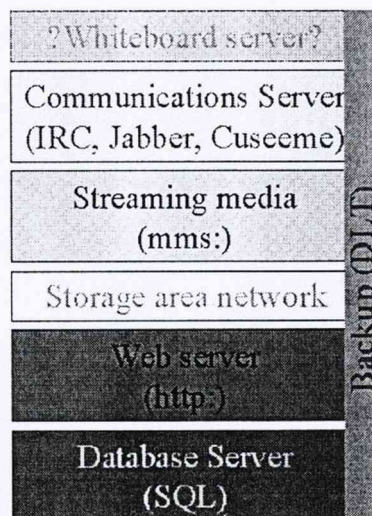


Figure 1. Design of the IOIVU computer architecture.

these tasks are IBM Netfinity 5100 servers.

The streaming media server should be a similar machine, but with a greater expansion capacity, and up to 2Gb or RAM (Figs 1, 3). The disk requirements are also greater, but initially the same disk configuration of 3X 73 Gb disks will be sufficient. At UWC, this machine is an IBM Netfinity 7100 server.

While certain real-time communication services can run on the web server, communication services are problematic from a security point of view. It would therefore be best to run real-time communications from a separate server. For this we recommend a small, thin single-processor server with a single or dual 73 Gb disk, and about 512 Mb of memory (Fig 1).

Similarly, the whiteboard server can place a security risk on the web server, and may also over tax the system. For these reasons, the whiteboard server is best run on its own machine (Fig 1). This can also be a small, thin single-processor server with a single or dual 73 Gb disk, but should have at least 1GbMb of memory. However, the specifications may change once more is known about the performance of the software.

To enable near real-time backup of data, will need a fast device that is local to all of the servers is needed (Figs 1, 3). The best system to use here is a fibre-channel disk array (storage area network technology). The best combination of features and price for this technology is apparently the IBM Fast-t storage area network device. It is recommended that it have initially an array of six 73 Gb or larger disks operating in the RAID-5 configuration.

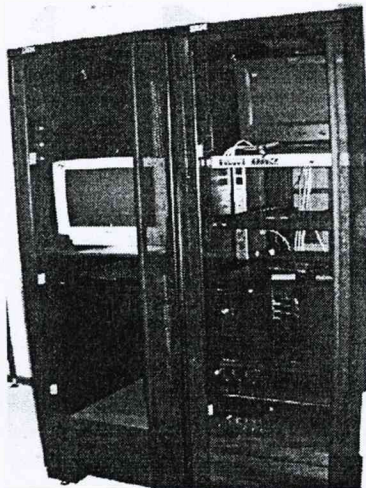


Figure 2. Rack-mounted servers in the IOI-SA server room. The rack on the right holds the servers according to the design for the UWC online course delivery system. The rack on the left is being prepared to house a web-based GIS for and virtual coastal resource centre

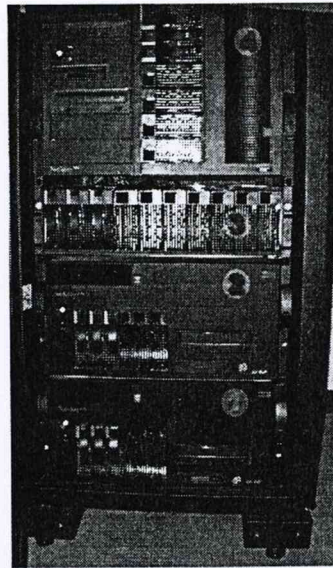


Figure 3. The bottom end of the above rack showing the database server (1), web server (2), Fast-t storage area network device (3) and the streaming media server (4).

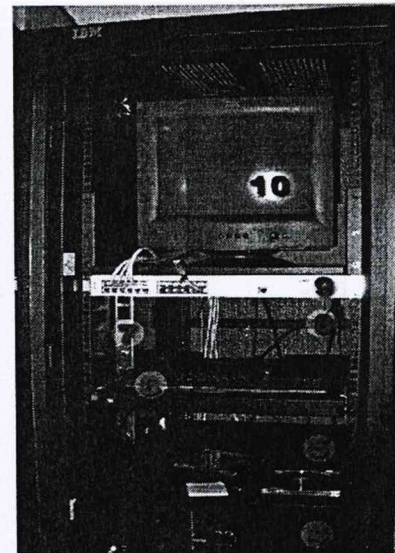


Figure 4. Upper part of server rack, showing the streaming media server (4), space where the communications server (5) and whiteboard server (8) will go, keyboard (6), power distribution unit (7), network switch (9) and monitor (10).

keeping everything together.

For longer-term backup, a DLT tape backup system is recommended (Fig. 1). This allows the backing up of very large amounts of data spanning across multiple DLT tapes. Specific choice of the new DLT technology will be made when all comparisons have been completed.

All user services should be integrated across all 4-5 servers using Lightweight Directory Access Protocol (LDAP). This is compatible with both Windows 2000 and Linux, as well as most other modern operating systems.

Operating system and supporting software

There are really only two choices as regards operating system: either Microsoft Windows 2000 Server, or a Unix or Unix derivative (such as Linux or FreeBSD). At IOI-SA there is some limited experience of running mission-critical services on Unix or Unix derived operating systems. In addition, they have several years of experience in with running such services on Windows NT and Windows 2000 servers. Furthermore, they also have several years of experience of scripting additional services on those platforms. While Unix and its derivatives are probably technically better, the total cost of ownership will be significantly higher for IOIVU as the systems are harder to maintain and the skills are in short supply and costly. Therefore Windows 2000 is chosen as the operating system of choice for running the IOIVU.

Another reason for this relates to the choice of online learning software. The system developed by IOI-SA runs on the Windows 2000 platform, and does not run on Unix and related systems. An exception to this would be made for the real-time communications services, which at present are best based around a Linux server running Jabber as the instant messaging server.

Risks involved

The main risks are related to the time scales and cost estimates of preparing and testing the on-line courses. These risks are minimised through the existing experiences in several of the participating IOI Centres and the existing infra structure, hard and software.

The risks associated with the assumption that there is a need for the Virtual University and the marketing are evaluated and addressed on the basis of the experiences from training courses delivered by IOI and the Host institutions, which have demonstrated the need; and through information spreading by the whole network of IOI Centres and Host institutions, and the partners. A user group with representatives of all relevant sectors is also being put in place to add requirements into the course selection and development.

Risks are also related to the assumption that the IOI Operational Centres are willing and able to participate proactively in the programme and contribute to its success, and that the co-financing will come through to a sufficient extent. Through prior consultations and joint planning with the IOI Centres and with donors these risks are minimised.

Co-operation between IOI and other partners and the UN system is already well established; and

experiences from previous programmes are fully available, including in working with local communities.

The sustainability of an adequate institutional infrastructure and management for the IOI system is secured through an Endowment Fund and through existing agreements between IOI and the host institutions of the Centres.

Prior obligations, prerequisites

The IOI Network is committed to implement this project. The expertise, professionalism and engagements are available in the participating Operational Centres. However, the financial resources required for the course preparations and their on-line delivery specifications are not available. These are being sought.

The specification of the tasks for each of the Centres and Headquarters has been prepared by the IOIVU Development Working Group, and further by the Development Committee and its technical advisory group.

The IOI Governing Board and the interim Board of Governors for the IOIVU have endorsed the development and are thus committed to this process.

The funds requested here will be used for this development as presented in section . They will not be used for meetings, consultations, consultants, administration or communications. These costs are covered through existing budgets of IOI, if and as required.

Expected IOIVU development over a 5-year time frame

Planned IOIVU development over a 5-year time frame

No.	Activities/ actions	Timeline (years)/ responsibility	Output	Remarks
1.	Development of the IOIVU concept	1999-2001, IPC, IGB, EXD, WGD	Vision of the IOIVU	The concept is in place. IOIVU will be one of the most advanced form of higher education bringing particular advantages to developing countries. Marine affairs are the area where this form of education is very promising.

2.	Preparation of initial documentation for the IOIVU	2000-2001, WGD, EXD	The IOIVU Charter, terms of references of various bodies, staff members	The WGD is working and has delivered background documentation including the Charter, updated ToR of WGD itself, of rector, registrar, notes on practical matters of the IOIVU operation (credit, admission, degrees). Some of these documents will require modification in the course of the IOIVU development.
3.	Specification of courses	2000-2001 with further amendments	List of courses to be taught	The initial list of courses has been prepared, core courses specified, most of the host institutes determined. Some amendments are possible in future.
4.	Development of the IOIVU financial mechanism	2000-2002 (as initial stage), and further on, IGB, EXD, WGD, IR, IVUBG	IOIVU funding sources at the stage of its initial development and at the operational stage, IOIVU account, IOIVU Trust Fund, etc.	It is expected that initial funding, will enable to develop the first several core courses and other elements of the IOIVU. After the initial development the IOIVU will continue the development towards self-sustainable operation.
5.	Appointment of staff, roster	First stage during 2001 - 2002, IVUBG, IR, R	Interim Rector, Registrar, roster	The interim Rector was appointed by the Board in December 2000, IOI Centre directors and staff will form the core of the roster.

6.	On-line course preparation, development of the course delivery system	2001 for first core courses, 2001-2003 for core courses, 2002-2005 for optional courses at IOI Centres; IR, IVUBG, TAG, roster, experts	On-line courses on core topics and optional topic	This is the major bulk of work needed to launch the IOIVU. Initial course preparation will be done using mainly available courses. Some of the work has started already using internal resources. The pace of the development will depend on the available funding. By 2001 several core courses are to be in place. By 2002 a range of core courses and, by 2003 several optional courses. In mid 2001 the first core course in the IOI-SA will be tested.
7.	Set-up of the management system	2001-2003, IOI centres, IR, experts, roster, TAG	IOIVU web-site, on-line application facility, registration facility, student track software, financial management subsystem	This will be an innovative system. The novelty will be in joint on-line operation of host institutions and the IOIVU management. The system will develop step by step starting from the best practices of the IOI host institutions and gradually acquiring independent character of operations.
8.	Acknowledgement of the IOIVU	2000 - continuous, IVUBG, IR, R, roster	Incorporation of the IOIVU, accreditation of the degrees, association with other universities, and institutes	Initially the IOIVU is incorporated being a part of the IOI. Formal acknowledgement requirements for a University in The Netherlands are being checked.

9.	Trials	2001 - continuous, WGD, TAG, IR, roster, experts	Verification of the core and optional courses, material for amendments	First trials of the IOI course delivery are expected at a training course in South Africa (spring, 2001). All the courses will be tested after the completion of their development has been reported. This will be an on-going process.
10.	Inauguration, first students	2002, R, IVUBG, all interested and involved parties and partners	Start of operations	The actual date of the operation start will depend on almost all factors considered above, and particularly on the success at securing funding for the courses development.
11.	Gradual expansion of operations	2003-2005, all involved parties	Stabilised on-going activities	Provided the overall schedule of above activities is kept, it is expected that by 2005 the IOIVU will be approaching its full-scale operations.

Key:

WGD: Working Group on the IOIVU Development;
EXD: Executive Director, IOI;
IPC: IOI Planning Council;
IGB: IOI Governing Board;
IVUBG: IOIVU Board of Governors (at present interim);
IR: Rector (Interim at the beginning stage);
TAG: Technical advisory group.

Project review, reporting, and evaluation

The progress will be followed and reviewed by the IOIVU Development Committee, and the Executive Committee of IOI. The Executive Director of IOI will be responsible for required pushing, coordination and allocation of resources, and preparation of interim reports at quarterly intervals. These will be provided also to the IOI Board, besides the specific project interests.

Internal evaluation will be carried out through the IOI mechanisms and its Governing Board, and the interim Board of Governors of the IOIVU.

Reference:

- International Ocean Institute Virtual University, a report by IOI, IOI Headquarters, 2001

International Ocean Institute

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1226 Le Marchant Street
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*Tel. 1 902 494 1737
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FACSIMILE TRANSMISSION

To: Dr. Agustin Sanchez-Arcilla
Fax No 34 93 401 1861

From: Elisabeth Mann Borgese
Fax No. 1 902 868 2455

Date: January 13, 2001

Subject: IOI Virtual University

Dear Dr. Sanchez,

Thanks for your encouraging letter of January 10. I am forwarding it to Dr. Gunnar Kullenberg in Malta, who is the interim Rector of the IOIVU. He will keep you fully informed about developments We are presently in the process of preparing core courses for delivery on line, and hope to enlist the first students early in 2002.

Looking forward to our cooperation,

With all good wishes,

Yours sincerely,

Elisabeth Mann Borgese



Dalhousie University

International Ocean
Institute

FACSIMILE TRANSMISSION



TO Dr. Gunnar Kullenberg
FAX [11] 356-346-502
FROM Robert Race, Director
International Ocean Institute – Canada, Dalhousie University
FAX 902-494-2034
RE IOIVU Brochure
DATE January 31, 2001
PAGES 5

Dear Dr. Kullenberg,

Attached please find the text for the IOIVU Brochure.

Yours sincerely,

International Ocean Institute



MISSION AND GOALS

MISSION

To promote education, training, and research that enhance the peaceful use, management, and regulation of ocean spaces and resources as well as the protection and conservation of the marine environment.

GOALS

- To enhance the ability of developing countries to develop and manage their resources sustainably for their own benefit.
- To enhance the ability of coastal communities to establish self-reliant development, through efforts to control and protect natural resources for future generations, eradicate poverty in coastal areas, and mitigate natural hazards.
- To encourage the participation of people, and in particular women, in development projects that take into account environmental issues.
- To establish sustainable mechanisms to tackle inter-related social, environmental, and economic issues in an integrated fashion.

For more information, contact:

International Ocean Institute, University of Malta, P.O. Box 3, Gzira GZR 01, Malta

Tel. 356 346 529 • Fax 356 346 502 • E-Mail ioimla@kemmumet.net.mt • URL <http://www.IOInst.org>

The Need

Training and education are essential if we, the people of the world, and our Governments are to implement in the twenty-first century the laws, rules, and regulations bequeathed to us by the twentieth century to save our environment in order to save ourselves. Traditional ways of teaching and learning must be adapted for this purpose.

The Vision

- The development of an interdisciplinary and integrated culture of knowledge, inclusive and accessible to all, focusing on the realm of ocean affairs where knowledge must be interdisciplinary and comprehensive;
- The enhancement of the abilities of developing countries in particular to enhance and govern their own marine and coastal resources and environments sustainably for the benefit of their peoples in harmony with pertinent international conventions and agreements.

The Mission

The mission of the International Ocean Institute and its Virtual University is *to promote education training and research that enhance the peaceful use, management, and regulation of ocean spaces and resources as well as the protection and conservation of the marine environment.*

Why a Virtual University?

The IOIVU is a "Virtual University" in two ways:

- It is not built of bricks and mortar but is instituted as a network of education, training and research centres of expertise in ocean, coastal and marine-related affairs and governance, joined together in a partnership to provide an interdisciplinary and comprehensive coverage of ocean-related subjects;
- It utilizes the most advanced technologies of *virtual* or distance-learning and teaching, combined with person-to-person teaching relationships in traditional class-room settings and internships.

The IOIVU will consolidate, optimize and make full use of the unique structure and accumulated global experience in education, research, capacity building and training of the IOI, in partnership with the host institutions of its Operational Centres and other interested partners.

The Co-Sponsors

The IOIVU is co-sponsored by the United Nations University (UNU), UNESCO and its Intergovernmental Oceanographic Commission (IOC), and the World Maritime University (WMU).

The IOIVU Structure

The IOIVU is a part of the IOI. It is, at least initially, incorporated as an organ of the IOI,

registered as an educational institution in the Netherlands. The main elements of its structure are:

- **The Board of Governors, overseeing all activities of the IOIVU, including its financial administration.** An interim Board has been established, composed by the members of the IOI Governing Board plus representatives of the co-sponsoring organizations.
- **The Chancellor, serving as the Chair of the Board of Governors.** An Interim Chancellor has been appointed in the person of IOI's Founder and Honorary Chair.
- **The Academic Council, appointed by the Board of Governors.** It is to assist in the development, co-ordination and implementation of the academic work program. An interim Academic Council has been established, consisting of the Planning Council of the IOI which is composed of the Directors of the IOI's 15 Operational Centres plus some elected members.
- **The Rector and Vice-Chancellor.** This person will be the Chief Executive Officer, appointed by the Board of Governors, and responsible for the direction, organization, management and administration of the University. The IOI Executive Director has been appointed as interim Rector of the IOIVU.
- **The Virtual Faculty,** consisting of course directors and lecturers of previous IOI training programmes and of developers and teachers of new courses;
- **The Registrar,** responsible for the student selection and registration process.

The IOIVU is governed by a Charter and the Statutes of the IOI.

The IOIVU Programme

The IOIVU offers a broad range of programmes with an interdisciplinary curriculum that includes:

- Masters or Advanced Graduate Degree Programmes in Ocean Affairs and the Law of the Sea;
- Advanced Training Programmes in specific subject through existing or new courses of the IOI Network and/or Host Institutions of the Operational Centres;
- Upgrading and Supplementary Education Programmes through specialised short courses.

The course packages for these programmes will be drawn from courses available on line or through participating institutions. They will fall into one of three categories:

- Courses providing generic, overall knowledge, based on mainstream, accepted understanding of ocean processes and legal and institutional arrangements;

- Courses giving special knowledge on ocean subjects of a regional nature, such as semi-enclosed seas, upwelling Systems, Large Marine Ecosystems, legal, social and economical instruments or subjects, or EEZ rights.
- Courses giving knowledge about local, national, sub-regional conditions cultures, social systems, or traditional knowledge.

The Master's Degree Programme

The Master's Degree Programme has three components:

- A number of core courses and optional courses will have to be completed, each one with an established number of credits. Core courses can be taken through distance-learning arrangements. Optional courses can be taken through any one of the IOI Operational Centres and/or their host institutions;
- An internship period of the duration of one academic quarter, which can be completed in any of the IOI Operational Centres or suitable external organization (UN institutions such as UNCTAD, DOALOS, IMO, UNEP etc, or private sector);
- The writing of a thesis, under the direction of a supervisor, and subject to acceptance by a thesis committee consisting of members of the Virtual University plus an external examiner.

Core courses include:

UNCLOS and UNCED: Ocean Governance
 Integrated Coastal Area Management
 Coastal Community Development
 Marine and Coastal Resources Economics
 Coastal and oceanic ecosystems and processes

Optional courses of a more specialized nature may cover subjects such as aquaculture and mariculture; community-based seaweed culture, coastal engineering; offshore hydrocarbon production; deep-sea mining, etc.

The study time will be 1-2 years full time, which can be extended for part-time students

Regular courses from an endorsed partner university can be accepted as part of the curriculum in local-national language. Thesis work should be in English, French or Spanish.

Why Would a Student Pick the IOIVU?

The IOIVU accepts students globally and is the only existing institution that awards an interdisciplinary, internationally recognized Master's Degree in Ocean Affairs and Law of the Sea. The institutional arrangement is without precedent. Through the global network of participating IOI Operational Centres and related host institutions, a truly international system is

achieved in which students from all parts of the world can feel at ease. They do not have to move away from their home and employment, except possibly for a short internship period; they can recognise some parts of the studies as coming from their own region, country and culture; they do not have to experience the culture shock associated with living for an extended period in a foreign country away from their roots. The IOIVU will counteract brain drain and migration, and build up local confidence.

Help Yourself by Helping Others!

The IOVU is an open-ended, expanding network of autonomous institutions, clustered around the initial nucleus of IOI Operational Centres and their host institutions. The number of partner institutions, mostly universities, both in developed and developing countries is growing fast. The whole system is designed as a contribution to the realisation of the goal of creating a new order of peace and human security, economic and social development and environmental conservation for the ocean and for the world, as envisaged by the Law of the Sea, 1982 and the great Earth Summit of Rio de Janeiro, 1992. Students enrolling in the IOIVU will not only improve their own knowledge and improve their career opportunities; they will, at the same time, contribute to this vital cause of creating a better world for their children.

PROS/101/VU
RECEIVED FEB 26 2001**Subject: Project proposal IOI VU****Date: Fri, 23 Feb 2001 12:53:38 +0100****From: International Ocean Institute <ioimla@kemmunet.net.mt>****To: Margaret CHI <MargaretC@unops.org>**

COPY

Dear Ms. Chi,

Please refer to your message to Professor Mann Borgese dated 13 February 2001, in which you make several constructive suggestions as regards the IOI VU proposal. Hereby, I wish to address your points, following your order.

1. Yes, we followed the model given to us from your office. I was told by Professor Mann Borgese to follow that model. It can of course be changed. I am not sure that UNDP is the right body to approach with this project. However, this can be discussed.
2. Yes, this is understood. Again, I basically followed the information I received. The day to day management of the project will be done here at IOI Headquarters, under my direction. The starting date should presumably be given "as soon as possible".
3. Yes, good idea. Such an Annex is included in the revised proposal (attached haretc).
4. Yes, such a section has been added.
5. Yes, an indicative timetable is given in an Annex.
6. Again, Professor Mann Borgese told me that UNOPS would be the executing agency. It is not expected that UNOPS would do the financial management, since we have such a mechanism here at IOI Headquarters; there will be no consultants hired, the Centres are expected to have or arrange for the required experts; all the course developments are to be done by the Centres, in some cases in co-operation with UNCTAD, WMO, or others, but there should be no subcontracting. As I see it the funds will go from here, or directly from the foundation, to the Centres following the specification of the tasks they are to do. The reporting and accounting should be done to IOI Headquarters, and from here to the foundation, as well as to our Board.
7. Yes, is included as an Annex.
8. Co-operation with these bodies is essentially as a partnership with no financial commitments. They are represented on the IOI VU governing mechanism; they are used for advice, some support or participation in course developments; for curriculum clearance, in particular UNESCO; and one has indicated the possibility of providing fellowships directly to selected students. One has indicated that their technology can be used for course delivery. They have all formally through their executive Heads accepted co-sponsorship. Hence I consider they can be included in the organigram.
9. OK.
10. The cost estimates for the course developments are based on what the Centres who are to do (or are doing) the development have provided. These are based on the local conditions, discussions and analysis we have had in the IOI, on the basis of experiences at some of the Centres where distance learning courses have been developed.
11. Could you please clarify to me how much it is and who the executing agency will be/should be depending upon from where funds may come.

Your help in all this is very much appreciated and I thank you very much for your co-operation and look forward to its continuation.

Yours sincerely,

Dr. Gunnar Kullenberg
Executive Director

Att.

*Forwarded
to Office
Feb 23/01*

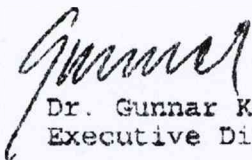
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7

I am now turning to you to ask if you would be willing to help us in addressing some of these questions. I am afraid I am not really competent to do it, and even if I was, I would not have time to do it while also having this job. Perhaps you are also too busy. If so, could you advise us about some other expert who could tackle these questions. I would of course appreciate very much if you would be willing to help us.

I look forward to hearing from you.

With best regards,

Yours sincerely,



Dr. Gunnar Kullenberg
Executive Director

c.c. Prof. E.M.Borgese; F. Baillet





International Ocean Institute

HEADQUARTERS

For François

Prof. Elisabeth Mann Borgese
Founder & Honorary Chairman
International Ocean Institute
Dalhousie University
1226 Le Marchant Street
Halifax, Nova Scotia
CANADA B3H 3P7

Fax: +1 (902) 868 2455

9 April, 2001

Dear Elisabeth,

Please find attached some further overviews with respect to IOIVJ and with particular reference to the last questions from Nippon Foundation. There is also the diagram sent as attachment 3 to my e-mail of 6 April - but then without the numbers at the lines. These numbers, now included, indicate the sequence of the operations, starting with the enquiry from the student to the registrar office.

I hope you can use this material.

Yours as ever,

Att. (4 + covering page)

IOI Headquarters
Malta, 9 April 2001

Curriculum outline for IOIVU

For an ocean Governance Master we have identified the need for 5 core courses and a number of optional courses. The total number of these optional courses should provide for credits equal to one core course.

In addition, we require an internship with a research project and a writing of a thesis on this project. This effort corresponds in credits to two core courses.

The selection of core courses from those available depends upon the employment and career aims of the 'student'.

It is envisaged that core courses No. 1 and a choice of No. 2 or No. 4 will be obligatory for all 'students'. There may be developed other obligatory core courses.

The aim of the choices should preferably be so that the identified broad areas of application are all covered. This is possible with a combination of 5 core courses as presently envisaged.

Graduate Master degree in ocean governance
Frameworks

Table 1.

Core course	Legal	Economic	Social	Resources		Coastal Management
				Living	Nonliving	
1. UNCLOS, UNCED	+		+			+
2. ICAM	+	-	+	+	+	+
3. Community development, coastal		+	+	+		+
4. Marine and coastal resources economics	+	+	+	+	+	
5. Marine Pollution GPA-LBA		+	+	+	+	+
6. Ecosystems and processes		+		+	+	
7. Living and non-living		+		+	-	+
8. Transport	+	+				
9. Informatics	+		+			+
10. Partnerships	+	+	+			+

Table 1. (continued)

Core Course	Mari-culture	Community development	Maritime, shipping	Security and Natural Hazard	Tourism	Habitat, Coastal Construction	Role of Science
1.		+	+	+	+		+
2.	+			+		+	-
3.	+	+		+	+		
4.	+	+			-	+	
5.			+		+	+	
6.				+		+	+
7.	+				+		+
8.			+	+		-	
9.		+		+			+
10.		+	+				

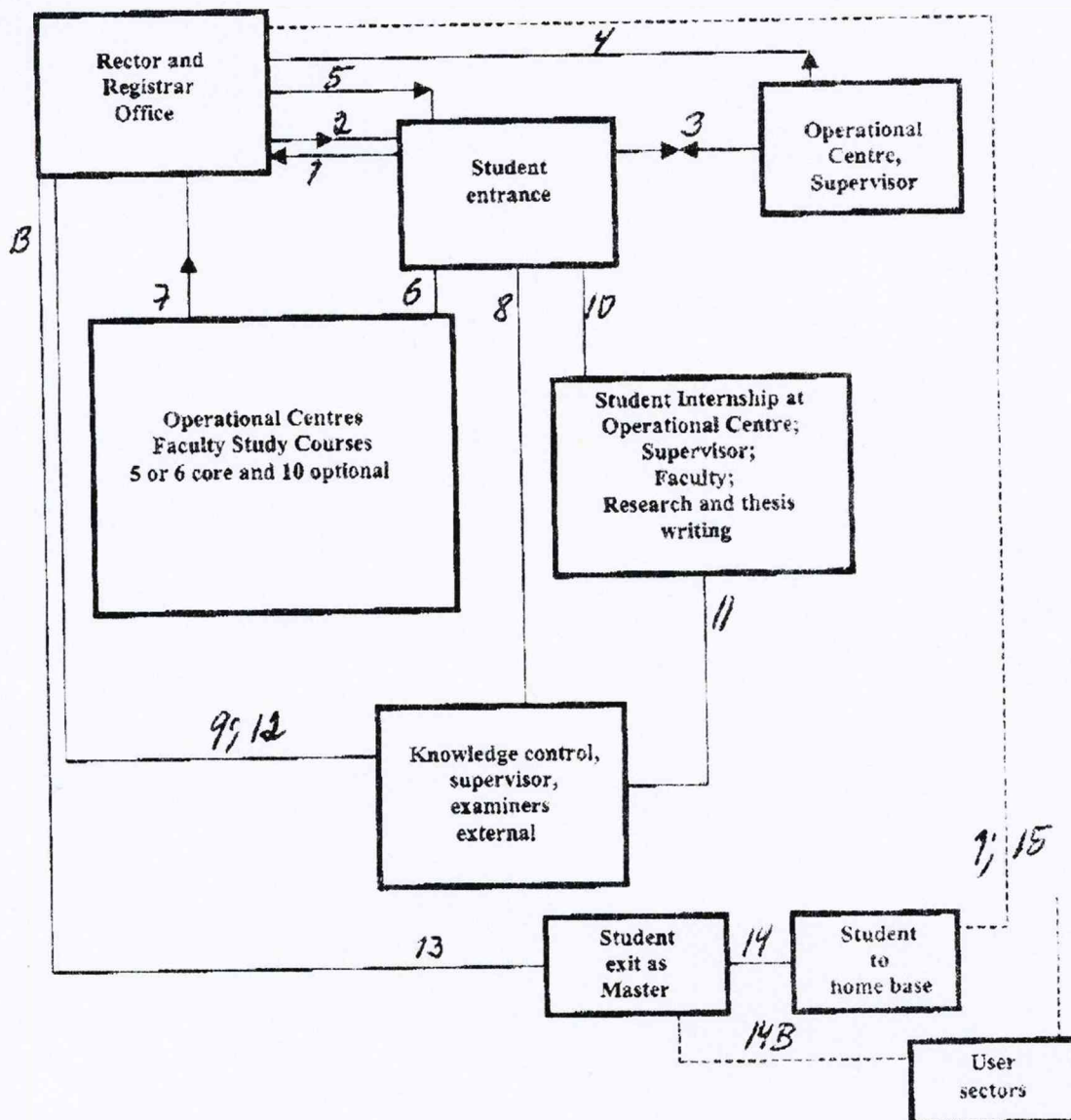
**Overview of identified needs from reviews in the countries
or regions for an ocean governance education at
post-graduate level (annual needs)**

Country region	State Governments	Other National authorities	Coastal administrations	Ports, Safety	Other user sectors official	NGOs Students Science	Private sector
India	100	10	20	10	20	70	Not known
Pacific islands	40	40	40	20	100	200	Not known
South Africa	100	100	200	50	200	500	600 or more
China	50	50	100	50	100	200	Not known
Canada	40	100	50	50	100	300	Over 1000

Note: The number are based on examinations made by the IOI Centres. The private sector has not been extensively reviewed.

9 April 2001

Attachment 3



International Ocean Institute

*Dalhousie University
1226 Le Marchant Street
Halifax, N.S. B3H 3E7*



*Tel. 1 902 494 1737
fax: 1 902 494 2034
Canada*

FACSIMILE TRANSMISSION

To: Veerle Vanderveerd
Fax No 31 70 345 66 48

From: Elisabeth Mann Borgese
Fax No. 1 902 868 2455

Date: April 16, 2001

Subject: GEF

Dear Veerle,

Here is an idea, for both GPA Review and Rio+10.

It is about the role IOIVU could play vis a vis all the capacity building needs of all the Conventions, Agreements, Codes of Conduct and Programmes involved.

First let me bring you up to date as to where we are at this point. We are in the last phase of negotiations with the Nippon Foundation. They have requested some more charts, and a "needs assessment." We have completed both and the whole material has gone out. At this moment, the training course for e-course development for our Centres has started in South Africa. The CEO of the Nippon Foundation, Mr. Terashima, is going to attend part of that course, and right after that his Board should make the final decision.

You know that the project has been adopted by UNOPS. They have prepared a "project document" and they are presently negotiating with the Turner Foundation and the Rockefeller Foundation. I have approached the Pew Foundation, and I have asked UNOPS to take it up with the GEF, because, as I will explain now, I do believe we have a very strong case with them. The situation now is really different, considering both our track record with them, and the opportunities which have now unfolded for us.

As to the track record, the IOI was the first NGO to receive a grant of US\$2.6 million, enabling us to consolidate and develop our training programme through the establishment of four operational Centres in India, Fiji, Senegal, and Costa Rica.. The project was completed in about 4 years, and UNDP made an evaluation of the result, which was extremely positive. Actually, we out-performed the terms and

conditions of the project document in every respect. Instead of 4 Centres, we established 8; we doubled the number of training hours and trainees. The only deficiency that had been noted was that there was not enough cooperation with UNEP's regional seas programme. Actually, that was not our fault, but UNEP's. In the meantime, however, this has been more than corrected. I am now a member of his international steering committee for the GPA, and we are deeply involved both with the Intergovernmental Review of the GPA and with Rio+10.

Now another few years have gone by, and the Centres have grown from 8 to 17. One of the concerns of the GEF/UNDP had been that the Centres might not be "viable" and that they might collapse as soon as the grant money expired -- as happens so often in cases of development aid. Well, all of them are alive and active. I should add that the \$2.6 million grant and the establishment of the operational Centres has enabled us to raise an endowment fund of Swiss Franks 20 Million for the IOI — another indicator of the success of that programme.

Now we want to consolidate the educational activities of all the Centres in the IOIVU. The GEF has invested \$2.6 million in this development which ought to be one of their success stories. It certainly would be worth while for them to look at a second phase of cooperation at this point.

This takes me to my second point: The opportunities, during the next 2-3 years, to utilize the IOIVU are unique. Training and Capacity-building are called for, as priority needs, in all Conventions, Agreements, Protocols, Codes of Conduct, and Programmes adopted by UNCED and after, but the means that have been made available are woefully inadequate. Now the IOIVU wants to offer, through the 2001-2002 intergovernmental conferences, its unique global, regionally articulated network, with its broadly interdisciplinary programme that could serve the needs of all the above mentioned Conventions, Agreements, Codes of Conduct and Programmes. The IOIVU has already established important links with the UN system, being co-sponsored by the UNU, UNESCO/IOC and WMU, and through UNOPS having adopted the programme. We are also still linked to Train-Seacoast through some of our Centres and would intensify our cooperation with that Programme in as far as possible.

So this is why it seems to me to be particularly opportune to approach the GEF at this particular moment. Of course, the GEF, in the meantime, has developed its specific sectors to which its financial contributions are restricted, but these include international waters, biodiversity and climate -- and the IOIVU will definitely cover these, since they obviously are ocean-related.

We would like to apply for a contribution of the same order of magnitude as the first one, or a little higher, let us say, US\$ 3 million to \$5 million, to be spent, over three years, (a) on course development, which will be an ongoing activity; and (b) on scholarships for candidates from poor countries.

If you could in some way support this application, that could be quite helpful! What do you think?

Warm regards. Yours as ever,

E. G. W.



International Ocean Institute

HEADQUARTERS

Attn: To Members of the IOIVU Development Committee

Subject: IOIVU

16 April, 2001

Dear

Elisabeth,

Since our meetings in Hamburg we have been much preoccupied with trying to raise money for the course developments. So far we have no confirmations. It appears to be an up-hill battle. However, in the process several points related to the work of our Development Committee have been touched upon.

The training course at IOI Southern Africa is also going ahead, 16 April - 5 May. The team in IOI-SA have done a thorough preparatory work.

It appears now timely to pick up other parts of the Terms of Reference of the Development Committee. For easy reference I attach a copy of these, and of the membership of the Committee.

During the work since Hamburg we have touched upon numbers 5, 7, 9; and I believe the preparations for the course at IOI-SA have touched upon number 4.

Number 1 on registration procedures has been addressed through the IOI Canada on-line registration procedure for their summer course. However, it may need further work.

The other items need now also to be considered. During the course of the work for raising funds some additional tasks may also have emerged. In order for us to get going I have prepared an indicative list of distribution of the tasks among us. I invite you to consider it. If you do not want to take up the task allocated to you please let me know, at your earliest convenience. Since we do not have a June meeting this year, I suggest we aim for preparing our report as we go along. We must have a report, even if it is an interim one, drafted by September. So this sets the time frame.

I would now invite the lead persons, if you agree on accepting the tasks, to please prepare a note or framework or outline which I suggest you circulate to the other members of the Committee seeking their inputs. It is of course important that we get on with the work, so please take action at your earliest convenience.

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-2-

Please also provide information or inputs on tasks No. 2 and 6 to me directly as soon as you can.

I look forward to hearing from you.

With best regards,

Yours sincerely,



Dr. Gunnar Kullenberg
Executive Director

Att.

Attachment 2

- Task No. 1: Lead person: Prof. Keats;
- Task No. 2: Inputs requested from all, to me at your earliest convenience;
- Task No. 3: Lead persons: Kullenberg and Keats;
- Task No. 4: Lead persons: Keats and South;
- Task No. 5: Lead person: Kullenberg;
- Task No. 6: Inputs request from all, to me at your earliest convenience;
- Task No. 7: Lead persons: Kullenberg, Elisabeth and Keats;
- Task No. 8: All Centre Directors, members of the Committee; could you please report your most recent findings to me so I can have some help in my contacts with the other Centre Directors;
- Task No. 9: Lead persons: Elisabeth and Kullenberg; at some stage we expect to copy our applications to you all;
- Task No. 10: Lead persons: Yankov and Kullenberg;
- Task No. 11: Lead persons: Yankov and Kullenberg.

Proposed
Terms of Reference for the Development Committee
or Working Group of December 2000

The Working Group shall continue the process of development of the IOIVU, and in particular address the following needs or issues (given in no order of priority):

1. Specification of registration procedures for on-line registration, and related process, and required parallel hard copy system;
2. Specification of student entrance qualifications and acceptance requirements;
3. Specification of function of the Registrar office;
4. Specification of IT systems to be used of or for the IOIVU;
5. Coordination of preparations of initial core and optional courses for on-line delivery, including reviewing of the compatibility, e.g. as regards hours or length of study;
6. Analysis of needs for management and quality assurance, such as various committees, and their working procedure and terms of reference;
7. In-depth and considered analysis of running costs and alternatives of paying;
8. Follow negotiations with Host institutions and possibly provide advice and some harmonisation;
9. Help in preparing fund-raising applications and in liaison with Co-sponsors and Foundation;
10. Help in preparation/drafting of Financial Rules and Regulations for the management of the funds of the University;
11. Help in preparing/drafting initial statutes, bylaws, procedural laws and other documents relating to the implementation of the Charter and the conduct of activities of the University.

The Working Group shall work in close association and consultation with the Acting or Interim Rector, when appointed. The Working Group shall report to the Governing Board of IOI (or the Board of Governors of the IOIVU); with an interim report to the mid-term May-June 2001 meeting of the Executive Committee of IOI.

Attachment 3

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for the IOI Virtual University

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FACSIMILE TRANSMISSION

To: Mr. Ian Johnson, Vice President

Fax No 202 ~~522-7122~~
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522-7122

From: Elisabeth Mann Borgese

Fax No. 1 902 868 2455

Date: April 27, 2001

Subject: IOIVU

Dear Ian,

The meetings with the GEF were excellent. They could not have been better. Al Duda organized a conference call with Dann Sklarew, Ph.D., Director IW:LEARN ~ building a global knowledge community to protect lakes, rivers, coasts, and oceans, and I have been e-mailing back and forth with him ever since. I think we can make a real contribution to his programme. It is a question of developing a good strategy during the forthcoming months.

Again: Whatever you can do to help this process along, will be most fervently appreciated.

Incidentally, I also had excellent meetings with the IDB, including a working dinner with Iglesias and his senior staff. Iglesias assured me that they will support the development of our programme in Latin America and the Caribbean. This is very important by itself, but, more than that, it sets a most useful precedent for cooperation with the other regional development banks.

I think we are moving in the right direction.

With all good wishes,

Elisabeth

Draft
Report of the Working Group on development
of the IOI Virtual University

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Draft
Report of the Working Group on development
of the IOI Virtual University

Introduction

The Working Group was established by decision of the Governing Board at its meeting, November 1999 in Fiji. The Terms of Reference and membership are given in Annexes 1 and 2 respectively. The WG is presenting this report to the Governing Board of IOI. The report is prepared by the Executive Director on the basis of contributions from all the members of the WG, including himself.

An interim report was presented to the meeting of the Executive Committee and Operational Centre Directors, Malta, 5-8 June 2000. Several comments were made at the meeting and subsequent consultation of the WG members. These have been taken into account to the extent possible in this report.

This report has also been provided to the organisations and foundations who have confirmed interest in co-sponsoring or having a partnership with the IOI-VU.

The report is structured according to the Terms of Reference of the WG.

1. Charter for the IOI Virtual University

Professor Yankov has drafted the proposed Charter. Models were provided from the University of the South Pacific, World Maritime University and the United Nations Peace University. The initial draft was circulated to all members of the WG, and was discussed at the June meeting. The version of the Charter presented here takes into account all comments and suggestions which have been made. The Charter is given in Annex 3.

2. List of existing training courses of IOI and relevant courses of the Host institutions of the Operational Centres

Following a request, material in the form of lists with some explaining comments were provided to the Executive Director from IOI: Canada; Costa Rica; China; Black Sea; India; Japan, Pacific

Islands; Senegal; Southern Africa. On the basis of this material the Executive Director prepared an overview of existing courses, dividing them into five different groups. It was agreed from the start that only courses from the 3rd year onwards in a study would be included. Thus in the list there is no indication of when the courses are taken in the study-programme, the 3rd year being assumed to be the last year for a bachelors degree. It is to be noted of course that all courses are not available in a distance learning mode. It is expected that the "course-catalogue" will be further developed. In particular the inclusion of courses available at the Host institutions of the IOI Operational Centres and Affiliates will depend upon the conclusion of negotiations with these institutions as to their association as partners with the IOI-VU. These negotiations have been initiated but are not yet concluded. In order not to disrupt the text the course list is given in Annex 4.

3. Selection of core courses to be taken by all students of the IOI-VU

In order to obtain a logic for selection of core courses it was thought advisable to have some course structure as indicated here:

- I. Courses providing generic, overall knowledge, based on mainstream, accepted understanding.
- II. Courses giving special knowledge on ocean subjects of regional nature, such as semi-enclosed seas, upwelling systems, 'LME's', legal, social and economical instruments or subjects, EEZ rights.
- III. Courses giving knowledge about local, national, sub-regional conditions, cultures, social systems, traditional knowledge.

The courses in these categories would meet the various needs of students. In some cases the courses could also be professional development courses.

Core courses to be taken by all students would be in category I. However, there could also be optional core courses or activities within categories II and III. The selection of such optional core courses would depend upon the study direction chosen by the student, and what emphasis the student would prefer, including in the independent research and thesis work required for a masters degree.

For the present the WG has opted to propose as initial core courses for all students a selection from such existing courses as have been tested internationally. These have been supplemented as required so as to obtain an initial package which can meet the aims, scope, and focus of the IOI-VU.

The online core courses should cover topics about which anyone involved in ocean management should have knowledge. Topics that have been identified include:

- Integrated coastal area management;
- Coastal and oceanic ecosystems and processes;
- Introduction to living marine resources;
- Introduction to non-living marine resources;
- Ocean governance;
- Integrated pollution management;
- Public-Private partnerships in ocean management;
- Spatial information management and decision support;
- Environmental and resource economics.

It is not possible to deal with all of these topics initially, so we propose a phased approach, based on existing and on-going initiatives, and the phased development of new courses. This will take place over a two to three year period. It should also be noted that many relevant courses exist as part of the normal university studies - but are they on-line courses?

In the initial phase there will be one or two packages centered around 4 or 5 core courses. These are expected to cover:

1. UNCLOS and UNCED: Ocean Governance;
2. Integrated Coastal Area Management, including living resources, and mariculture;
3. Coastal Community Development;
4. Marine and Coastal Resources economics.

Several optional courses on mariculture, data management, deep seabed questions and mining, marine pollution, processing of marine produce; and on specific oceanographic subjects, will also be developed.

Possible model packages could then be combinations of core courses: 1+4, or 2+3+4; or 1+2 and several optional ones; etc.

The related research work could deal with combinations of economics and resources management; relations between local/national and regional efforts within the UNCLOS and UNCED framework; cost-benefits of risk management and preparedness; cost benefits of GPA-LBA implementations at local, national, regional levels.

Several Operational Centres have initiated preparatory work on these courses. It has been agreed that IOI Southern Africa will act as a 'collecting centre', in view of the advanced developments there as regards on-line course deliveries.

4. Curriculum and generic structure of study programme

The curriculum should be interdisciplinary and respond to the Mission statement and purposes. The structure is specified as:

1. Post graduate or advanced graduate levels (from 3 years of study onwards): core courses, optional courses; thesis (research) work; examination; this part aims at providing a Masters degree.
2. Advanced training in specific subjects, through existing or new courses of IOI or the Host institutions of the Operational Centres; as an option the participation in such advanced training could be given a certificate and a credit, provided there is an examination.
3. Upgrading or supplementary education and training in the form of professional development courses, through individual courses, with examination and certificate as an option. This part could respond to expressed needs for short and specified courses. If considered more appropriate such courses could alternatively be included in part 2.

Regular courses from an endorsed partner university can be accepted as part of the curriculum in local-national language. Thesis work should be in English, French or Spanish.

Available courses will be listed in a data-base so as to be easily found and assessed. Students would select from this list, in consultation with their individual advisor, so as to obtain sufficient course credits (see sections 3 and 5).

Courses will be gradually made available as distance learning modules. IOI Southern Africa is advanced as regards preparation of distance learning modules and related tools. A substantial computer network and infrastructure has been put in place during 1998-1999. A computer laboratory exists which is used to develop low-cost video-conferencing tools and techniques to support distance learning.

As an example of on-going developments which will form a basis for the Virtual University the following is provided, being done in IOI Southern Africa (IOI-SA).

IOI-SA has embarked upon a training project that represents a first for the IOI system, through a grant from the South African Innovation Fund. IOI-SA is preparing a course for delivery entirely online via the Internet. The project is called MIDeSS.learn.

MIDeSS.learn is a web-based Integrated Coastal Management training package developed by the IOI-SA located at the University of the Western Cape. MIDeSS.learn is a component of the Marine

Integrated Development Support System (MIDeSS) that is coordinated by the Council for Scientific and Industrial Research (CSIR). MIDeSS is in turn a component of the South African Integrated Spatial Information System (SA-ISIS), a program that is funded by the South African Innovation Fund. MIDeSS is one of three components of SA-ISIS, and others being an Agricultural Management and Support System (AGIS), and Biodiversity Monitoring and Assessment System (BioMap).

MIDeSS is developing web-based decision support tools for coastal and marine management. The MIDeSS.learn component aims to provide web-based learning materials and courseware in support of the aims of MIDeSS. Courses are developed within the framework of the recent legislation on higher education, and will be registered within the National Qualification Framework as equivalent to one undergraduate module.

The first module of MIDeSS.learn has been developed during 1999, and will be "An Introduction to Integrated Coastal Management."

Participants will be able to register for and study all MIDeSS.learn modules online via the SA-ISIS portal site. There will be no classroom version of the courses, and all assignments will be submitted via e-mail, FTP, or snail mail as participants choose. Modules will be the equivalent of one undergraduate module (100 notional hours), and will be available for degree credit or as a certificate module. The first module was available in November of 1999, for delivery to students early in the year 2000.

IOI-Pacific Islands is also, through the Marine Studies Programme of the USP, advanced with respect to offering courses by extension, and are working on increasing these possibilities. These courses use a combination of self-learning written materials, audio-visual materials and satellite seminars. The facilities of USP for the distance learning technologies are also very advanced.

The curriculum of the Virtual University will aim towards achieving an education across several of the relevant sectors of society which need to be taken into account in ocean and coastal governance. The combination or offering of courses from many sources will make this possible.

In order to conceptualize the study path the following step-wise procedure is provided as a Study Model.

1. Initiation

Student receives information on available courses, requirements and options, study entry requirements and related required documentation, and available study supervisors; costs, time schedules etc. It is assumed that a student has a "home" base: e.g. school, university, work place, office, NGO; and possibly a sponsor.

2. Study entry

Student consults/approaches potential supervisor, presents the desires, aims and reasons for study; provides required information. After decision and acceptance by potential supervisor or advisor, student submits formal application to IOI-VU registrar office, to become registered.

Registration requirements should in principle have been cleared through the consultation procedure, but related proofs and documents should be provided at registration.

Student should also formally concur with the study requirements at IOI-VU and have a tentative plan agreed with the supervisor. The supervisor should concur.

3. Study: courses

The courses are selected in the form of an initial package by student in consultation with the supervisor so as to meet the aims of the study, a time schedule is agreed, with contact frequencies etc.; and number of credits to be covered.

The student in consultation with the supervisor agrees on procedure: distance learning technique to be used; reporting to supervisor or teacher; possible available IOI Operational Centre to be used for confrontation consultations and advice, if and when required.

The reporting/contact schedule must be established and adhered to. There must be pressure on both sides to stick to agreements, meet deadlines, and turn arounds. This is just as important for supervisors, teachers, other advisors, as it is for the student.

There should be a confrontation schedule for student to meet with the supervisor. The frequency will depend on student quality and ambition. The related expenses should be included in calculated costs, and possible fellowship. It may also be that the supervisor visits the student, depending upon conditions. Such costs must then be born by IOI-VU. Such confrontations/consultations should at a minimum be coupled to completion at each course, or at least once per semester.

Adjustments may occur in the study as it moves along. However, there should be a rule to stick to the selected core courses. The optional courses could be changed or supplemented.

We have to agree on mode of testing or "examination". This could perhaps be associated with or part of the confrontations/ consultations referred to above. These are meant to be advisory, explanatory and to ensure that the student has understood the course content. We have to assume, or ensure as part of the acceptance process, that the student is mature enough to wish all these matters to be fulfilled.

The courses as well as the other matters mentioned here (e.g. the consultations) should of course be recorded in the student record book. Copies of these records, properly signed, should be registered at the Registrar office.

4. Study: internship

Having completed in a satisfactory way the core courses and optional courses to at least some pre-agreed level, the period of internship comes. Normally this should be at the home institution of the supervisor, but this may be adjusted if good arguments are presented, or if it is planned already from the start.

The internship should provide for the research work. This must, at least partly, be done or initiated with supervision. The internship should also include a writing period, either starting the thesis writing, or writing an essay if that option is chosen. It should be part of the education and degree award to ensure that the student has at least written something independently, even if under supervision. It will be a key later in the use of the education that the student is able to express matters in writing.

However, oral presentation abilities will also be required of the student after finished education. Hence internship period should include at least some (more than one) seminars to be given by the student. These should be given at the institution where internship is provided, in the presence of its students at a similar level and subject area in general, as well as supervisor and/or teachers.

The presentation of seminars as well as the writing (thesis or essay) should be recorded in student record book; and copied to Registrar office of IOI-VU.

The internship period should have sufficient length, of at least some months or one semester, and costs should preferably be met 50/50 by the student and IOI-VU. This is to ensure that it is not seen as a "holiday trip". There should be identified a senior level undergraduate or a graduate student at the internship host institution to act as a "helper" or "guardian" or "whatever we wish to call it" for the IOI-VU student during the internship period.

In some cases, depending upon type of research work chosen, the internship period could be "sandwiched" with periods at the home-base of the student. This would mean that the student is doing part of the research at the home-base. This must of course be rather strictly controlled, and fully agreed by the supervisor, and accordingly recorded.

Such an approach may also be required or desirable depending upon the employment situation of the student.

5. Study: thesis writing

The thesis writing should at least be initiated during the internship period. A rather strict time schedule should be established, agreed by the student and supervisor. The student should of course work independently as much as possible, but presumably in most cases rather frequent consultations with the supervisor will be needed. This will vary from case to case and also depend upon the complexity of the work. In any case, it must be ensured that a fully understandable and

complete presentation is made in the agreed language. It is the opinion of the Executive Director that we should accept thesis-writing in English, French or Spanish. Later other languages may be added. It poses great difficulties for students not well acquainted with English to write a good thesis in that language.

The thesis should upon completion and endorsement by the supervisor be formally submitted, for external evaluation, to two other teachers or advisors. These should be part of the IOI-VU faculty or should be endorsed by the IOI-VU Academic Council. The supervisor should identify them, in consultation as required. The whole process should be duly recorded in the student record book and IOI-VU Registrar office.

6. Study: knowledge control

Psychologically there is a need for some sort of formal knowledge control (examination). The students will demand it. This should be seen as part of the opportunity of study; to match your knowledge and understanding of the study subject with the supervisor or a teacher (professor) who is not previously known to you. The best way to do this is through an oral confrontation or dialogue. Such dialogues can be arranged as part of the whole process, as outlined here in this note. They can of course be done through teleconferences.

7. Other matters

We need to decide on the student entry requirements, and not only the previous study requirements and language needs. We also need to consider if the student should have a sponsor, or should have an employment, or both. If the student is employed, the employer must of course give a formal agreement to student entry into the IOI-VU process. If the student is not employed we may well need to require a sponsor who knows the student. The sponsorship should not imply any financial commitments. Such are of course welcome but should then be separately specified.

We also need to have some rules on financing of the study. As a general rule the IOI-VU should not enter into any financial commitments for students. Financial support should be well regulated and be coupled to the IOI-VU financial mechanism.

Fellowships should be made available, but we feel they should not be covering all expenses. The student should pay something. These and related matters need to be fully analysed.

There should be regular reports to the IOI-VU Academic Council on the progress of studies and students. This may or may not be on an individual basis.

However, transparency, institutional information and awareness and acknowledgements are necessary elements for a credible operation. Hence the Academic Council must be informed about the study progress, thesis works, research, new developments etc., and accept consolidatory or joint responsibility.

5. Credits and requirements

In order to arrive at reasonable study requirements and a considered credit system for courses and thesis work, several existing systems have been analysed. These are first briefly presented here.

(i) IIT Madras, host institute of IOI India

All courses indicated in the list of available courses are at Master's level, to be taken after 4 years of under-graduate studies. The duration of each course is 15 weeks with 3 hours classroom lectures each week. Each course gives 3 credits in the IIT system.

These courses are not distance learning.

(ii) The current situation at the University of the South Pacific (USP), host institution to IOI Pacific Islands

1. **Admission to the masters degree** at the USP requires:

- A GPA for not less than 3.0 in a related undergraduate degree (calculated for courses above the first year level, and including those courses relevant to the masters degree area of specialisation) OR
- Mature student entry which would include suitable work experience in an appropriate discipline.

2. **The masters degree** normally includes four one-semester post-graduate courses (fourth-year level; equivalent to honours-level courses in some universities) plus a thesis by research. The programme normally would take 2.5 years full time, or up to four years part time. Full time students normally take two courses per semester. USP operates a two-semester academic year.

3. **A second option** for the masters degree (more suitable for part-time students) comprises six post-graduate courses and a **Major Research Exercise** (i.e. a mini-thesis).

4. **Exceptional students** with a GPA above 3.5 in their undergraduate programme, or who attain a GPA of 3.5 or above in their first two post-graduate courses, may be allowed to proceed to the thesis research directly.

5. **The post-graduate diploma** is awarded to those students who successfully complete the four post-graduate courses required in their masters programme.

6. **Undergraduate courses** at the USP may not be taken for post-graduate credit (although this is allowed at a number of universities, for agreed additional work on the part of the

student).

7. **One credit** is awarded for each post-graduate course; the thesis is not awarded credits, but is considered a 700-level course which must be passed. The masters thesis normally has one internal and one external examiner; there is no oral.
8. **USP Post-graduate courses are currently not offered through distance mode.**
9. **IOI-Pacific Island Courses** could be modified for the IOIVU as post-graduate credit courses. These courses could be offered in **summer school** of up to six weeks duration (on campus) according to demand.

Proposed Adaptations of the USP System Regarding Participation in the IOI Virtual University

1. **The proposed credit system** (1.5 credits per post-graduate course) would be acceptable for those students registered under the IOIVU.
2. **Undergraduate courses at the third year level** could be modified for credit under the IOIVU; only those courses currently available by extension delivery would be considered during the start-up period.
3. **Post-graduate courses currently offered in Marine Affairs** could be modified for delivery by extension through the IOIVU.
4. **The IOIVU masters degree programme** might be better suited to the six course + MRE option (see 5, above) by including two additional courses and reducing the requirements for the thesis research component.

Proposal

Based on the USP model it can be suggested that the IOIVU masters degree have two options during the start-up phase.

All students would be required to complete two mandatory and approved core courses (depending on the area of their degree either in Marine Science or Marine Affairs). These core courses could be completed through any of the approved IOIVU participating universities.

- Option 1: Award of a Post-graduate Diploma on completion of four post-graduate courses.
- Option 2: Masters degree comprising four post-graduate courses plus a full research

thesis.

- Option 3: Masters degree comprising six post-graduate courses plus a Major Research Exercise.

It is also **recommended** that specialised post-graduate courses and the research component would require a residential period of not less than one semester (14-16 weeks).

Credit system

As mentioned above, the USP does not offer credits for the thesis - it is either pass or fail. USP could modify its credit system for those students participating in the IOIVU programme.

For IOIVU it is **recommended** that the following credits could be awarded.

- Pass in post-graduate course (or for approved additional work in a 300-level undergraduate course) 1.5 credits
- Pass in thesis (by research) 6.0 credits
- Pass in Major Research Exercise 3.0 credits

This would result in a total of 12 credits for completion of the masters. This would be different from the current USP degree, so would be a specific case for the IOIVU.

(iii)The current situation at the World Maritime University

The following are all extracts from the WMU Academic handbook 2000.

Entrance requirements: standard 17-month degree programme of WMU

The University admits only mature students who are already established in a career in the maritime field. The Admissions Board will consider only those applicants who meet the **minimum general entrance requirements**, which are:

- a Bachelor's degree in a relevant discipline, or an equivalent university-level qualification

or

- the highest grade certificate of competency for unrestricted service as master mariner or chief engineer, or equivalent maritime qualifications (required to follow

the Maritime Safety & Environmental Protection specialisation)

and

- directly relevant professional experience
- competence in English language, demonstrated by an internationally recognised standard test

Computer skills are also desirable.

The Credit System

The standard WMU programme is 17 months long, divided into four semesters, and structured on the **credit system**. A credit is basically one week's work; this is usually 15 lecture hours, plus the associated preparation, reading, assignments and examination preparation. Most credits contribute towards the overall grade obtained in the course; others are non-degree credits, which are compulsory although they do not contribute to the overall grade average.

Each programme integrates course-work and **field studies**, designed to provide insight into the application of theoretical studies. Students visit a variety of companies, ports, administrations and institutions in Europe, North America or Japan to study the most advanced technologies and practices in the maritime field. Field studies, and the associated self study, make up part of certain modules. There are also Study Skills credits, which are followed by all students in the first and second semester. These include modules in computer skills, academic writing and library and research techniques.

- In the **first semester**, all students complete the same **Foundation Studies**; these subjects are common to all courses, and provide an introduction to the legal, regulatory, economic and environmental aspects of sea use
- In the **second semester**, students follow one of the three **Pre-Specialisations**: Maritime Administration, Maritime Management, or Maritime Education and Training
- In the **third semester**, students follow one of the five **Specialisations**: Maritime Safety and Environmental Protection; Maritime Administration; Maritime Education and Training; Port Management; or Shipping Management
- In the **fourth semester**, students have a choice of a range of **Electives**, which allow them to deepen their specialisation further, and add knowledge of one or more of the other areas.

The typical 17-month programme structure thus becomes:

Semester 1:	Foundation studies	8 credits
	Introductory modules	1 or 2 credits
	Study skills	3 credits
Semester 2:	Pre-specialisations	12 credits
	Study skills	1 credit
Semester 3:	Specialisations	12 credits
Semester 4:	Electives	12 credits
	Seminars	2 credits

The total is 44 degree credits and 7 or 8 non-degree credits.

There is a wide range of different Electives, which are arranged into subject areas. Students who are not writing a Dissertation are required to take 12 credits of Electives, plus two non-degree credit seminars and workshops. A maximum of six credits may be taken in a single subject area; the other six credits can be selected from one or more of the other subject areas without restriction.

Students who are offered the option of writing a Dissertation (eight credits) must also take the seminars and workshops, and then select a further four credits of Electives which may be taken from one or more subject areas.

Students are permitted to take additional Electives above the required number, if the timetable permits; these are then shown on their transcripts as additional credits. Students must pre-register for their preferred Electives in the second semester. If demand for a certain Elective falls below a predetermined level, the Elective will not run. Equally, Electives other than those listed in this Handbook may be offered in 2001.

The total student time at WMU is 64 weeks. The semesters are slightly varying in length due to introductory studies: 1st semester, 11 weeks; 2nd semester, 17 weeks; 3rd and 4th semesters, 18 weeks each.

(iv) Proposal for IOI-VU

It is agreed that a masters degree programme should comprise a number of post-graduate courses and the preparation, submission and acceptance of a thesis on the basis of a research project. This should take in all 2 years of devoted study.

In order to introduce a certain amount of flexibility it is proposed that 5 or 6 post-graduate courses of a nominal study time of one semester about 15 weeks duration be required. Each of these

courses should have a credit of 1.5 credits. It is suggested that 2 of these courses be mandatory core courses which all the students will have to take. The other courses can be selected from the available courses. The selection will depend upon which main specialisation or employment area the student is choosing (such as ocean governance; coastal area management; research and marine affairs). Full-time students would take 2 courses per semester, whereas part-time students may take only one per semester. We are assuming 2 semesters per year. This follows the USP and WMU models.

In addition there should be several optional shorter courses catering for specifics. The selection of these will depend upon the educational background and working experience of the student, as well as the main focus or specialisation the student has chosen to result from the study. These shorter courses can also be taken as professional development courses.

The length of these courses will vary. It is proposed that a week of study be the minimal length; this will match the WMU modular model. It is suggested that each such course be given 0.1 credits. This matches the credit of 1.5 given to a one-semester core-type course. It is proposed that there will be available as options 15-20 such study weeks. From those the student would choose a relevant number of courses. It is proposed that nominally this number should be 15 weeks of study (full time).

The research project leading to a thesis preparation would be carried out through an internship period at one of the IOI Operational Centres or its Host institution, depending upon the specifics of agreements, choices etc. Nominally this should be a period of 4-5 months, depending upon conditions. However, if the situation of employment or other aspects of the student so require the period could be adjusted to 2 months, it being understood that the remaining work would be carried out at the home base of the student, with the required time being made available as required.

Alternatively, if the student prefers so, the IOI-VU could offer a research project to be carried out at the home base of the student, leading to a mini-thesis. This option would however then require that the student takes 6 graduate courses, rather than 5.

Another option which can be offered is that the research project is dropped and the student obtains a post-graduate diploma after having taken the required 6 graduate courses and the optional shorter courses. The credit system and the study schedule would then look as follows for full-time study:

1st semester: (15 to 16 weeks)	2 post graduate courses	3 credits
2nd semester:	2 post graduate courses	3 credits
3rd semester:	1 post graduate course	1.5 credits
	Shorter courses	1.5 credits

or

4th semester:	internship for research, and thesis	3 credits
4th semester:	1 post graduate course	1.5 credits
	research exercise and mini thesis	1.5 credits

The total number of credits for a study time of about 64 weeks would be 12 credits, matching the model proposed on the basis of the USP. The study time corresponds to the WMU study time.

It will of course also be possible to do this study on a part-time basis. However, there should be at least one post-graduate course done per semester (of 15 or 16 weeks), and the periods of examination etc., would have to be followed.

Examinations should normally occur at the end of each semester. If feasible a second examination possibility could perhaps be provided at the beginning of the following semester. Each of the shorter optional courses would have their examination or test directly after the course.

The format or form of examination will have to be specified, but should in any case ensure credibility and that agreed, main-stream standards are not.

6. Roster of members of the IOI Virtual University Faculty

The faculty of the Virtual University would consist of all the teachers who actually prepare and give the courses, and who are tied to the courses. They would keep the titles they have at their home institutions. There would not be any visiting professors. You are a member of the faculty when you give a course of the Virtual University curriculum, or when you have prepared a course. Supervisors of the thesis works are also faculty members. It is not a requirement for them to give courses.

It is envisaged that IOI Operational Centre Directors would be willing to serve as supervisors and advisors as well as give courses, as the case may be. In addition there could be selected personalities on the faculty who are associated with marine affairs and ocean governance over a broad perspective. Students or candidates would thus have a list of such persons from which they could choose a supervisor and thesis advisor, and from whom they could seek advice in general. Initially at least it is expected that this service for the Virtual University would be on a voluntary basis. However, a teacher giving courses or a supervisor for thesis work and review would have to receive some form of financial remuneration.

Since an association will be sought with universities and research institutions outside of the IOI network, these institutions may also be invited to suggest or provide Faculty members who could serve as advisors or supervisors, as well as give courses. Such suggestions would of course also be expected from co-sponsoring institutions.

In light of all these considerations the Working Group decided not to prepare a list of faculty members, or a roster from where to choose. This is considered premature, and should be part of the further development work.

7. Coordination and Preparation of courses for distance-learning arrangements

There are several basic points and related decisions which must be considered before and in the context of the initiation of preparation of courses. It is necessary to ensure that the whole system can function, with delivery, registration, information and outreach, and specifications of content to be converted to online courses. The Working Group has noted these points, on the basis of the first experiences made in IOI Southern Africa and through the University of Western Cape. The following elaboration is based on that experience.

IT systems

It is crucial that IOI VU adopts a suitable IT system from the beginning. This is not simply a matter of finding out whether host institution software is compatible with our needs. The IOIVU needs to run its courses using a system that is compatible with the technical implication of its objectives, which may not be consistent with the host institution's objectives. IOIVU also needs to maintain long-term control of its most important core functionality. The IT systems must provide for courseware delivery, administration, outreach and marketing.

Courseware delivery system

Based on our experience in IOI-SA, and several years of research into best practice in the delivery of online courses, the course delivery system should:

- be central and target core courses, at least initially;
- facilitate distributed centers providing content according to a template system, and the loading of courses to the server;
- provide for student tracking;
- enable online assignments and simple tests;
- integrate with the administration system to control access to virtual classrooms;
- incorporate online discussion systems and integrate access with the administrative system;
- include a noticeboard facility;
- enable content management (e.g. uploads done through a document management

- system);
- enable multimedia content provision;
- be resource-based and learner centered;
- notifies learner, learning manager and rector of weak progress and suggests interventions;
- provides access to a virtual library;
- makes provision for content delivery via CD-ROM whenever possible.

Registration and administration system

- processes online application forms;
- enables the registrar to register learners for courses;
- automates notification of host institutions of registrations;
- enables the entering and tracking of marks and credits;
- enables students to check their own marks;
- advances and graduates students, and moves students into an alumnae database on graduation;
- facilitates preparation of reports, including release of grades;
- incorporates an administrative document management system;
- links to content for learner log-ins and tracking, as well as for lecturer and administrative log-ins and access to content;
- enforces pre-requisites but allows manual over-ride;
- provides the output for financial management;
- is e-commerce enabled;
- allows pre-registration through the marketing system;
- is as simple as possible to allow functionality.

Marketing and outreach system

- provides detailed information about the VU, courses, target audience, etc.;
- provides syllabus (prospectus) of VU courses;
- enables requests for further information;
- enables application and pre-registration through a link to the administrative system;
- provides interactive content to attract users to the site.

Choices need to be made among competing technologies. IOI-SA will provide a table of choices and try to determine relevant costs, and provide this for the further development. A conceptual diagram for a suitable system will also be provided.

Specifications for content to be converted to online courses

The following specifications would need to be met in order for course content to qualify for

conversion to an online course by IOI-SA. Content should:

- be suitable for 12 hours per week, including assignments, online discussion and other activities;
- include the full text of the course reader and bibliography in electronic format;
- include at least rough diagrams, as well as descriptions of interactivity required for diagrams and illustrations;
- include, where diagrams have to be developed, a full description and hand drawn facsimile;
- include a list of expected outcomes;
- include a description, preferably in point form, of the expected background required by participants;
- contain study questions targeted at the content and learning outcomes;
- should include a simple, 10-question, weekly self-assessment test in multiple choice, short-answer, true/false or drag-drop form;
- present a list and description of assignments, and mechanisms for their submission;
- describe online discussion topics, their duration, and give names and email addresses of discussion leaders;
- present all names and contact details (especially email) for people delivering the course;
- provide the name and email address of the course manager, who will be responsible for administration of the database system for progress tracking;
- present all virtual library materials, provided that there are no copyright issues;
- suggest websites for the links page, and give the name and email address of the person who will be responsible for maintaining the links page via database updates.

Identification of core courses

The online core courses should cover topics about which anyone involved in ocean management should have knowledge. Topics that have been identified include:

- Integrated coastal area management, e.g. core course no.2;
- Coastal and oceanic ecosystems and processes;
- Introduction to living marine resources;
- Introduction to non-living marine resources;
- Ocean governance and law of the sea, e.g. core course no.1;
- Integrated pollution management, e.g. core course no.5;
- Public-Private partnerships in ocean management;
- Spatial information management and decision support; e.g. core course no.6;
- Environmental and resource economics, e.g. core course no.4;
- Coastal Community development, e.g. core course no.3.

It is not possible to deal with all of these topics initially, so we propose a phased approach, based on

existing and on-going initiatives, and the phased development of new courses. This will take place over a three year period.

IOI-Canada, Core course No. 1

The UNCLOS and UNCED framework of Ocean Governance

The Training Programme is specifically designed to benefit developing country mid-career professionals who are responsible for the various aspects of marine management of their Exclusive Economic Zones and covers:

- Oceanography; law of the sea; sustainable development; implementation of the UNCED agreement, stressing Chapter 17 of Agenda 21; management of living and non-living resources; coastal zone management; development of ports and harbours; shipping and navigation; disaster preparedness; project management; national legislation and infrastructure; simulation exercise and contract negotiation. The course is presently delivered as classroom course in 8 modules.

Transformation into distance learning mode will require considerable work, and cost is estimated at USD 30,000.

IOI-Southern Africa

Existing initiatives that can be incorporated focus on core course no.2: Integrated Coastal Area Management

SA-ISISlearn

SA-ISISlearn is a web based Learning Resource developed by the International Ocean Institute Regional Operational Centre at the University of the Western cape (IOI-SA). SA-ISISlearn provides web-based learning materials and courseware in support of the aims of the South African Integrated Spatial Information System Program (SA-ISIS). SA-ISIS is funded by the South African Innovation Fund of the Department of Arts, Culture, Science and Technology (DACST), and expected to be sustainable in a cost-recovery basis.

The first module of SA-ISISlearn is "An Introduction to Integrated Coastal Area Management." The target audience for the formal course includes decision-makers at local, provincial or national level who may wish to acquire or refresh a basic understanding of ICAM principles, as well as undergraduate or postgraduate students of environmental management, coastal engineering, or environmental law, or any transdisciplinary program or study, or anyone with an interest in Integrated Coastal Management. While the focus is South African, the course is available globally via the medium of the Internet, with support through CD-ROM available upon request.

The topics covered in this course include: The nature of the coast; what is integrated coastal area management (ICAM); policy planning, implementation and evaluation; stakeholders in the coastal area; international organisations; international principles and conventions; approaches to ICAM; management tools; land-use planning; issue based sectoral and cross-sectoral analysis.

SA-ISISlearn is more than a theoretical course; if one takes part in a SA-ISISlearn course, one can expect to become involved in a community of learning that includes the sharing of local and regional experiences among participants, as well as hands-on activities in one's own local environment.

Additional modules are in the planning stages and will be developed during future years. The next module will cover The Physical Environment and Ecosystems of Coastal Areas. This course will cover: Physical process of ocean currents, longshore drift, upwelling, sand formation and movement, storms; coastal systems, including sandy shores, dunes, rocky shores, kelp beds, mangroves, coral reefs, seagrass beds, estuaries, coastal wetlands; principles of sensitive development in coastal areas; coastal conservation.

Although the first online module is fully developed and available for delivery, it was developed under the auspices of the SA-ISIS project. Therefore, there are obligations on IOI-SA to ensure cost-recovery for sustainability by charging a tuition fee that is larger than the cost of offering the course. the cost of offering the course to IOI VU students is therefore included in the budget to enable the course to be offered at a cost that is in line with other IOI online courses. These semester courses can be adapted somewhat for the IOI Virtual University at a cost of US\$ 22,000 each, including delivery and technical support.

Train-Seacoast/Benguela Current: Core Course No.5

The Train-Seacoast method of course development is offered by the United Nations Division for Ocean Affairs and the Law of the Sea. This method includes a preliminary analysis, job analysis, population analysis, curriculum design, module design, production and developmental testing, and validation and revision. The use of subject matter experts for module design allows for the development of a course by someone who is not a subject matter expert. IOI-SA, together with the Centre for Marine Studies at the University of Cape Town, makes up the Course Development Unit for the Benguela Current Large Marine Ecosystem project. Bernadette Brown (IOI-SA) and Howard Waldron (Centre for Marine Studies) attended a T-S-C course development workshop in New York in August 1998. They are the course developers for the Course Development Unit, and are developing the first of two courses to be completed as part of the agreement with the UN Division of Ocean Affairs and the Law of the Sea. This course, Marine Pollution Control, is now scheduled to be ready for validation in November 2000. Ten subject matter experts were appointed to develop content for the course by July 2000.

This course has to operate on a cost-recovery basis to ensure its sustainability. It is equal to 60% of

a semester course. To make it a full course in the IOI Virtual University system, it should be modified in consideration of trends in Integrated Management. Hence, it would be wrapped in an envelope of Integrated Pollution Management as core course no.5. It could be converted for delivery online, including the addition of the extra content and activities necessary to make a full course at a cost of US\$ 40,000.

Other courses

IOI-SA would be very interested in collaborating with the Landscape Ecology laboratory at UWC, with which it has already collaborated in the establishment of a GIS laboratory and a web-based GIS service to develop a course on Spatial Information Management and Decision Support, e.g. as core course no. 6. The management and use of spatial information to support decision-making is very important in the sustainable management of coastal and ocean areas. IOI-SA could also collaborate with the Zoology and Statistics department to deliver a course on Quantative Resource Management. These courses would have to be developed from scratch, and would cost US\$ 50,000 each to produce, and another \$ 8,000 for delivery.

Other services of IOI-SA

Where there is satisfactory existing content, including a course reader, for which there are no copyright issues, IOI-SA would be willing to work with other centers or content developers to provide online courses for approximately US\$ 20,000 per course, with the actual cost being \$ 15-30 thousand depending on the state of the input materials, the amount of graphic design needed, and the programming requirements needed to enable interactivity. The specifications for this must be provided separately.

The experience of IOI-SA in online course design and delivery

The IOI-SA team has considerable experience in the development and delivery of online courses, as well as supporting the underlying technologies. IOI-SA maintains a bank of approximately 12 servers, as well as supporting the network infrastructure, and supporting the software that delivers functionality. The IOI-SA component of the network is connected to the UWC campus backbone, and to the Internet via a commercial service provider. Outgoing bandwidth is choked to guarantee suitable bandwidth for online courses and access to campus and IOI-SA websites.

IOI-SA contractual staff and the director have developed and delivered two full online courses to students for two years within the UWC campus. These courses were developed as part of a research project to determine how to bring together best pedagogical practice and best application of technology. Several research papers have been published from this project, and used to develop the first online course of the SA-ISISlearn project. The Director has also published other educational research papers, and is aware of modern educational trends and pedagogical processes.

In addition, IOI-SA offers a semi-commercial website development service, including data-driven

web applications. Several websites have been developed, including the main UWC website, that of the national coastal management office, and the Cape Information Technology Initiative. The didactical and technical skills represented in IOI-SA are thus substantial, and we are able to deliver a cutting edge online learning project.

Other considerations

It is also important to bear in mind the technology that underlies the online delivery of courses. This technology will have to be decided upon, and it would be a mistake to rely only on the good graces of a host institution. The adoption of IOIVU's own technology can be phased in over time, but it needs to be properly costed, as should the management and maintenance costs for this technology. It would not be reasonable to expect any center to absorb these costs fully. At least US\$ 10-20 thousand should be allocated to the costs of developing and maintaining the basic technology, as well as a similar amount for the technology staff.

IOI-India: Core Course No. 3 - Proposal for Development of IOI Virtual University Distance Learning Course on Coastal Community Development

Course objectives:

At the end of the course the student should be able to:

1. Understand the problems faced by the poorer coastal communities of the world in the context of the degradation of the coastal zone;
2. Describe a range of possible solutions to mitigate the problems of coastal communities;
3. Understand the need for the participation of communities in the conservation of coastal ecology and the mechanics of co-management of natural resources;
4. Appreciate the roles of the government, NGOs, the private sector and other agencies in solving the problems of coastal communities;
5. Describe a range of eco-technologies that can be used to conserve coastal ecology while concurrently improving the community livelihood;
6. Understand and validate in economical terms the value of the coast for local and national interests.

Target audience:

While the course may be credited by any student registered with the IOI VU, it will be of special interest to the student who:

- works with a coastal NGO or plans to set up a coastal NGO;
- is a government official working in a department or agency concerned with community development in the coastal zone;

- works for an agency providing development aid for coastal zone projects.

Prerequisite:

There will be no prerequisite specified for taking the course.

Language:

The Course will be developed in English, but could be translated later into French or Spanish.

Duration of the course:

- Equivalent to a university 15-week semester course, that is, about 180 hours of self study by the student;
- Will include one real case study to be done by the student in his or her region or country through a field visit.

Suggested Modules:

1. The coastal zone and its degradation;
2. Coastal communities and their problems; women's issues;
3. Approaches to mitigate problems of coastal communities;
4. Concept of eco-villages; eco-technologies for the coastal zone;
5. Co-management of coastal natural resources and integration of livelihood improvement and coastal conservation;
6. Social and economic interventions in the coastal zone (self-help groups, microcredit, community risks and rural insurance, children's programmes, etc); valuation of coastal zone;
7. Role of government and NGOs in coastal community development;
8. Methodology for doing a real life case study.

Primary basis of course development:

- Experience of IOI India in the Eco-villages Project;
- Material being developed for a Training of Trainers Course for coastal NGOs under a Project supported by the Japan Fund for Global Environment.

Course development process:

- Activities:
 - Form an Advisory Group;
 - Hire temporary staff;
 - Study similar/related courses elsewhere;

- Acquire books, reports and other material;
 - Prepare draft curriculum and list of modules;
 - Arrange meetings and workshop to review material;
 - Prepare final version of course material including CD-ROMs, web pages, etc.;
 - Prepare plan for administration of course and supervision of case study;
 - Validate modules through volunteer students.
- Time required for course development: 6 to 9 months, max 12 months.
 - Budget items, to an overall budget of 30-50 thousand USD.
 - Staff remuneration;
 - Books and material;
 - Meetings and workshop;
 - Communication, Internet;
 - Office costs.

IOI-Pacific Islands: Core Course No. 4.

IOI-PI would participate through a development of the course:

Environmental and Resource Economics

This course was developed by the IOI-PI training programme under the original GEF project, and was reviewed by UNDP at the end of the project, with a highly favourable report. It is now a third-year undergraduate course delivered by the department of Economics, and has been offered 3 times as an intensive 5-week course by IOI-PI. For the IOI course there is a series of 5 modules in hard copy, with an accompanying computer model which is the basis of most of the exercises.

The following would be required for the IOI Virtual University, to develop the course:

1. Revision to include more marine examples;
2. Development for distance delivery.

Time Frame: 1 year for development.

Budget:	Professional Services	US\$ 30,000
	Production costs	US\$ 15,000
	Total	US\$ 45,000

IOI-Costa Rica: Core Course/Optional Course - Integrated Coastal Management Course for the

Wider Caribbean

Contents (1 Trimester)

1. Cultural Background in the Wider Caribbean;
2. UNCLOS, UNCED, Regional Treaties;
3. Biological, Chemical, Physical and Geological Aspects Impacting the Coastal Zone;
4. Coastal Mitigation;
5. Maritime Delimitation;
6. Risk Assessment and the Role of National Emergency Commission;
7. Formulation and Implementation of Notional Integrated Coastal Plans.

Budget

US\$ 50,000.

IOI-China: Core Course/Optional Course - Specifications of the Content of Distance-Learning Course on Sea-Bed Resources and UNCLOS

1. Oceanography with Specific Reference to Sea-Bed Geology & Environmental Issues;
2. Introduction to UNCLOS with Specific Reference to Deep Sea-Bed Resources;
3. Deep Sea-Bed Resources and Economic Evaluation: Mineral resources (manganese nodule, polymetallic nodules, manganese crust, hydrothermal sulfide), biological genes, natural gas hydrate, submarine space resources, etc.;
4. Exploration, Development and Application Technologies of Deep Sea-Bed Resources;
5. "Area" Regime and the International Sea-Bed Authority.

Requirements (initial)

USD

- | | |
|--|--------|
| - Course preparations, including translations in English/Chinese | 8,000 |
| - CD-Tower | 40,000 |

The preparation of courses has been initiated. However, there is a need for ensuring that compatible and organised procedures are followed so as to avoid chaos. The registration of all developments is essential, and a system for this must be put in place. However, before this can be achieved and a well organised step-wise and coordinated development put in place there is a need for securing the necessary funding. This is discussed on the basis of the proposals outlined here in the following section of the report.

8. Indicative budget for the initiation phase

Rather than attempt to provide a budget for 5 years the WG has prepared an indicative budget for the first 3 years, of which the first year is purely preparatory work. The time of starting the counting of the first year will have to depend upon availability of funds. It must be stated that without sufficient dedicated money for the preparatory work there will be no organised development. The preparatory work may have to be done in phases, depending upon availability of funds. However, it must be done in accordance with an adopted plan, along the lines indicated in the sections here, primarily sections 4,5,7,8 and 9.

There will be developed a dedicated Virtual University Trust Fund. It could perhaps be established as part of the existing Ocean Science and Research Foundation, administrated in Zurich. The Trust Fund must cover costs related to transformation of existing classroom-oriented courses into distance learning modules; costs required for course delivery, pay of teachers and fees; costs related to work and functions of committees to ensure credibility and transparency, reviewing, evaluation and examinations. Initially only very limited funds could be available to support students, but this will have to be gradually enlarged.

The range of activities and the need for new developments will decide the requirements. However, it would seem that some of the first tasks are related to preparation of distance learning modules, further analysis of fees, internship costs, other costs related to the development of the structure. Financial resources, preparation and approval of the Budget are stipulated in the Charter.

In the following some of these points are elaborated. The estimates provided are based on information from the Centres and costs indicated in the WMU Handbook.

Cost components and estimates

- (i) Course preparations, development costs given in K USD.

- IOI Canada core course No. 1:	30
- IOI Southern Africa core course No. 2:	25
- IOI Southern Africa core course No. 5:	40
- IOI Southern Africa core course No. 6:	50
- IOI India core course No. 3:	45
- IOI Pacific Islands core course No. 4:	45
- IOI Costa Rica optional courses:	50
- IOI China optional courses:	50

It is envisaged that this course development will be pursued over a period of 1-2 years, starting with core courses 1-4; and initiating work on the optional courses. The strategy must ensure that as many as possible of the IOI Operational Centres are involved or become involved in a rather early stage. This is or should be one of the basic principles for IOI VU.

(ii) Course deliveries

- Online delivery costs using IOI Southern Africa as the nodal point for IOI VU	20
- Delivery cost per course, including pay of teachers	15
- Obtaining the technology required for delivery, per case:	10-20
- Maintenance of technology over a certain period, including staff costs	20-40

(iii) Student costs

- Graduate student internship and thesis work, a (4 months period, including fees, travel, living costs, insurance, but not research equipment or laboratory facilities (some of these are supposed to be in the fees of about 2000), in all	8
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(iv)	Administration and management	
-	Administration costs for the IOI VU: Registration online, communication, tracking, outreaching, websiting and management up- dating of information (per year)	30-40
-	Staffing costs (per year):	
	Rector	48
	Registrar	36
	Administrative assistant	24
	Remunerations for experts/teachers	40
-	Meetings, consultations: IOI VU Board of Governors (interim), in association with PIM and IOI Board meeting, additional costs of travel, preparations, accommodations	15
-	Meeting of Executive Committee of IOI VU, in association with the mid-term meeting of IOI Executive Committee and Operational Centre Directors, additional costs	15
(v)	Overview	
1.	Course preparations	325
2.	Technology/equipment	100
	Sub total	425
3.	Running per year	
-	Delivery of 6-8 courses	100
-	Administration	30
-	Staffing, including experts, teachers, supervisors, technical staff	180
-	Meetings	30

- Internships 10/year	80
- Unforeseen	50
Sub total	470

The initial funding for course preparations would be required over 2 years, giving about 200 K USD per year. The running costs would not be required fully until after one first year of operation.

Hence a phased budget requirement would look something like:

- 1st year	2-300 K USD
- 2nd year	300 K USD
- 3rd year	3-400 K USD
- Normal early operational year about	500 K USD

Where would these funds come from?

From IOI internal sources we would expect initially for the first year about 50 K, essentially through the OSRF programme implementation support. This might even rise to 100 K in the second year. The rest must come from other foundations, e.g. Nippon Foundation (Japan), the Lighthouse Foundation (Germany), others, including possible private donations. In all, it should be quite feasible to secure such a funding base. Later student fees may also enter.

9. The Administration structure

The proposed name is: The International Ocean Institute Virtual University.

The proposed definition is:

"A network of education, training and research centres of expertise in ocean, coastal and marine-related affairs and governance, joined together in a partnership so as to provide for an interdisciplinary and comprehensive coverage of the subject areas."

The mission of the IOI Virtual University as based on the mission of IOI is to:

"Enhance the abilities of developing countries to develop and govern their own marine and coastal resources and environments sustainably, for the benefit of their peoples, in harmony with related international conventions and agreements."

This makes it clear that the target audience is primarily developing countries.

The IOI-VU is a part of the IOI. It is, at least initially, incorporated through belonging to the IOI. In accordance with the Statutes of the IOI as an educational institution the IOI-VU is incorporated as an educational institution. It may be appropriate at a later stage to seek accreditation from University Associations, such as the International Association of Universities. However, it is our belief that this should wait until operations have tested the organisation and functionality.

The purpose of the IOI-VU is:

- to contribute to the sharing of knowledge as a Common Heritage of Mankind, with special consideration for the needs of developing countries;
- to contribute to the enhancement of interdisciplinary learning;
- to contribute to the merging of the information revolution and the emerging century of the ocean;
- to develop innovative approaches towards solving some of the major problems besetting higher education at the end of the 20th century;
- to facilitate and provide a mechanism for students and professionals in developing countries to obtain post-graduate level education as well as advanced training, upgrading and supplementing of previous education and work-experience.

This is to be achieved through the consolidation, optimization, and full utilization of the unique structure and accumulated global experience in education, capacity building and training of the IOI, in partnership with the Host-institutions of the Operational Centres and other interested partners. Negotiations with the Host-institutions on the partnership and their association with the IOI-VU are thus very important. It is necessary to arrive at mutually satisfactory agreements. The structure and composition of the various bodies of the IOI-VU must take this into account.

The main elements of the structure are:

- the Board of Governors;
- the Chancellor;
- the Academic Council;
- the Rector;
- the Faculty;
- the Registrar.

The University is governed by a Charter, and the Statutes of the IOI. The functions of the Board of Governors, the Chancellor, the Academic Council, the Rector, and the Registrar are indicated in the Charter, providing the basic Terms of References for these functions. Some further specifications particularly are given in Annexes 5 and 6, respectively.

The registration of students must be specified, and include: qualifications; background; aims of study; financial situation with respect to the study e.g. employment, sponsorship, fellowship; if employed, certificate of acceptance of the study effort by employer will be needed. Possibly there

is need for a health certificate of some sort, and insurance for the internship period at least. There also needs to be developed entrance qualifications. These should be based on the same as Host-institutions and models (e.g. USP, WMU).

There needs to be developed registration and application forms, for on-line and hard copy use. Such forms should be completed by all students seeking admission, and organised systematically by the Registrar.

WMU requires hard copy registration as an application form with a nomination form, completed by the employer or relevant government agency, and a medical form. This process with three different forms completed by different people was considered too complex to be carried out effectively on-line. Additionally each applicant has to supply notarized copies of their educational certificates and transcripts. The WMU did not consider it feasible to require this to be done on-line. The WMU has its application form available to print locally through its web-site. It can also be e-mailed to applicants, completed forms can be returned by e-mail or fax, with the attachments. Applicants for the WMU Professional Development Courses where it is a question of registering the intent to attend can complete the forms and submit them on-line.

The USP requires registration on hard copy forms. As an example the application forms for International Students are provided in Annex 5.

We will also need to receive certified transcripts and certificates supporting the qualifications which are required for acceptance. It is suggested that such forms, transcripts and certificates should be provided in hard copy signed originals to the Registrar office of the IOI-VU, even if the registration is done on-line.

We will have to decide on the need for an Admission Board. It is suggested that such a function be fulfilled by a committee consisting of the Rector, the Registrar, the potential advisor/mentor/supervisor of the student, and some of the participating IOI Operational Centre Directors. However, this will have to be formalised, and Terms of Reference prepared.

In accepting a student the IOI-VU must also ensure that the financial obligations on its part and the part of the student are met. For IOI-VU this will include e.g. costs of fees for courses, course deliveries, fellowship for intern period.

Several international organisations dealing with education and research, as well as foundations have been, or will be, invited to sponsor the Virtual University. Acceptance for sponsorship has been received from UNU in Japan, WMU, the United Nations University for Peace, UNESCO through IOC, and the Nippon Foundation. It will have to be worked out what such a sponsorship or partnership implies.

Furthermore, the Institut du Droit de la Paix et du Developpement of the Universite de Nice-Sophia

Antipolis, has expressed an interest in cooperation with respect to the development for the Francophone world.

In order to ensure transparency, openness, external evaluation, reliable and compatible credits, quality and quality assurance, qualification requirements for students, teachers and learning material, the actual organisation of the Virtual University must address these needs.

The Governors should be selected for a limited period of 3 years and appointed by the participating Host institutions of the IOI Operational Centres, by co-sponsors and by the IOI Board. The President of IOI could also be the Chancellor of the Virtual University, who must chair the Board of Governors. the Board of Governors may have the right to co-opt some special persons or experts, to meet specific needs. The number of Governors should be limited to ten. The Rector is an ex-officio member.

The Board of Governors must be concerned with all matters regarding the Virtual University. It would have to work through various mechanisms, including some specific Committees.

In addition there should be an "Academic Council" which should consider the programme of training, the courses, the research for the thesis work, the renewal of courses etc. This should be chaired by the Rector. It should be composed of faculty members at senior level, teaching within the Virtual University. The Academic Council would report to the Board of Governors, but would not be dictated by that body. The joint interests should be addressed in an Executive Committee, including a representative of the Chancellor, the Rector, some other officers, and one representative each from the Board of Governors, and Academic Council and the student body.

One officer of the Virtual University will be a person dedicated as Registrar, who will have to keep track of applications, admissions, graduates, teachers, examinations, submissions of thesis and reports etc.

The Board of Governors would appoint the required Committees.

At the initiation stage of the Virtual University, administration, co-ordination, financial matters, admissions etc. could be handled by the officers and members of the Executive Committee specified above. This would report to the Board of Governors and the Academic Council.

The faculty of the Virtual University would consist of all the teachers who actually give the courses, and who are tied to the courses. They would keep the titles that have at their home institutions. There would not be any visiting professors. You are a member of the faculty when you develop and give a course of the Virtual University curriculum. Supervisors for the thesis work are faculty members.

An association is being sought also with some leading universities and research institutions outside of the IOI network. These institutions will be invited to suggest or nominate members for some

Committees which are subsidiary parts of the structure in order to ensure credibility such as:

- Credits Committee;
- Evaluation and review committee;
- External examiners committee.

These Committees may be formally appointed by the Board of Governors. In addition there may have to be a Finance Committee.

It is not suggested that these mechanisms shall meet as bodies. Rather, the internet communication mode should be used to the utmost. A practical way of bringing the required persons to meet face to face could be by using the occasion of the annual Pacem in Maribus Conferences and the associated IOI governing body meetings. It is proposed that in order to start the action the initial management should rely to the extent possible on the existing IOI machinery. We may not initially be able to pay costs of meetings, officers, examiners etc. The first stages will be achieved using provisional approaches. The initial curriculum for an international masters degree could be established through a provisional Academic Council consisting of the Acting Rector and the Directors of participating IOI Operational Centres. Once composed in the form of some (3-5) core courses and some optional courses, the curriculum will be examined by outside associated institutions so as to help ensure compatibility, quantity, quality and credibility.

The composition of the curriculum would be based on models for integrated coastal area management identifying the required skills; such are available; on the content of extensive courses on matters related to ocean and coastal governance within the framework of UNCLOS and UNCED 1992 with their respective follow-up processes; on experiences from coastal community work in the form of eco-villages and sustainable livelihoods activities in different developing countries; on results from policy-oriented research on ocean governance; on activities in small island developing states. All these aspects are being addressed, results and experiences exist within the IOI network.

In order to facilitate the initiation, the IOI Governing Board could be constituted as a transitional or initial Board of Governors for the Virtual University. This could be handled in a practical way. The representatives of possible co-sponsors could be invited to attend that part of the Board session when the Board constitutes itself as the Virtual University interim Board of Governors.

Such a transition function would also solve the problem of legal status in the first phase, since the IOI has such a legal status. It may be left at that, or can be adjusted depending upon how things develop.

In order to obtain a focal point for the initiation of the IOI-VU, it is however proposed that an interim or Acting Rector be appointed by the IOI Governing Board. The Terms of Reference for this post are suggested in Annex 6. It appears premature to appoint a Registrar, but ensure that the function of the Registrar can be fulfilled until such time that an appointment of a dedicated person is really required. This initial function should be associated with the office of the interim or Acting

Rector. Draft Terms of Reference are provided in Annex 7.

There is of course a need to ensure coordination between the various IOI functions: the Headquarters with the Executive Director; the Operational Centres and the Host institutions; the co-sponsors and partners; the Rector and Registrar functions. It is suggested that initially these tasks be coupled to the interim or Acting Rector. However, there has to be an acceptance of this as part of the others involved.

There are several tasks which need to be further elaborated, identified through this report. It is suggested that the Working Groups continue, possibly with changed membership, and with Terms of Reference as proposed in Annex 8.

Draft
Report of the Working Group on development
of the IOI Virtual University

List of Annexes

- Annex 1:** Terms of reference for Working Group;
- Annex 2:** List of Members of the Working Group;
- Annex 3:** Charter of the IOI-VU;
- Annex 4:** Overview of courses;
- Annex 5:** USP Registration forms;
- Annex 6:** Terms of Reference for Acting Rector of IOI-VU;
- Annex 7:** Terms of Reference for Registrar;
- Annex 8:** Terms of Reference for the Development Committee or Working Group of December 2000;

International Ocean Institute

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FACSIMILE TRANSMISSION

To: Dr. Gunnar Kullenberg
Fax No 356 346 502

From: Elisabeth Mann Borgese
Fax No. 1 902 868 2455

Date: May 14, 2001

Subject: IUCN

Welcome back home, Gunnar!

And here is a thing That has gained some momentum which we should not lose! What do you think?

New York went quite well. Our paper (which is being sent to you) was well received. The meeting was fairly good. Too much science; too little technology.

Unfortunately none of our UNOPS people (Helmke, Chi, Larrabure) was in New York that week. So I have to pursue them again via e-mail.

However, now I wait until I have your new VU material. I thought the material produced in South Africa was quite good. Robin South may not agree that it is as unique as Derek thinks it is, and I do not agree with the statement that our stuff is more "instructor centred" than theirs which is "student centred." The crediting system seems to me as good as several others! But, of course, I am fully in favour of proceeding on this basis, which is good enough even if not unique, and they have done so much work on it already that it would be a terrible waste not to use it!

So, as soon as I get your new material, I will proceed here at this end.

Love,

Elisabeth

To: Elisabeth Mann Borgese, EBorgese
From: IOI Headquarters, INTERNET:ioimla@kemmnet.net.mt
Date: 22/05/101, 9:08 AM
Re: Back in the Office!!

Dear Elisabeth

I am finally back from Russia.

It was a very interesting trip, but tiring. There is a lot of interest for IOI and the IOIVU. We had discussions in Astrakhan at the Caspian Sea and went on the Volga to the delta.

They are very interested in having an NGO consultation about the governance (status) of the Caspian Sea. It was agreed I would bring this to you, to explore your interest in such an action. If you are interested we should try to do it in the fall of this year. It should be an IOI activity, with some experts from the Caspian Sea and from outside. I discussed it also with the leader of the Caspian Environment Programme of GEF. He suggested we contact UNEP to ensure that we will not create problems if we do this action. Please let me know your reactions.

We also discussed a sustainable development project at local level, and the IOIVU. They have quite considerable experience and developments with distance learning and are very interested in linking with IOIVU.

A local sustainable development (ecovillages type) project could perhaps be associated with the biosphere reserve they have in the delta. I will discuss this with Peter Bridgewater in UNESCO in July.

In Nizhny Novgorod we discussed co-operation with the Rector of the University, who is also a UNESCO Chair. They are very interested in the IOIVU and possible association with IOI. This would be with the UNESCO chair. I think this could be a very interesting development for us, bringing in an affiliation with the great river basins. It would close the loop so to say, and provide for a really comprehensive ocean governance mechanism at the non-governmental level.

In Moscow we met with the Moscow State University Departments of Geology and Geography and the Institute of Oceanology. The IOI Moscow affiliate is now firmly associated with the Institute of Oceanology, which is a very good development. The Department of Geology of the University is very well known internationally. They are very interested in linking up with the IOIVU. They have done quite a lot on distance education, in Russian.

We of course also discussed the programme of the Moscow Affiliate. This is going well and is actually quite interesting, addressing education in schools, at the University and for the public. They are also much involved with the children's paintings and we discussed the possibility of doing some action with that in Dakar. They are also actively co-operating with and being supported by WWF in work on development of marine protected areas in the Far East.

Out of all this comes a fairly substantial list of action items which I will transmit also to the Executive Committee.

I have gone through most of the mail here. Vladimir has dealt with several items.

Your message regarding an MOU with CEL of IUCN dated 14 May is very encouraging. I think the MOU is fine. If they agree on financial commitments such could go in. However, we could also let this be part of a covering letter through which the MOU is agreed and signed.

101/Headquarters
For EMB

Dr. Gunnar Kullenberg
Executive Director
International Ocean Institute
Headquarters
The University of Malta
Tal Qroqq, Msida MSD06
MALTA

4 June, 2001

Subject: Appointment

1. In accordance with the decision of the Board, at its Thirty-ninth Meeting, Hamburg, 1-2 December 2000, to appoint you as interim Rector of the IOIVU and as senior Executive Director of IOI for a period of up to 3 years, I am hereby confirming these appointments for a period of one year starting from 1 June 2001.
2. The appointments are renewable, by mutual consent.
3. Your salary will be USD 60,000 (sixty thousand US dollars) per annum, payable at the end of each month.
4. The IOI will provide for reasonable housing in Malta when such is required.
5. The annual vacation will be of 40 days.
6. Your Terms of Reference, in form of distribution of tasks between you as senior Executive Director and interim Rector of the IOIVU, and the resident Executive Director, acting as your deputy, are specified in the Annex to this letter. In accordance with the decision of the Board these Terms of Reference for you and the resident Executive Director have been endorsed by the Executive Committee.

7. For reference, the contract established between IOI and the appointed resident Executive Director, Dr. Vladimir Ryabinin, is also attached hereto.

I look forward to continued good cooperation with you.

Yours sincerely,

Dr. Joseph S. Warioba
President of IOI

Att.

IOI Headquarters
24 May, 2001

Contract

Contract parties: this contract is signed between the International Ocean Institute (hereafter IOI) represented by Dr. Gunnar Kullenberg, the Executive Director of the IOI, and Dr. Vladimir Ryabinin.

Scope of the contract: Dr. V. Ryabinin is appointed as the resident Executive Director of IOI. Dr. V. Ryabinin will act as the deputy to the senior Executive Director.

Contract background: Dr. V. Ryabinin's appointment follows from the decision of the 39th Meeting of the IOI Governing Board (Hamburg, Germany, 1-2 December 2000, agenda item 7).

Job description: the resident Executive Director shall be responsible for putting into action the IOI programme elements in accordance with the required, including with distribution of labour as agreed between him and the senior Executive Director and endorsed by the Executive Committee. In addition he will assist the senior Executive Director in other matters as required, including with respect to the IOIVU.

The division of labour between the senior Executive Director and resident Executive Director is specified in the Annex to this Contract. The Annex is an inherent part of this contract. It may be periodically modified to reflect current work requirements in consultation with the Executive Committee, as required.

Reporting and responsibility: the resident Executive Director is answerable to the IOI President, the Governing Board, and the senior Executive Director. Instructions of the senior Executive Director are mandatory for him.

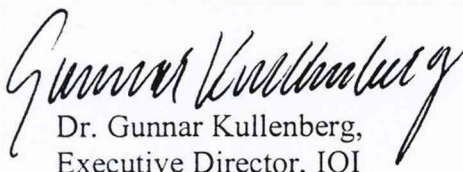
Authority: The resident Executive Director shall have executive and administrative authority to implement policies and decisions established by the Governing Board, and under empowerment of the IOI President and the senior Executive Director and in accordance with the distribution of labour between the senior and resident Executive Directors. The resident Executive Director will be in position to offer and accept, on behalf of the IOI, contracts for work to be undertaken for or by the IOI, open and close bank accounts, sign cheques and carry out other transactions, and represent the Institute within the limits and conditions determined by the IOI Governing Board.

Conditions: annual salary of US\$ 60,000.00 (sixty thousand US dollars), payable at the end of each month, six weeks leave, and housing, at a cost up to maximum 400 Maltese Lira per month.

Contract period and conditions for renewal: the contract period starts on June 1, 2001, and remains in force for 3 (three) years after this date. The contract is subject to renewal, by mutual consent.

Dispute resolution: Both parties will try to resolve potential disputes amicably, by good will and in the interests of the IOI. In case of litigation, the Laws of Malta will apply.

For the International Ocean Institute



Dr. Gunnar Kullenberg,
Executive Director, IOI

Agreed:



Dr. Vladimir Ryabinin

Attachment

Annex to the Contract
**between the International Ocean Institute and Dr. Vladimir Ryabinin on the
appointment of Dr. V. Ryabinin for the post of resident Executive Director of IOI**

Scope of Annex: distribution of tasks between the senior Executive Director and the resident Executive Director effective from June 1, 2001, until May 31, 2002.

Basis for the distribution of tasks and joint work: the job description for the Executive Director, the Terms of Reference for the Rector of IOIVU, the follow-up actions to the Board and PC Meetings in December 2000, and mutual consultations. It is understood that there will be frequent consultations between the two persons.

1. Joint responsibilities

A. Permanent joint responsibilities:

- Reporting to the Governing Board, PC, and Executive Committee;
- Attending the meetings of the Governing Board, Planning Council (PC), and Executive Committee;
- Consultations on preparations for these meetings and the documentation;
- Management of selected system-wide projects.

B. Joint actions will arise and be implemented as required. Specifically in the period, the following have been identified:

- Support the development of the African Strategy and the preparations for the Leadership Seminar as part of PIM 2001;
- Specification of tasks for Board Members in consultation with the Executive Committee, taking into account the work of the Strategy Group (ref. Board 2000);
- Representation of IOI at selected international meetings (a reasonable division of labour);
- Preparation of proposals, of the budgets and the financial reporting.

2. Responsibilities for the senior Executive Director (G. Kullenberg)

For IOI as a whole act as member and secretary for the Strategy Group.

- A. Provide initial guidance to the resident Executive Director.
- B. With respect to the development of the IOIVU, as interim Rector, in particular:
- work in close association with the Development Committee and the Technical Advisory Group, acting as member and secretary of the Committee;
 - help address the tasks of the Committee, e.g. co-ordinate preparations of initial courses, including funding, developments, testing; co-ordinate preparations of various guidelines, for IT systems, course deliveries, quality control;
 - analyse the needs for the management of the IOIVU, and the related expected running costs;
 - draft financial rules and regulations for the management of the funds earmarked for the IOIVU;

 - draft initial statutes, by-laws, rules of procedures and other documents related to the

- Charter and the conduct of activities of the IOIVU;
 - assist in identifying sources of funds for the IOIVU.
- C. With reference to the Charter of IOIVU, as interim Rector:
- prepare workplan and budget;
 - address other action points when required, and seeking the advice of the Development Committee and Technical Advisory Group as needed;
 - prepare reports on IOIVU for the Governing Board of IOI and the interim Board of Governors of IOIVU;
 - prepare all other documentation for the meetings of these bodies, with relation to IOIVU.

3. **Responsibilities of the resident Executive Director (V. Ryabinin)**

- Preparing for and attending the meetings of the Governing Board, Planning Council (PC), and Executive Committee; making the reports, and guiding the follow-up and implementation of the decisions;
- Preparation of Annual Report; IOI Headquarters and system-wide work plans, budgets and financial reports;
- Implementation of the IOI auditing;
- Managing Headquarters staff and operations;
- Maintaining relations with the Government of Malta;
- Representing IOI at conferences and meetings in Malta and as required in the Mediterranean region;
- Maintaining communication and exchanges of information with all the Operational Centres, as well as the Board and Executive Committee;
- Supporting the preparations for the PIM 2001 Conference as required (ref. Board 2000);
- Preparing draft guidelines for the organisation of PIM Conferences (ref. Board 2000);
- Preparing draft Terms of Reference for PIM Committee of the Board in consultation with the Executive Committee (ref. Board 2000);
- Developing the national focal point network (ref. Board 2000);
- Continue development of the strategy for system-wide programmes (ref. Board 2000).

Signed:



Dr. Gunnar Kullenberg,
senior Executive Director



Dr. Vladimir Ryabinin,
resident Executive Director

Malta, May 24, 2001

International Ocean Institute Virtual University



Ocean Governance – Core Course

Course Development Outline (version 1: Wednesday, July 04, 2001)

Principle Course Lecturer: Elisabeth Mann Borgese
Course Lecturer/Principal Course Developer: Francois Bailet
Assistant Course Developer: Allison Schmitt
Assistant Course Developer: TBD

Objective

To provide a comprehensive core course on Ocean Governance consistent with, and in support of, the curriculum of the IOIVU Masters program to be delivered through the KEWL course platform making use of the latest in Net-based education technologies as well as drawing from a global community of expertise.

Curriculum

Subject to approval of the IOIVU Rector and/or the IOIVU Academic Council.

Course Duration – The course will be developed for a four month delivery time-frame which will include approximately 100 notional hours of work. These hours will be divided into approximately 35 hrs of online lecturer-student interaction time and 65 hrs of student on and offline independent and group working time.

Fundamental Course Pedagogy – Ocean governance is a complex and ever evolving discipline which may be simplified into three major levels of development and implementation: the Global level, the Regional level and the National Level (including both the national administrations as well as the wider civil society).

The development and implementation of ocean governance mechanisms, at all levels, will be examined and their necessary interaction and eventual integration will be underlined through the use of thematic examples such as, *inter alia*, the protection of the

marine environment from land-based pollution, the exploitation of marine resources, as well as various maritime security issues.

This core course will provide students with the necessary knowledge of the workings and interactions of these levels in order to pursue subsequent thematically focused courses offered in the Masters curriculum.

Course Delivery methodology – Distance education, via the internet and related information technologies, provides for a rich environment within which lecturers may convey, reinforce and test knowledge. The KEWL course ware platform provides numerous interactive tools which will ensure that the students are presented with clear lectures and have the opportunity to reinforce acquired knowledge through interactive exercises and testing. Furthermore, the Internet offers tremendous research opportunities, the use of which will be incorporated into the course curriculum.

Course Lecturers – Recognizing the limitations of the traditional lecturer role within the context of Net-based distance education, the course will be delivered utilizing constructivist learning methodologies. Making use of distance education technologies, the course will draw from a global community of experts in each of the topics covered and allow students to interact with these individuals in near real-time. The participation of these individuals in the delivery of the course will also ensure that a high level of quality is maintained and that the information presented is the most current in each of the disciplines.

Tools – The course will be delivered making full use of the latest internet based interactive education tools which are bundled in the KEWL Course Delivery Platform (<http://kewl.uwc.ac.za>). Continuous knowledge delivery, application of knowledge, as well as knowledge reinforcement and testing will be assured through numerous activities including, *inter alia*, text, graphics, videos, discussion forums, web quests, assignments, and simulation exercises.

Detailed Course Curriculum

To be completed.

Tentative Development timeline

Course Delivery Date: September 2002

Current Status: (July 2001)

- Completed training of Course Lecturer/Principal Course Developer in Net-based distance education and course development and delivery through KEWL platform.
- Draft course curriculum being finalized;
- Hardware equipment has been priced and a laptop has been purchased with non-IOI funds;
- Certain subject matter experts have been consulted and remain prepared to negotiate further contributions (UNCTAD, DOALOS, IMO, and Academics);
- Over 20 hrs of digital video containing relevant subject matter have been recorded.

Preparatory Phase (Present – October 2001)

- Opening of a distinct IOIVU account within Dalhousie University Financial Services and transfer to, from the general IOI-Canada account, the current balance dedicated to the development of the Ocean Governance course (July);
- Correspondingly, the IOIVU accounting structure should enter a 'transfer' of the equivalent sums (SF 10,000) to the IOI-Canada as initial funding for the development of the Ocean Governance Course;
- Training of Assistant course developers in KEWL:
 - * Allison Schmitt – Completed by August;
- Hiring of one Assistant course Developer – Allison Schmitt (August)
 - * NB> Pascal Gellrich is currently employed by IOI-Canada in the position of Training Program Coordinator. His terms of reference for this position allow for a certain portion of his time to be dedicated to assisting in the development of the IOIVU Ocean Governance course. Upon termination of his current contract (mid-August) and pending further negotiations, he may be available to assume the second Assistant Course Developer position.
- Final draft of course curriculum submitted to IOIVU Rector and/or IOIVU Academic Council (October);
- Purchase of external storage media and 60 GB hard drive for desk-top (July);
- Negotiating and Securing server space at Dalhousie University for Development Phase (July – September);
- Indexing of digital video footage for future integration of segments into course as well as other IOIVU applications (October);

Development Phase (October 2001 – March 2002)

- Final course curriculum approved by IOIVU Rector and/or IOIVU Academic Council (October – November);
- Consultation with subject matter experts (September, December);
- Development of course text and graphics content (November - December);
- Inputting of text and graphics content into KEWL platform (November – February);
- Development of audio and video course content (November – March);
- Inputting of audio and video content into local server and linking content to course pages through KEWL (December – March).

Testing Phase (March 2002 – August 2002)

- Enrolment of test students (March – June);
- Rectification and Adjustment of Course Content (March – August);
- In person meeting with selected test students (August);
- Final adjustments (August)
- Delivery (September)

Tentative Budget

Budget to be administered through Dalhousie University financial services and disbursed under the authority of either the Principle Course Lecturer or the Course Lecturer/Principal Course Developer. Accounting and record keeping services will be administered by the financial Officer of the International Oceans Institute of Canada.

Course Development	US\$
Hardware NB> The purchase of a digital video camera should be considered and would require additional funding of approximately 3,000.00. - External CD-RW drive and/or media storage (800.00) - Upgrade of desktop computer (1,500.00) - CD-RWs and misc. materials (700.00)	3,000.00
Software NB> This cost may be reduced by purchasing academic licenses. - MSOffice (100.00) - MS Front Page - Photoshop 6.0 - Video media editor	2,000.00
Consultation with Subject Experts and Test Students - Two meetings with subject experts (@ 1,500.00 ea.) - One meeting with test students (4,000.00) - Communication and incidentals (500.00)	6,000.00
Salary for Assistant Course Developers NB> This entry does not include the portion of salary for the Principal Course Lecturer nor the Course Lecturer/Principal Course Developer. - Two salaries (@ 4,000.00 ea.)	8,000.00
Creation of Course Content in Digital Format - Course web-page graphic design (IOI-SA Online Services) - Indexing and conversion of video course materials - Programming of course delivery applications (i.e. JAVA applets)	5,000.00
Assembling of Course Content Components - Server space (normal, audio and video servers- streaming media servers) - Inputting course content into KEWL platform	9,000.00
Copyright Fees	5,000.00
Miscellaneous expenses including communications, materials and overhead	3,000.00
Estimated Course Development Cost	41,000.00
Current Funds Secured	
Balance Required	

PROS/101/VU

To: (unknown), EBorgese
From: "Cynthia Robinson", INTERNET:crobinson@neaq.org
Date: 27/07/01, 5:53 PM
Re: IOIVU

Dear Elizabeth,

Please accept my sincere apology for the very long delay in reply to your April letter about the International Ocean Institute Virtual University. I misfiled it with annual meeting documents and have just discovered my error.

The IOIVU concept is intriguing. I will forward the proposal and brochure to Diane Thompson, a new program officer at The Pew Charitable Trusts who is dealing with marine conservation, outreach, and education. My sense is that this request falls outside the Pew guidelines. However, you might want to discuss the IOIVU with Diane. You can contact her at:

Ms. Diane Thompson
Program Officer, Environment
The Pew Charitable Trusts
One Commerce Square
2005 Market Street, Suite 1700
Philadelphia PA 19103-7017 USA
phone: 215.575.4741
fax: 215.575.4888
email: dthompson@pewtrusts.com
website: www.pewtrusts.com

I wish you much success with this exciting new endeavor!

Best regards,
Cynthia

Cynthia Robinson, Director
Pew Fellows Program in Marine Conservation
New England Aquarium
Central Wharf, Boston, MA 02110-3399 USA
Phone: +1.617.720.5100
Fax: +1.617.720.5102
Email: <crobinson@neaq.org>
Website: <http://www.pewmarine.org>

A program of The Pew Charitable Trusts
in partnership with the New England Aquarium

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To: EBorgese@compuserve.com
From: "Cynthia Robinson" <crobinson@neaq.org>