

**INTERNATIONAL OCEAN INSTITUTE
BACKGROUND MATERIALS ON THE VIRTUAL UNIVERSITY FOR THE OCEAN**

As of Wednesday, May 24, 2000

International Ocean Institute–Canada Working Group Members:

Prof. Elisabeth Mann Borgese
Mr. François Bailet

Package Contents:

1. Concept Proposal for the Establishment of the IOI Virtual University (Elisabeth Mann Borgese);
2. Draft Charter of the IOI Virtual University (Judge Yankov);
3. Preliminary overview of existing courses available throughout the IOI Network and affiliates (February 2000, IOI Headquarters);
4. Letters of support:
 - A. Maurice F. Strong, UN University for Peace (enclosure: Draft of the Executive summary – Strategy for the development of the University for Peace),
 - B. Koichiro Matsuura, Director-General, UNESCO,
 - C. Karl Laubstein, World Maritime University,
 - D. Philip Reynolds, Chief, Water Programme, UNDP;
 - E. Alain Piquemal, Director, C.E.R.D.A.M., Faculty of Law, University of Nice;
5. Draft Syllabus of the 2000 International Ocean Institute Training Programme on the *Law of the Sea: Its Implementation and Agenda 21*.

**INTERNATIONAL OCEAN INSTITUTE-CANADA AND THE DEPARTMENT OF POLITICAL
SCIENCE OF DALHOUSIE UNIVERSITY
CONTACT MEETING ON CURRICULUM DEVELOPMENT**

Thursday, May 04, 2000

Members:

Dr. David Cameron (*Chair*, Political Science)
Elisabeth Mann Borgese (International Ocean Institute)
François Bailet (International Ocean Institute)

Package Contents:

1. Concept Proposal for the Establishment of the IOI Virtual University (Elisabeth Mann Borgese);
2. Proposal of course structure and status of project (February 2000, IOI Headquarters);
3. Courses available for the Virtual University at Dalhousie University (January 2000, Elisabeth Mann Borgese);
4. Some letters of support for the Virtual University:
 - A. Maurice F. Strong, UN University for Peace (enclosure: Draft of the Executive summary – Strategy for the development of the University for Peace),
 - B. Koichiro Matsuura, Director-General, UNESCO,
 - C. Karl Laubstein, World Maritime University,
 - D. Philip Reynolds, Chief, Water Programme, UNDP;
 - E. Alain Piquemal, Director, C.E.R.D.A.M., Faculty of Law, University of Nice;
5. Course syllabus for **POLI 3589.03/ 5589.03**: Politics of the Sea;
6. Course syllabus for **POLI 3537.06/5537.06**: Management and Conservation of Marine Resources - International Ocean Institute Training Programme on the *Law of the Sea: Its Implementation and Agenda 21*.

**INTERNATIONAL OCEAN INSTITUTE-CANADA AND THE UN UNIVERSITY FOR PEACE
CONTACT MEETING ON THE VIRTUAL UNIVERSITY FOR THE OCEAN
Halifax (N.S.), Canada April 20, 2000**

Members:

Elisabeth Mann Borgese
Gudmundur Eiriksson
François Bailet

Package Contents:

1. Concept Proposal for the Establishment of the IOI Virtual University (Elisabeth Mann Borgese);
2. Draft Charter of the IOI Virtual University (Judge Yankov);
3. Correspondence between IOI Headquarters (Dr. Kullenberg) and Judge Yankov
Re: Draft Charter of the IOI Virtual University:
 - A. 7 February 2000,
 - B. 24 March 2000;
4. Proposal of course structure and status of project (February 2000, IOI Headquarters);
5. 'Addressing our tasks' – follow-up of IOI Director's Meeting in Fiji (April 2000, IOI Headquarters);
6. Courses available for the Virtual University at Dalhousie University (January 2000, Elisabeth Mann Borgese);
7. Letters of support:
 - A. Maurice F. Strong, UN University for Peace (enclosure: Draft of the Executive summary – Strategy for the development of the University for Peace),
 - B. Koichiro Matsuura, Director-General, UNESCO,
 - C. Karl Laubstein, World Maritime University,
 - D. Philip Reynolds, Chief, Water Programme, UNDP;
 - E. Alain Piquemal, Director, C.E.R.D.A.M., Faculty of Law, University of Nice;
8. Draft Syllabus of the 2000 International Ocean Institute Training Programme on the *Law of the Sea: Its Implementation and Agenda 21*.



INTERNATIONAL
OCEAN INSTITUTE
CANADA

DALHOUSIE
University



*Proposal
for the establishment of the
IOI Virtual University
(First Draft)*

INTRODUCTION

This proposal is based on a decision taken by the Thirty-Eighth Meeting of the Governing Board, in Suva, Fiji, on November 6, 1999. The Board established a small working group to prepare a formal proposal for the next meeting of the Executive Committee in Malta, June 2000.

Undertaking the task of establishing such a "Virtual University" or, for the IOI to act as a "Virtual University" is extremely ambitious, challenging and innovative. The "Virtual University" should accept students globally and award an *interdisciplinary, internationally recognized master's degree*. The institutional arrangement is without precedent. The closest, perhaps, is the M.Sc. Degree awarded by the World Maritime University; with whom the IOI has a long-standing working relationship which should include also cooperation on the "Virtual University" project. The World Maritime University, however, is not a "virtual university". It is a University built of bricks and mortar, where students reside for periods of 1-2 years. The degree awarded, furthermore, is not broadly interdisciplinary but designed for experts in the shipping industry and the management of ports and harbours. Other precedents are given by the UK's Open University or the Commonwealth of Learning in Vancouver, BC. And there is of course a growing network of distant-learning arrangements. There is an African Virtual University as well as some virtual universities in the US. None of them, however, is structured to award a globally recognized, interdisciplinary Master's degree in ocean affairs for students anywhere in the world.

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. “Globalization” 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 recognized 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 “privatization” of universities, which may endanger academic freedom as well as public higher education as a pillar of genuine democracy.

The need for a restructuring of higher education is felt globally. As in international law and organization, 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 also would 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, and its accumulated experience and track record in training in ocean affairs, is uniquely suited for this pilot project in education.

PURPOSE

The purpose of the IOI Virtual University 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 coming century of the ocean;

- ▶ to develop innovative approaches towards solving some of the major problems besetting higher education at the end of this century;

through the consolidation, optimization, and full utilization of its unique structure and accumulated global experience in education, capacity building and training.

INSTITUTIONAL STRUCTURE

The structure of the IOI Virtual University will be extremely simple. It will be a “soft” structure and extremely flexible.

1. There will be a *Rector* to be appointed by the IOI Governing Board. He should be an expert in the philosophy of education as well as knowledgeable in ocean affairs. The first, or Acting Rector might be the Executive Director of the IOI, with his high credentials in both fields.
2. There will be a *Virtual Faculty*, consisting of (a) the directors, lecturers and discussion leaders of IOI training courses all over the world; (b) faculty members of the IOI host institutions who choose to participate;
3. There will be a number of *Sponsoring Organizations*, which, hopefully might include the United Nations University, UNESCO, the Peace University, etc.
4. There will be a Board of Trustees, consisting of the heads of the Sponsoring Organizations or their representatives and members of the Governing Board of the IOI.

STRUCTURE OF THE MASTER’S DEGREE IN OCEAN AFFAIRS

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 at any one of the IOI Operational Centres and Affiliates and/or in their host institutions. They also can be taken through distant-learning

arrangements which will be offered through the IOI web site.

2. There will be an internship of one academic quarter (three months) which can be completed in any of the IOI Operational Centres or Affiliates.
3. There is a thesis requirement. Students can select their supervisor and thesis committee from the roster of the Virtual Faculty. The best of the theses will be published as IOI Occasional Papers or in the *Ocean Yearbook*.

OTHER FUNCTIONS

1. Teaching tends to become sterile if it is not linked to research. The IOI Virtual University will benefit from the research activities of the IOI and its host institutions.
2. IOI's Youth Programme will be linked to the activities of the Virtual University. It could be linked to the internship part of the Master's Degree programme or be the subject of a thesis.
3. The Woman and the Sea Programme will be linked to the Virtual University through the provision of scholarships to women from poor countries.
4. A Ph.D Programme could be developed at a second stage.
5. The network of cooperating organisations can be flexibly broadened to include institutions outside the IOI system, such as, e.g. Ocean Universities in Uruguay, China, or France; the World Maritime University, etc.

ESTABLISHMENT

The Working Group established by the Board will have the following tasks:

1. To arrange for the drafting of a Charter for the IOI Virtual University.

2. To compile a list of all IOI training programmes as well as ocean related courses offered by the host institutions;
3. To select two “core courses” to be taken by all student
4. To determine the number of academic credits to be attributed to each course;
5. To determine the total number of credits required for the degree;
6. To compile a roster of members of the Virtual Faculty;
7. To coordinate the preparation of courses for distant-learning arrangements
8. To prepare a budget for the first 5 years of the Virtual University

FINANCIAL ARRANGEMENTS

This work of the Working group should be completed in time to be presented to the meeting of Directors and the Executive Committee in Malta in June 2000. US\$ 6,000 should be budgeted by Headquarters for communications and other expenses incurred during this period.

As to the running costs of the Virtual University, once it has been established, Students will have to pay the normal fees for taking courses at host institutions; IOI will continue to raise funds for scholarships for IOI training programmes. The possibilities of raising such funds should be greatly improved by the prestige of this new approach to capacity building.

There will have to be a salary for the Rector. And modest funding for his/her small staff. The fees for teachers will be absorbed by the budgets for individual courses.

CHARTER
OF THE IOI VIRTUAL UNIVERSITY FOR THE OCEAN

PREAMBLE

The proposal for the establishment of the **IOI VIRTUAL UNIVERSITY FOR THE OCEAN** (hereinafter referred as " the " University ") was considered by the Thirty-Eighth Meeting of the IOI Governing Board, held on November 6, 1999, in Suva, Fiji.

The decision for the establishment of the University was taken by the Executive Committee of IOI on June 6, 2000, in Malta.

The University is novel institution consisting of a network of education, training and research centres with expertise in wide range of ocean, coastal and marine related matters, functioning in partnership with other organisations and institutions.

CHAPTER I
PURPOSES, PRINCIPLES AND FUNCTIONS

Article 1
Purposes

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.

Article 2

Principles

1. The activities of the University shall be based on the principle of academic freedom of expression and autonomy within the IOI institutional framework.

2 In accordance with the above stated principle, qualifications for admission, choice of subjects, methods of education, training and research, as well as awarding academic degrees and distinctions shall be performed by the competent authorities of the University in accordance with the requirements of openness, transparency and well established academic ethics.

3. In the exercise of its functions the University shall be guided by the fundamental principles of international law, enshrined in the Charter of the United Nations and the Universal Declaration of Human Rights for respect of human rights and fundamental freedoms for all without distinction as to race, sex, language or religion.

Article 3

Functions

1. In the pursuit of its purposes the University should perform the following functions:

(a) to serve as an academic network, consisting of IOI centres and associated universities and research institutions, providing the necessary facilities for education, training, capacity building and research;

(b) to organise the recruitment and admission of students and other trainees from all over the world, and in particular from developing countries, to acquire, upgrade or supplement their knowledge and professional qualifications on ocean affairs;

(c) for this purpose the competent organs of the University shall make widely accessible the appropriate information on the objectives, functions and

¹ contents of the curriculum, as well as the conditions for admission and the requirements for granting academic degrees, diplomas, certificates and other documents, attesting to the academic achievements and professional qualifications of their bearers;

(d) the University may assist in the printing and publication of documents, textbooks, compilation of international conventions and agreements, studies and other materials on ocean affairs for use by its students and trainees;

(e) the University may initiate or jointly undertake with other universities and research institutions, special programmes or training projects, for its needs;

(f) scholarships, fellowships and awards may be instituted to assist and stimulate students and trainees ;

(g) to initiate the establishment of organisation of the *alumnae* of the university;

(h) to establish, in cooperation with other organizations, universities and research institutions, partnership on permanent or *ad hoc basis* ,for the performance of the functions of the University;

(I) to acquire and manage any property, assets, bequest, gifts or donations- monetary or in kind.

CHAPTER II

STRUCTURE AND ORGANISATION

Article 4

Structure

1. The institutional structure of the University is composed of principal and of subsidiary organs.

2. The principal organs of the University are:

(a) the Board of Governors [or Board of Trustees] *;

(b) the Chancellor;

* It is preferable to use the term " Board of Governors " as more adequate to the competence and functions of the organ.

(c) the Academic Council;

(d) the Rector

3 The subsidiary organs of the University are permanent or *ad hoc* bodies, as may be found necessary to be established in accordance with the present Charter, for assisting any of the principle organs in the performance of their functions.

Article 5

The Board of Governors

1. The Board of Governors (hereinafter referred as "the Board") shall be composed of not more than ten members, including *ex officio* the Chancellor, heads of sponsoring organisations or their representatives, and persons 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 IOI Executive Council.

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) formulates the general principles and policies which shall govern the activities of the University;

(b) adopts the statutes, procedural rules and regulations as well as other documents relating to the implementation of the present Charter and the conduct of the activities of the University;

(c) approves the work programme of the University, on the basis of proposals submitted by the Rector;

(d) makes recommendations it may deem appropriate for the effective functioning of the University;

(e) considers 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) examines the programmes for education, training, capacity building and research proposed by the Rector and made suggestions to this effect to the Academic Council;

(g) considers the Annual Report for the work of the University submitted by the Rector;

(h) considers the methods of financing the University with the view to procure adequate funds for the effective operations and autonomous functioning of the University;

(l) appoints the members of the Academic Council;

(j) establishes the subsidiary organs.

Article 6

The Chancellor

1. The Chancellor of the University shall be appointed by the Executive Council of the IOI. He shall serve for four years and may be re- appointed.
2. He shall be a person with internationally recognised distinction in ocean affairs possessing the qualifications necessary for the discharge of his leading functions as the Head of the University.
3. The Chancellor shall preside over the meetings of the Board.

Article 7

The Academic Council

1. The composition and membership of the Academic Council (hereinafter referred as "the Council ") shall be determined by the Board. In principle the Council should be formed by senior faculty members appointed by the Board for a term of three years and may be re- appointed.
2. The Council shall assist the Rector In the adjustment, co- ordination and implementation of the academic work programme of the University.
3. The Council shall consider proposals by the Rector concerning the programmes for education, training, capacity building and research , and shall examine the suggestions to this effect addressed by the Board.
4. The Rector shall preside over the meetings of the Council.

Article 8

The Rector

1. The Rector of the University (hereinafter referred as " the Rector ") shall be appointed by the Board for four years and shall be eligible for re- appointment for

one more term of four years. The conditions of the service of the Rector shall be determined by the Board in consultation with the President of IOI [or the Chancellor].

2. The Rector shall be the chief permanent officer of the University with responsibility for direction, organization, management and administration of the functioning of the University and implementation of its programmes , in accordance with the general policies of the University and under the guidance of the Board and the Chancellor.

3. In the discharge of his duties the Rector exercise the following functions and powers:

(a) submit to the Board the work plan and the budget estimates of the University for consideration and approval;

(b) in consultation with the Council shall direct the activities connected with the implementation of the teaching,, training and research programmes of the University and authorise expenditure of funds in the budget approved by the Board;

(c) in consultation with the Council, recommend to the Board such advisory and subsidiary bodies as may be necessary for the conduct of the activities of the University;

(d) in consultation with the Council coordinate the total of the education, training and research programmes of the University;

(e) report to the Board on the activities of the University and the implementation of its programmes;

(f) coordinate with IOI the education, training and research work with the view to achieving optimal use of the intellectual capacity and financial resources of the University;

(g) appoint the personnel of the University, so as to ensure the proper use of its highest intellectual standard and professional skills;

(h) direct the staff of the University consisting of academic, administrative personnel and temporary assistance staff.

(I) provide the necessary services to the Board and the Council.

Article 9

Subsidiary organs

The subsidiary organs may perform advisory or operational functions in accordance with the terms of reference contained in the decision of the parent principal organ, and shall be responsible and accountable to it.

CHAPTER III

FINANCE AND BUDGET

Article 10

Financial Resources

1. The financial resources of the University may derive from voluntary contributions of governments, international governmental and non- governmental organisations, foundations, juridical entities and individuals.
2. The Chancellor or the Rector may accept financial assistance for specific projects and programmes of the University under the form of fellowships or special funds.
3. The funds of the University shall be kept in a special account established by the Rector on the approval by the Board
4. The funds of the University shall be held and administered by the Rector solely for the purposes and operation of the University.
5. The Rector shall prepare the budget estimates for the University and shall submit them to the Board for consideration and approval.
6. Funds administered by and for the University shall be subject to audit by an external audit appointed by the Board.
7. The Board shall establish Financial Rules and Regulations proposed by the Rector.

Article 11

Budget

The budget of the University shall be prepared by the Rector in consultation with the Council and shall be approved by the Board.

CHAPTER IV

RELATIONS WITH OTHER ORGANISATIONS AND INSTITUTIONS

Article 12

Cooperation with the IOI Operational Centres and Host Institution

The University shall establish close relations with the IOI Operational centres and associated host Universities, research centres and other institutions

Article 13

Cooperation and Partnership with Co- sponsors

The University shall make arrangements with co- sponsor organisations and institutions for carrying out joint projects and common activities, including the establishment of Credit Committees and External Examiners Committees.

CHAPTER V

TRANSITIONAL PROVISIONS

Article 14

1 The establishment and functioning of the University shall be guided by the evolutionary approach in establishing the institutional framework of the University, in particular, during its initial stage. Pending the build up of the complete institutional structure of the University, there should be a transitional period of time when some of the governing organs and institutional mechanism of the IOI may perform functions assigned to organs of the University set out in the present Charter.

2. In conformity with the evolutionary approach referred to above, the Governing Board of IOI should exercise the functions and powers of the Board of Governors, the Planning Council of IOI may perform the role of the Academic Council of the University, the Honorary Chair of IOI may be appointed Chancellor of the University, and the Executive Director of IOI may assume the duties of the Rector of the University, during the transitional period of time.

3. The IOI Operational Centres should reorganise their work with a view to meeting the requirements of their new role as the institutional framework of the University.

CHAPTER VI

FINAL PROVISIONS

Article 15

Entry into force

The present Charter shall enter into force on the date of its adoption by the Executive Committee of IOI. Its implementation during the initial stage shall be subject to the provisions of Article 14 of the Charter.

Article 16

Amendments

1. Amendments to the present Charter may be requested by the President of IOI or by the Board.
2. The amendments shall enter into force after their adoption by the Executive Committee of IOI.

14 March 2000

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TELEFAX TRANSMISSION

Date: 7 February, 2000

No. of pages: 5+4

To: Judge Alexander Yankov
International Tribunal for the Law of the Sea
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From: International Ocean Institute
Headquarters
University of Malta
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Dear Alexander,

Hereby I am responding to your letter about the Virtual University. It is very good to know you are working on this matter.

First for reference, I am attaching hereto the pages of my paper presented to the June 1999 meeting of the Executive Committee and Operational Centre Directors containing my original proposal for an IOI Virtual University. There I have identified several levels of training which could be provided by the University. I still think these are valid, possibly except the Youth one (No. 5 in my proposal). The Youth programme is now a separate action.

Your point 1: I consider that the purpose of the University should take into account the different levels of training suggested in my proposal.

We must specify a name and I favour something like the "IOI Virtual University for the Ocean", or the "IOI Virtual University for ocean and coastal zone governance." I also think we need to define what we understand with the term Virtual University. My understanding is that it is: "a network of education, training and research centres with 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 management, purpose etc. of this network is specified

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through the Charter, Statutes and possibly other documents, as required.

We also need a mission statement which can help specify the target audience without it being necessary to define that audience more specifically. I suggest that the Mission Statement of the Virtual University be based on the IOI Mission. Accordingly the Virtual University mission could be stated as follows:

The Mission of the Virtual University 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 our target is developing countries.

The specific purposes or aims of the Virtual University can then follow the Mission statement. I think those given by Elisabeth are fine, but I would add one in order to meet the original idea I had, which I still think is valid. Additional purpose:

"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."

Your point 2: Organisation etc.

I believe that some of the most important points the structure and management of the Virtual University must cater for are credits, transparency, openness, external evaluation, and quality or qualification requirements for students, teachers and learning material. We must somewhere specify the qualifications we require for students to participate or study in the Virtual University. I am not sure how to formulate these matters in the Charter or Statutes. However, I think that the association with some leading Universities and research institutions outside of the IOI Network and not associated with any of the Co-sponsors of the Virtual University is important. These institutions should be invited to nominate members for some Committees which I think are indispensable and should be a statutory part of the structure, namely:

- Credits Committee
- Evaluation and review committee
- External examiners committee.

In addition, as you say, the structure should have at the top a Board of Governors.

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The Governors should be selected for a limited period of 3 or 5 years and appointed by the participating Host institutions of the IOI Operational Centres, by co-sponsors and by the IOI Board. I do not think any of them should be members of the IOI Board, with one possible exception. 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 members of Governors must of course be limited, but I think a range can be given, of say 15-20. 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 the Committees I mentioned above, and a Finance Committee.

In addition there should be an "Academic Council" which should consider the programme of training, the courses, the research for the thesis works, the renewal of courses etc. This could be chaired by the Rector. It should be composed of faculty members of 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 seen in an Executive Committee, including a representative of the Chancellor, the Rector, some other officers, and one representative each from the Board of Governors, the Academic Council and the Student body.

I think one officer of the Virtual University must be a person dedicated as registrar, who will have to keep track of applications, admissions, graduates, teachers etc.

The Board of Governors would appoint the 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. 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 they have at their home institutions. I do not think we should have visiting professors. You are a member of the faculty when you give a course of the Virtual University curriculum. We must also specify that the supervisors for the thesis works are faculty members.

Your point 3: Curriculum etc.

I think the specification of the Curriculum should be done by the Academic Council. The credits to be required and awarded should be checked or assigned by the Credits Committee.

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The curriculum should be interdisciplinary and respond to the Mission statement and specific purposes. My view is that the structure should be 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, 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.

Students would of course not take all these things. the point is that we include the options and we put our existing IOI courses, as they are now given, as part of the Virtual University.

Your point 4: Credits etc.

I think this should be left to specification in by laws. However, in Charter it could be stated that any degree awarded through or by the Virtual University shall be comparable to and have the quality of current mainstream degrees of the same level awarded in any of the participating Host institutions.

Your point 5: Finance etc.

There has to be a dedicated Virtual University Trust fund. This must cover costs of external committee members, reviewers, evaluators, examiners etc. Later on it should also cover costs of meetings of the Board of Governors and other possible meetings.

The Virtual University Trust fund could perhaps be established as a dedicated part of the Ocean Science and Research Foundation, administrated in Zurich.

Your point 6: Relations with others

I think there should be specified some different levels of associations:

- the participating Host institutions of the Operational Centres;
- the co-sponsors;

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- the associated partners who are outside of IOI, who provide or nominate members of the Credit Committee, External examiners committee.

Your point 7: Amendments

For the initial stage I think we need to realise that we cannot organise meetings, pay officers, examiners etc. We need to start up very gradually. The important steps are to prepare what we could perhaps call a Provisional Charter, Provisional Statutes, which can be endorsed by the IOI Board; and establish a curriculum through a Provisional Academic Council. This curriculum could be tested through contacts with some interested and positive outside institutions in order to ensure the right credit level and quality.

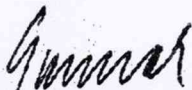
In order to facilitate things the IOI Governing Board could perhaps be constituted as a transitional or initial Board of Governors for the Virtual University. This could be handled in a practical way. The representatives of possible co-sponsors could be invited to attend that part of the Board session when the Board constitutes itself as the interim Virtual University 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.

Through using the existing mechanisms of IOI (the Board, Headquarters, as well as the OSRF in Zurich) we can put the thing in place and start up without too much ado. I have here given my views as they are now, and maybe they do not fit in with others or with the legal matters. However, I must re-iterate that if we are going to succeed I think we have to use an approach along the lines I have indicated.

I look forward to hearing further from you. With my best personal regards, and also looking forward to seeing you.

Yours sincerely,



Dr. Gunnar Kullenberg
Executive Director

c.c. Prof. Elisabeth Mann Borgese. ✓

Attachment

P.S. please acknowledge receipt!

10 Prof. YANKOV - See pages 3, 6, + here
 which are my original proposal as
 regards the Virtual U. Document Ex.com. 5/11/1
 IOI Headquarters
 Malta, April 1999
 Cover page given only for identification

Institutional development of the IOI:
a progress report for stimulating debate
 by Executive Director

1. Introduction

At its 37th Meeting, Halifax, 27-28 November 1998, the Governing Board considered the strategy of the IOI for its further strengthening, on the basis of experiences and previous discussions. Substantial documentation was provided from earlier meetings and from programme reviews and discussions of the Planning Council. This included a document prepared by the Executive Director (Future Strategy of the IOI: Views by the Executive Director, Doc. B/37/10/2). In concluding its discussion of this particular part, quote:

"The Board noted with interest the idea of membership, but stressed that this carries with it many complications. It is not easy for a global organisation like the IOI to pursue membership. It may create an imbalance between north and south. The Board agreed also, however, that we should be willing to renew ourselves. The Board noted that the IOI could potentially provide several benefits to members of the IOI.

The Board, after this very preliminary discussion, agreed that a first feasibility study be carried out of implications for IOI of pursuing this line. A progress report should be presented to the meeting of the Executive Committee planned for June 1999. An ad hoc group consisted of four Board members and the Executive Director was established to prepare the feasibility study" (end of quote from the Minutes).

Accordingly a progress report drafted by the Executive Director is hereby presented. This introduces some further ideas which have emerged during reviews of the structure and statutes of other organisations and from the experiences encountered. Document B/37/10/2 referred to above is attached as an Annex 1 hereto.

2. Why doing this?

There is always a need for an organisation to review itself and to at least discuss new avenues to achieve its goals. The IOI has its Statutes and Mission Statement. It is not at all the intention of changing any of these. We are here thinking of an institutional development.

The aim of this exercise is to analyse means of using existing mechanisms to strengthen IOI as an environmental, international non-governmental organisation dealing with matters concerning the

management of the national scheme, if they proceed to set it up. Headquarters could not undertake that part of the exercise.

With respect to provision of products we would have to ensure that agreements are fulfilled timely and satisfactory. As regards the international part it would fall on the Executive Director to ensure this. However, the IOI system would have to be involved and willing to deliver, against provision of required resources.

The participatory part could be ensured by organising dedicated communication through interest and other means at local level depending upon conditions; by having an identified part of the IOI website; and by organising an IOI Associate session in conjunction with the annual PIM Conference. Costs of such participation would have to be covered by the Associate. However, one implication would be that the Associate would be allowed to attend the whole PIM Conference, without paying any registration fee.

* 4.2. The IOI as a virtual University on Marine Affairs

The World Maritime University has been established by IMO as a semi-autonomous institution addressing the advanced training of personnel involved with and responsible for all aspects of shipping. The IOI is, through IOI-Canada, providing and delivering a module as a regular part of the WMU programme.

In the IMO training programme the WMU global level training is supplemented by regional training centres. These are normally associated with a leading maritime academy in the region. The regions are to some extent similar to the WMO (World Meteorological Organisation) Regional Associations which also have their regional training centres and on-the-job training activities.

It is now proposed that the IOI presents or establishes itself as an environmental counterpart to WMU but with an alternative institutional structure. The global and regional approaches would be maintained, but there would not be one formal and central institution as in the case of WMU. It would be a virtual university with global coverage.

The training activities of this virtual marine environment university would include essentially four or five different elements:

- (1) the formal degree-providing training programmes which are parts of the Host institutions; most of these have a marine studies programme. This can be advertised through the IOI system, with course contents, requirements for entry, fees, costs and conditions of living, coverage and departments, contact persons, etc; all this could be put on the IOI homepage, or a reference to an alternative information source could be provided on the IOI homepage. The Operational Centres would transfer the information and



International
Ocean
Institute

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HEADQUARTERS

TELEFAX TRANSMISSION

Date: 24 March, 2000 No. of pages: 3

To: Dr. Alexander Yankov
Vice President, IOI
Professor of International Law
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From: International Ocean Institute
H.Q., University of Malta
Msida, MALTA Fax: +356 (-) 346 502

Dear Alexander,

Again thank you for the draft Charter for the IOI-VU, and for your message regarding your availability in November. This is taken note of.

Here I provide some comments on the draft Charter. In order to facilitate the development, I am copying this to the other members of the WG, since I have copied everything else I have done regarding this matter to them.

Comments on the draft Charter text:

Somewhere we should insert the process of ensuring compatible credits, so that the degree(s) awarded by the VU are conforming with other similar degrees and are accepted as such. This, I feel, is very important, and I think it should be in the Charter. Perhaps it could be injected in Article 2, Principles, perhaps as follows:

2 bis (in Article 2). Further in accordance with these principles, the credits and degrees awarded by the University shall be subject to regular scrutiny and endorsement by partner Universities and other competent educational institutions, so as to ensure compatibility and (universal) acceptance of the credits and degree awards given by the University.

Then, I think somewhere we should refer to the fact that we intend to use distance learning technology and internships as working methods. Perhaps this does not belong to the Charter. However, it must not be forgotten, since it is part of the "virtuality". Perhaps it could be injected into Article 3 on Functions, perhaps after (c) in that Article:

-2-

3 (c bis) the University will to a large extent utilise distance learning methods and related technologies, including for examinations; periods of confrontation with teachers and instructors will be limited mainly to internships to achieve required research and practical experiences, and for defence of thesis work.

Article 4: Yes, I prefer Board of Governors.

Article 5: In para. 1 you say including ex-officio and so on; I would suggest you say excluding the ex-officio members (the Chancellor, heads of sponsoring organisations or their representatives); the nominated (or elected or appointed) members shall be selected from a list of _ _ _.

In para. 2, of Article 5, you refer to the IOI Executive Council; do you mean the Executive Committee or the Governing Board; I think it should be the Governing Board;

In para. 4(c) of Article 5, I think approval of the budget should also be included (approves the work programme and budget of _ _ _); this would fit with Article 8, para. 3a;

In Article 5, there may perhaps also be a reference to the credits and degrees awarded by the University. Perhaps it could be injected after para. 4(e):

(4e) bis: considers the credit and award requirements, in consultation with partner Universities and other competent educational institutions, so as to ensure compatibility and (universal?) acceptance of the credits and degrees awarded by the University;

Article 6, para. 1: I think it should be the Governing Board of the IOI;

In Article 7, there may also be injected something about credits, perhaps in para. 3, perhaps as an addition along the lines:

"The Council shall _ _ _ and research as well as the related credits and degree award requirements, and shall _ _ _"
Article 8, 3(a) "submit to the Board the work programme and the budget _ _ _" to make it the same as Article 5 (4c);

Article 10: This is of course a key to possible success. How do we get financial support. My suggestion was that we use the Ocean Science and Research Foundation in Zurich, but perhaps that is not possible. However, I think it should be investigated.

The reasons for this approach are that the IOI operation so far is rather small and a major problem is cashflow. We experience it in Headquarters and I assume most of the Centres also have that. How

-3-

do we solve that? One way is to concentrate and build up a sufficiently large fund, which also in its statutes allows for sufficient flexibility while maintaining control.

I do not know if these concerns can be injected into Article 10, but I would suggest that it be considered. Perhaps this could be done in Article 10.3.

"The funds of the University shall be kept in a dedicated account established within the Ocean Science and Research Foundation, as approved by the Board of Governors of the University and the Board of Trustees of the Foundation."

The subsequent paragraphs would have to be changed accordingly, but I will not propose this here, since I think the whole thing needs to be discussed at the relevant level.

Article 14, para. 3. I think it is too much to ask the Operational Centres to "reorganise". I would suggest saying ___ "should take into their role in the context of the Virtual University in planning their work programme and budget."

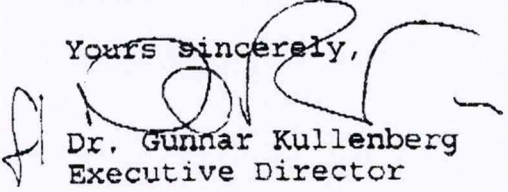
Other comments

In addition to these comments on the text, I have the following suggestions.

Up front I think we need to inject some definitions. This is something I suggest we work on here at the June meeting. However, more important may be how we handle the legal status of the Virtual University. Where do we incorporate it and how? My thinking was that we would use the existing statutes and incorporation of the IOI. As far as I can understand from our existing Statutes this is quite possible. We would then presumably have to inject up front something to the effect that the IOI Virtual University is established as an associate body of the IOI and incorporated in accordance with the existing Statutes of the IOI. However, again I am no lawyer so I may be totally wrong. I think we need to discuss this at our June meeting, and make a proposal to the Governing Board of IOI. In any case I appreciate your thinking about it in advance.

With best personal regards and many thanks for your cooperation and work.

Yours sincerely,


Dr. Gunnar Kullenberg
Executive Director

c.c. Other members of the Virtual University Working Group.

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TELEFAX TRANSMISSION

Date: 13 March, 2000 No. of pages: 3 + 10

Attn: To members of the IOI Virtual University Working Group

To: Prof. Elisabeth Mann Borgese
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From: International Ocean Institute
Headquarters
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Msida, MALTA Fax: +356 (-) 346 502

Subject: A proposal for course structure for IOI-VU

Dear Elisabeth,

Following my correspondence dated 3 March 2000, with the first, preliminary course list overview, I wish hereby to elaborate on one possible approach towards structuring the course blocks into an inter-sectoral and interdisciplinary frame-work. This is done in order to stimulate thinking, opposition and discussion and exchanges also by correspondence. The aim is to have material for consideration at our June meeting. Hence I am proposing a 3 tier course structure:

- I: Generic, overall knowledge; this would be based essentially on mainstream knowledge and understanding; for instance in relation to ocean governance the book by Elisabeth; for ICAM e.g. the book ICAM, Concepts and Practices, by Cicin-Sain and Knecht; the book by Vallega, "Fundamentals of Integrated Coastal Management"; basic ocean knowledge, as provided in courses available at Host institutions; some global IOI courses, e.g. the one given at IOI Canada on UNCLOS and UNCED;
- II: Special knowledge, on ocean subjects of regional nature, such as semi-enclosed seas; SIDS; upwelling systems; "LME's"; selected legal and economical instruments, e.g. as regards fishing (code of practice); shipping; SIDS; EEZ rights and

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wrongs; some such courses are in existence. This would be much coupled to the Operational Centres in the regions, their specialities, and of their Host institutions.

III: Specific knowledge, of local, national, sub-regional conditions, cultures, social systems, traditional knowledge, limitations etc; this would be for the practitioner in the country - sub region (even region), would relate to students from/in that country/region; it would make the education valuable for them, and would aim to show how knowledge in I and II is applied in practice. This part would be even more than part II related to the Operational Centres and their Host institutions. Examples of such existing courses/activities are the mariculture course in South Africa; the artisanal fisheries in Senegal; the ICAM course in China; the public awareness workshops, training in Pacific Islands; etc.

The core courses would be in Section I for all students. However, depending upon where they came from or what direction their studies take, there should be core courses or activities also in II and III.

A direction focusing on coastal governance could, as an example, include a core activity in III through a practical experience in an internship working with the coastal Eco-villages project in India, or the mariculture project in Southern Africa, or the Women and the Sea project component in Pacific Islands. This would put theory into practice and provide hands-on training and experience.

A direction focusing on governance related to SIDS and EEZ aspects would draw on the Pacific Islands; while global ocean governance, international negotiations, legal instruments would focus on part I, but also include some optional experiences from II and III.

A rough inspection of the course table I provided in my 3 March communication shows that there are good coverages of categories I and II. However, a much more limited distribution for category III. I think this partly depends upon the lack of information and inclusion in my table of courses - activities such as the eco-villages.

It is my view that we should include these activities as category III ones; and that we should think very openly about what we mean with "courses". Category III activities or 'courses' can be compared with the old-days field trips or laboratory courses. The category III activities would in many, but not all, cases be implemented as internships.

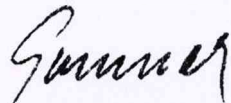
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I would now like to leave this to you for consideration, including how you would put the existing courses from the 3 March list into categories I, II or III; or finding other types of categorisation or identification of core courses etc.

It would be very good if we could exchange some views on these matters before the June meeting.

With best regards,

Yours sincerely,



Dr. Gunnar Kullenberg
Executive Director

IOI Headquarters
March 2000

The IOI Virtual University

This note summarises the state of development by February 2000, and is prepared by the Executive Director.

Origin and basis for the proposal

The suggestion that IOI puts in place, or acts itself as, a virtual university in marine affairs was brought up by the Executive Director at the June 1999 meeting of the Executive Committee and Operational Centre Directors. The proposal was modelled on the World Maritime University. However, there would not be any one central institution, but the organisation would be virtual in practice, using the existing network of IOI as a base.

The suggestion was endorsed and brought forward to the Governing Board and Planning Council meetings, Fiji, November 1999. The Governing Board decided that IOI should proceed with this development, and established a Working Group to specify details and report to the next session of the Board, with an interim report to the June 2000 meeting of the Executive Committee, in Malta. The discussions of the Working Group were initiated directly on basis of a discussion paper prepared by the Honorary Chair, Professor Mann Borgese. In there she notes:

Undertaking the task of establishing a "Virtual University" or, for the IOI to act as a "virtual university" is extremely ambitious, challenging and innovative. The "Virtual University" should accept students globally and award an interdisciplinary, internationally recognized master's degree. The institutional arrangement is without precedent. The closest, perhaps, is the M.sc. Degree awarded by the World Maritime University; with whom the IOI has a long-standing working relationship which should include also cooperation on the "Virtual University" project. The World Maritime University, however, is not a "virtual university". It is a University built of bricks and mortar, where students reside for periods of 1-2 years. The degree awarded, furthermore, is not broadly interdisciplinary but designed for experts in the shipping industry and the management of ports and harbours. Other precedents are given by the UK's Open University or the Commonwealth of Learning in Vancouver, BC. And there is of course a growing network of distant-learning arrangements. None of them, however, is structured to award a globally recognised, interdisciplinary Master's degree in ocean affairs for students anywhere in the world.

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.

The need for a 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 of the sharing of knowledge as a Common Heritage of Mankind. It also would 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, and its accumulated experience and track record in training in ocean affairs, is uniquely suited for this pilot project in education.

The suggestion made in June 1999 was based on the training activities which are in place as part of the IOI System and the Host institutions. This partnership is essential for the new development:

The training activities of the virtual university would include essentially four or five different elements, which are building on the actions of IOI:

- (1) the formal degree-providing training programmes which are parts of the Host institutions; most of these have a marine studies programme. This can be advertised through the IOI system, with course contents, requirements for entry, fees, costs and conditions of living, coverage and departments, contact persons,

etc; all this could be put on the IOI homepage, or a reference to an alternative information source could be provided on the IOI homepage. The Operational Centres would transfer the information and updates to IOI Headquarters. The information there would be arranged so as to be presented as part of a whole; if possible with cross-references to other regions and centres. Everybody would gain on this: the Host institutions; the IOI and the individual centres; the individual students; the financing institutions; possibly even the marine environment.

The existing IOI Alumni and other communication means can be used to spread the information about the existing service.

Further developments can be considered gradually.

- (2) Specialised IOI courses for persons already involved in marine affairs of various kinds. These are essentially the existing IOI developed courses such as those developed through the UNDP/GEF project. Those now given at the Centres; the existing IOI-WMU module.

However, there is a need to present these training courses in a coherent manner so that they can relate to the needs of potential candidates (students) and to the formal education as identified in section (1) above. The requirements, audiences, objectives and experiences of each course could be presented in a structured fashion, and put on the IOI homepage. This could be done through Headquarters provided the information is transmitted from the Centres.

There is also a need to indicate costs and if financial basis for the delivery of the course is secured or not. Even if such resources are not available an up-dated and systematic presentation of the whole, from the IOI system, could facilitate the generation of such resources. This may also facilitate the development of courses at the different Operational Centres and at the Affiliates. Further ideas are of course welcome.

- (3) The practical applications, up-grading of skills, on-the-job and hands-on training activities which are part of the IOI projects. This relates to the Eco-villages, the advisory services, the resources developments, the ocean governance activities in leadership seminars and national seminars, and the marine awareness creating actions.

Again there is a need to present these activities in a coherent and systematic fashion so as to bring out the whole picture, rather than an ad hoc type picture. A start towards this end is made through the

preparation of an annual IOI system-wide programme. However, a complete picture can only be obtained through timely communications between the partners.

- (4) Post-doctoral research fellows and small (short-term) research grant schemes; these will as in the other cases depend upon financial means. However, in order to help generate financial means, a comprehensive and coherent presentation of the possibilities could possibly be constructive. Therefore it is proposed that an overview be prepared for research areas in which post-doctoral fellows, and short-term research grants could participate, together with information on who the available tutors or advisors would be, and the conditions at the place. The latter would include fees, approximate costs of living, contact points etc. The information can be used in applications for financial support.
- (5) A possible fifth element of the IOI Virtual University could be the youth programme of IOI initiated in 1999-2000.

Is this at all doable? It is important to note the existing mechanisms of IOI:

The Operational Centres, the Affiliates, and the Host institutions can be seen as two complementary systems, in that they are connected and supposed to be mutually reinforcing. Thus we can see an international and a national part. Through the Host institutions access can be obtained for IOI to other national institutions, national authorities, to national and local non-governmental bodies, and to the private sector. Examples of this are seen for most of the Operational Centres. Through the IOI Operational Centres the Host institutions can obtain access to the whole network of IOI, to the partners and other international organisations and non-national private sector partners.

The existing mechanisms which could be used include the Operational Centres and the Affiliates, and their respective Host institutions, and IOI Headquarters and the Ocean Science and Research Foundation based in Zurich, Switzerland. In addition, the IOI has a very extensive cooperation with the intergovernmental system of the United Nations and with non-governmental international and national organisations. Thus the IOI is known not only to many universities and technological institutes of high status, but also to the relevant organisations, e.g. UNESCO and its IOC; UNEP; IMO; WMO; UNU; United Nations itself; as well as ICSU, SCOR and Foundations, e.g. the Nippon Foundation. Finally, the IOI is known to concerned and engaged people.

It is on this whole we are building in this process.

Provisional name, definition and mission

A provisional name is the "IOI Virtual University for the Ocean", and a provisional 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 is based on the mission of IOI. Provisionally the Mission of the Virtual University 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 primarily the target audience is developing countries.

Purpose

The purpose of the IOI Virtual University 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 coming century of the ocean;
- to develop innovative approaches towards solving some of the major problems besetting higher education at the end of this 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 and other interested partners.

Institutional Structure and Organisation

The structure of the IOI Virtual University will be straight forward and flexible so as to meet changing and varying demands.

1. A Board of Governors;

2. A Rector, who will be the manager;
3. A Virtual Faculty and Academic Council;
4. A Board of Trustees consisting of heads of the Sponsoring Organisations or their representatives.

The whole should be governed by a Charter.

Several international organisations dealing with education and research, as well as foundations are, or will be, invited to sponsor the Virtual University. Acceptance for sponsorship has been received from UNU in Japan, WMU, the Peace University.

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 or 5 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 is limited to a range of 15-20. 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 works, the renewal of courses etc. This could 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 seen 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 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 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. Supervisors for the thesis works 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 statutory parts of the structure in order to ensure credibility:

- Credits Committee;
- Evaluation and review committee;
- External examiners committee.

These Committees may be formally appointed by the Board of Governors. In addition there will be a Finance Committee, which may be part of the Board of Trustees.

Curriculum

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, 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 at any one of the IOI Operational Centres and Affiliates and/or in their host institutions. They also can be taken through distant-learning arrangements which will be offered through the IOI web site.

2. There will be an internship of one quarter which can be completed in any of the IOI Operational Centres or Affiliates.
3. There is a thesis requirement. Students can select their supervisor and thesis committee from the roster of the Virtual Faculty. The best of the theses will be published as IOI Occasional Papers in the Ocean Yearbook.

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

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.

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 and network 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 as 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 to be 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 is being developed during 1999, and will be "An Introduction to Integrated Coastal Management." The target audience includes mid-career decision makers who may wish to acquire or refresh a basic understanding of ICM principles as well as undergraduate and postgraduate students of environmental management, coastal engineering, or environmental law. While the focus is South African, the course will be available globally via the medium of the internet. Additional modules are in the planning stages and will be developed during future years.

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 is due to be 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 fairly 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.

A preliminary overview (not a complete list) of courses available in some of the participating IOI Operational Centres and their Host institutions is provided in Annex 1.

Finance and initial management

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; of 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.

In order to start the action the initial management should rely to the extent possible on the existing IOI machinery. We cannot initially 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.

Further developments

The provisional Charter, the funding, the course structure and curriculum, required credits and provisional faculty will be further elaborated until June 2000.

IOI Virtual University
Annex 1
IOI-Headquarters
3 March 2000

Preliminary overview of existing courses, as per
information available here February 2000

Note: The categorisation is very preliminary and is not based on any particular model. Furthermore the information provided on the course contents varies very much. Therefore the placement of courses in the various categories is mainly based in the title of the course. Clearly there is also in several cases overlapping between the groups so that one course fits in more than one category.

A. Basic discipline-oriented subjects related to understanding
the ocean

COURSE NAME	INSTITUTION
Marine Chemistry	IOI-Pacific Islands/MSP/USP
Marine Biology	- " -
Fish and Fisheries Biology	- " -
Special Topics in Marine Science	- " -
Physical Sedimentology	- " -
Molluscan Biology	- " -
Marine Phycology	- " -
Mangrove Ecology	- " -
Marine biodiversity	IOI-Canada/Dalhousie
Coastal Ecology	- " -
Introduction to Oceanography	- " -
Fisheries Oceanography	- " -
Introduction to Biological Oceanography	- " -
Aquatic Microbiology	- " -
Marine Modelling	- " -
Exploring GIS	- " -
Biodiversity and productivity of Marine and Coastal ecosystems	IOI-Senegal (in French)

COURSE NAME	INSTITUTION
Observations of tides and tidal analysis	IOI-China
Analysis of marine and coastal systems	IOI-Costa Rica/Universidad Nacional (in Spanish)
Marine biology	- " -
Marine and Coastal Ecology	- " -
Marine Botany	IOI-Southern Africa/ University of Western Cape
Zooplankton Ecology	- " -
Introduction to Pelagic Ecology	- " -
Evaluation of photosynthesis organisms	- " -

B. Coastal Management

COURSE NAME	INSTITUTION
Principles of Integrated Coastal Management	IOI-Pacific Islands/MSP/USP
Integrated Coastal Zone Management	- " -
Coastal Fisheries management and development	- " -
Applied rural and agricultural geography of the Pacific Islands	- " -
Geography and development in the Pacific	- " -
Resource conservation and management	- " -
Tropical Geomorphology	- " -
Atoll geoscience	- " -
Marine pollution	- " -
Climate Change Vulnerability and adaptation assessment	- " -
Waste disposal and design	IOI-Canada/Dalhousie
Coastal Zone Management laws	- " -
Marine Protected Areas	- " -

COURSE NAME	INSTITUTION
Integrated Coastal Zone Management	IOI-Senegal (in French)
Marine and Coastal Zone Planning and Management	- " -
Integrated Management of coastal resources	- " -
Management of artisanal fisheries in coastal areas	- " -
Implementation of the Law of the Sea and Integrated Coastal Zone Management	IOI-China
Integrated coastal zone management (in Chinese)	- " -
Policies and Legislation related to the coastal zone	IOI-Costa Rica/Universidad Nacional (in Spanish)
Assessment of marine and coastal resources	- " -
Management of marine and coastal resources	- " -
Evaluation of marine and coastal resources	- " -
Introduction to Integrated Coastal Area Management	IOI-Southern Africa/ University of Western Cape
Managing Marine Pollution	- " -
Resource mapping	- " -

C. Resources management and economics

COURSE NAME	INSTITUTION
Resource and environmental economics	IOI-Pacific Islands/MSP/USP
Management issues in environmental and Resource Economics	- " -
Selected studies of regional management of marine resources in the South Pacific	- " -

COURSE NAME	INSTITUTION
Resource economics	IOI-Canada/Dalhousie
Economic development	- " -
Mining and Metallurgical engineering	- " -
From disaster relief to development	- " -
Fisheries economics	- " -
International business	- " -
Management and conservation of marine resources	- " -
Marine information management	IOI-China
Deep Sea Mining	- " -
Environmental Resource Economics	IOI-Costa Rica/Universidad Nacional
Political economics	- " -
Application and evaluation of fisheries technologies	- " -

D. Mariculture and community development

COURSE NAME	INSTITUTION
Applied Pacific Island biogeography	IOI-Pacific Islands/MSP/USP
Environmental and marine microbiology	- " -
Management and development of coastal fisheries	- " -
Seafood Science	- " -
Aquaculture, in Biological Engineering	IOI-Canada/Dalhousie
Sustainability and global change	- " -
Economic development of communities	- " -
Fisheries Law	- " -
Community based co-management	- " -

COURSE NAME	INSTITUTION
Invertebrate fisheries and aquaculture	IOI-Canada/Dalhousie
Ecology and evolution of fisheries	- " -
Theory of sustainable development	IOI-Costa Rica/Universidad Nacional
Seaweed Mariculture for community development	IOI-Southern Africa/University of Western Cape
Public-private partnerships	- " -
Conservation Biology	- " -

E. Governance, legal and political aspects

COURSE NAME	INSTITUTION
The politics of the Pacific Rim	IOI-Pacific Islands/MSP/USP
Selected studies in Geography of the Pacific	- " -
Law of the Sea	IOI-Canada/Dalhousie
International environmental law	- " -
Marine environment protection law	- " -
Maritime law and policy	- " -
The politics of the sea	- " -
Comparative marine strategies and ocean policy	- " -
Law of the Sea, Agenda 21 and its implementation	- " -
Implementation of the Law of the Sea and UNCED Agenda 21	IOI-China
International negotiations	IOI-Costa Rica/Universidad Nacional
International cooperation	- " -
Communication across cultures	IOI-Southern Africa/University of Western Cape
Communication and practical skills in government	- " -

COURSE NAME	INSTITUTION
Comparative approaches to government	IOI-Southern Africa/ University of Western Cape
Introduction to global governance	-



International Ocean Institute

HEADQUARTERS

TELEFAX TRANSMISSION

Date: 10 April, 2000 No. of pages: 5

Attn: To members of the IOI Virtual University Working Group

To: Prof. Elisabeth Mann Borgese
Founder & Honorary Chairman
IOI-Canada
Halifax, CANADA Fax: +1 (902) 868 2455

From: International Ocean Institute
H.Q., University of Malta
Msida, MALTA Fax: +356 (-) 346 502

Subject: Addressing our tasks

Dear Elisabeth,

The terms of reference are attached (Annex 1). For easy reference I also attach quotes from our first meeting in Fiji (Annex 2).

We have a draft Charter and a preliminary course list. Now we need to address the other tasks. Hence, for the sake of discussion I attach some ideas on requirements for a master degree from the IOI-VU (Annex 3). The suggestions lead to requirements of 4 core courses. Please review the suggestions and come up with alternatives, or adjustments or corrections.

The points address tasks 4 and 5.

With respect to a roster of members of the Faculty, I suggested this task be coupled to the courses and the advisors for the research work and thesis preparation.

We could identify a set of experts who could act as supervisors/advisors. Presumably all the Operational Centre Directors and some of their colleagues could be included, and several other persons we know.

The others would be the teachers of the courses, and perhaps we do not need to make a list of those persons. Once you teach a course for the IOI-VU you are a member of the Faculty, in my view.

-2-

Selection of core courses: I invite all of you to consider the preliminary list which I sent earlier, perhaps in combination with the idea of a structure which I also circulated. Once we have agreed on a selection of some core courses, we can proceed to discuss how these could be turned into distance learning modules (task 7).

As regards budget, some suggestions have been made earlier, and I suggest we discuss this matter here in June (task 8).

An administrative structure has been suggested in earlier correspondence of mine, together with a transitional "statutes" mechanism (task 9). I suggest we need to discuss this rather than pursue it by correspondence.

With respect to selection of initial core courses, I agree with Robin South in selecting existing ones which have been tried internationally. Perhaps each of you could come here in June with ideas on this - with specific suggestions, as Robin has already given. Maybe the distance learning modules on ICAM being prepared in IOI Southern Africa can be included also?

Basic science (knowledge) courses are optional, and if chosen could perhaps be taken during the internship period. This will of course depend upon time, fellowship funds, hosting university fees, and if these courses can be taken as individual ones. Obviously we need to discuss all this, and be as realistic as possible, without killing the baby before it has been born.

With best regards,

Yours sincerely,



Dr. Gunnar Kullenberg
Executive Director

Att.

Annex 3

IOI Virtual University - Ideas as regards requirements for a masters degree1. Using USP/MSP as model

There Post-graduate Diploma requires 4 post-graduate courses, taken over 2 semesters (1 year); compared to an under-graduate course these should then be equivalent to at least 1.5 credits; with 1 credit given to each under-graduate course and 6 expected to be achieved per year, and 20 credits required for a batchelor's degree. With each semester being 14-16 weeks one post-graduate course then requires about 2 months of study.

For a masters degree an independent research project and a thesis must be achieved. This takes 1-2 semesters (about 1 year). However, how many Post-graduate courses are required?

For the IOI-VU we could propose for example:

- 6 post graduate courses, requiring a study time of about 12 months, and a research project with a thesis work requiring 6-8 months.

Each post-graduate course would have to require considerably more work than an undergraduate course. We could perhaps say that one post-graduate course would at least equal 1.5 undergraduate courses.

Thus we would require 4 core courses of a post graduate level, giving in all 6 credits. Then we would require an equal amount of credit through optional courses. These could be a combination of post-graduate courses (1.5 credits) and senior level (3rd year) undergraduate courses (1 credit). So, if one takes 2 optional post-graduate courses, this could be combined with 3 senior level undergraduate courses.

The total course credits would be 12, and the research work with thesis preparation would, equally, give 6 credits. In all 18 credits.

2. Using WMU as a model

Not yet available.

Informal discussion of the IOI Working group on the IOI Virtual University

Present: Elisabeth Mann Borgese, Robin South, Derek Keats, Gunnar Kullenberg

These notes are prepared by Gunnar Kullenberg

We addressed the points of action expected of the w.g. established by the Board, as identified in Elisabeth Mann Borgese draft.

The reactions to are given below:

- 1. Charter to be drafted by Prof. Yankov, using models of UNU, WMU, USP University;**
- 2. The list would include courses given from and above 3 years, of the host institution, and the IOI courses. This would include post-graduate courses, honours courses and some undergraduate courses; Languages: English, French, Spanish; credits provided by the host institution should be included and a brief description, content, and hours required. This would be provided by all Operational Centre Directors.**
- 3. The number of core courses will depend upon credit requirements; Distance Learning modules for 2 courses of core material are needed. This selection will be a collective effort of the working group.**
- 4. This would be done on the basis of the information provided.**
- 5. This must be a collective effort on basis of requirements in various places.**
- 6. These are individuals who also could participate in the teaching, persons who have been involved in tutoring IOI courses and teachers giving the courses at the host institution.**
- 7. Drs Keats and South will give some thought to this, as on modules existing eg. at the Open University. We will have to create or find an inventory.**
- 8. Later**
- 9. To recommend administrative structure and arrangements – later.**
- 10. Clients in the first instance we would address our normal IOI clients, middle-lower level managers, on-the-job training, upgrading, etc.**
- 11. We will organise a meeting of the Working Group at the BBS in February 2000, at the Risk Management Seminar.**

Annex 1

Terms of reference of IOI Virtual University
Working Group

The Working Group established by the IOI Governing Board with the following tasks to:

1. Arrange for the drafting of a Charter for the IOI Virtual University;
2. Compile a list of all IOI training programmes as well as ocean-related courses offered by the host institutions;
3. Select 4 "core courses" to be taken by all students;
4. Determine the number of academic credits to be attributed to each course;
5. Determine the total number of credits required for the degree (master level);
6. Compile a roster of members of the Virtual Faculty;
7. Coordinate the preparation of courses for distance-learning arrangements;
8. Prepare a budget for the first 5 years of the Virtual University;
9. Recommend the administrative structure.

The Working Group should provide an interim report at the mid-term meeting in June 2000, and a full report to the Governing Board, November 2000.

*To other Members of IOI-VU Working Group
With best regards from Gunnar; 5 April
2000*

IOI VIRTUAL UNIVERSITY OF THE OCEAN

Following are some further thoughts on the Virtual University concept. These are based on a reading of the Executive Director's report of 6 March.

1. **Finance & Initial Management:** I believe that the University must begin in a modest way, given the proposed finance and initial management structure. Since little funding may be available for students, and that the main targets are students from developing countries, I am wondering how the University will get off the ground. These students would at least have to pay relevant fees, and would have to buy books, etc., even if they are taking courses in distance mode.
2. **Courses:** A lot of work needs to be done on the initial course offerings: there are questions of level, content, mode of delivery, pre-requisites and admission that would have to be resolved. Through this process, a number of the courses would be weeded out. My preference would be initially at least to go for those courses that have already been developed for international consumption, for the core programme (e.g. at USP: Resource and Environmental Economics; Climate Change Vulnerability and Adaptation Assessment; Coastal Fisheries Management and Development). For the specialised science courses listed, these would normally have to be taken on site, since they are unlikely to be available by distance mode. I would see participation in these only in the distant future, and well after the core course programme has been thoroughly (and successfully) tested.
3. **Research:** I am in agreement with the idea of research projects carried out at Virtual University member institutions, and under the supervision of appropriate staff. Standards could be ensured through external examination of theses, as is customary at universities. The Virtual University itself should take responsibility for this evaluation process, rather than relying on the host institutions, for various reasons.
4. **Charter:** I am largely in accord with the draft developed by Alexander Yankov, and with the modifications suggested by Gunnar Kullenberg. From the practical point of view, the start-up model and the suggestions regarding the composition of the Academic Council could be suitable for the transition period; this Academic Council could be charged with the development of the post-transition arrangements.

These and other points will hopefully be elaborated at the June meetings.

G. Robin South
Director, IOI-Pacific Islands



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: January 24, 2000

Subject: Virtual University

Dear Gunnar,

Here is my much toiled contribution to the next phase of development of the Virtual University Project. I hope the other Centres have also come through!

At a later stage I will provide brief c.v. for the members of the "Virtual Faculty." I think at this stage it is not necessary as I really don't know as yet who will be listed in the end.

"A" -- as far as Dalhousie is concerned, should consist of the syllabus of our training programme (this explains why I started with "B").

The Dalhousie Masters Degree in Marine Management requires 5 ½ credits fr 4 core courses and 5 electives. I have listed only 2 full-credit courses as core courses, but one could add a couple of half-credit courses. Some of them are really good.

I have also written to Maurice Strong at the Peace University, to the D-G of UNESCO, to whom Fujiko has introduced me; and to Laubstein and Zade at the WMU -- but no replies yet! I have also reminded Yankov of his promise -- but not had an answer. If he fails us I think we should ask Pinto. Even Max Bruce I think could do it well.

I think the "Project Document" we have to put together should be a brick to hit people over the head with...

Love,

B. Courses Available at Host Institution (Dalhousie University)

The following listing is incomplete: more a sampling than a listing. A complete listing would fill a book. The wealth of ocean-related courses offered by Dalhousie University is impressive. The criterion for this sampling has been suitability for an interdisciplinary degree. Highly specialized technical courses have therefore been omitted.

I. Courses Available in Biological Engineering

1. Aquacultural Engineering. BIOE 4322.03
The general types of aquacultural engineering systems are discussed along with the main species of finfish, molluscs, crustaceans and algae currently cultivated in Canada. Controlling the characteristics of fresh and saline water is examined. Site selection and land impoundments are discussed. The design of marine systems, feeding systems and harvesting systems is developed. A project design is carried out by all students. Field trips are an integral part of the class.
Format: Lectures 3 hours, Lab 6 hours
One-half credit.
2. Design Project for Environmental Engineers I. BIOE 4401.03
The objective of the class is to provide students with first hand experience in applying engineering design principles, biogeochemical analyses and environmental assessment techniques to the solution of specific environmental problems related to air, soil and water pollution control. Students are expected to display a high level of initiative and ingenuity in carrying out the project.
Format: Lecture 1 hour, Lab 5 hours
One-half credit.
3. Design Project for Environmental Engineers II. BIOE 4402.03
This is a continuation of BIOE 4401 leading to a final presentation in both oral and written format.
Format: Lecture 1 hour, Lab 5 hours.
One-half credit
4. Waste Disposal and Utilization BIOE 4612.03
The physical, chemical and biological properties of liquid and solid wastes are discussed and related to current handling and disposal methods. Solutions to problems of pumping liquid waste, lagoon design and holding facilities are presented. Methods of land application of wastes are compared based on pollution problems and fertilizer issues. Technological advances of utilization of wastes for the production of compost, single cell protein, alcohol, fertilizer, biogas, and chemicals are discussed. The class includes a term project, field trips, and seminars.
Format: Lecture 3 hours, lab 3 hours

One-half credit

II Courses Available in Economics

1. An applied Class in Economic Development and the Environment -- Concepts, Policies and Projects. ECON 2251.03
This class is designed around alternative concepts of sustainable development, with emphasis on key theories, experiences and issues of relevance to developing countries and less prosperous regions of industrial countries -- including Atlantic Canada. In addition to reading and written work, this class extensively draws upon case study approaches to learning -- both within and outside the university setting. There are three conceptual levels (1) Principles and tensions behind sustainable development; (2) International, national and regional policy and planning approaches to sustainable development; (3) Projects for sustainable development.
Professor Signature required.
Format: Lecture, case work with group presentations; tutorials, 3 hours.
Prerequisites: Introductory Economics
One-half credit
2. An Applied Class in the Economic Development of Communities and the Environment ECON 2252.03
This class follows Economics 2241.03 and (building further on concepts of sustainable development as they particularly apply to developing countries and less prosperous regions of industrial countries) provides participants with field work experience at the community development level. Students have an opportunity to work on projects hinged to governments, business and/or nongovernmental organizations.
Professor Signature required
Format: Lecture, case studies and field work with group presentations and an end term conference, 3 hours and group tutorials.
One-half credit
3. Resource Economics. ECON 3332.03
This class focuses on intertemporal economics and the economics of market failure as they pertain to the use of natural resources. A selection of resource sectors will also be discussed. Fisheries, agriculture, forestry, and energy represent possibilities, but this will vary from year to year.
Format: Lecture 3 hours
Prerequisite: Introductory Economics and Instructor's consent.
One-half credit
4. From Disaster Relief to Development ECON5252.03
This class exposes students to the growing economic literature built around comparative experiences of disaster prevention, relief and economic

development. Analytical frameworks for better understanding the reasons behind a cross-section of disasters are explored -- as aids to improving development planning at both project and broader policy levels. Main themes include food security, distribution and drought reduction, refugees, asylum seekers and settlements for sustainable development, early warning systems for cyclones and famines -- their integration into national development planning; emergency programming in the context of military, political and economic instability; issues of humanitarian law and peacekeeping. Case studies are being tested in cooperation with the UN Department of Humanitarian Affairs and the Pearson International Peacekeeping Training Centre, as a routine part of the class's applied orientation.

Instructor: I. McAllister

Format: Seminar 2 ½ hour

One-half credit

5. Fisheries Economics 361.1(2)

This class emphasizes the application of economic concepts to problems of fishery management and development. Topics to be discussed include: common property resources, the economics of fishery regulation. Socioeconomics, fish markets, and the fishery as part of the national and regional economy. Particular attention will be paid to current issues in the Atlantic Canada fishery.....

Instructor: T. Charles

Format: Classes 1.5 hours, seminars 1.5 hours a week

One-half credit

III. Courses Available in Environmental Science

1. Marine Diversity. BIOL 2001.03

The sea was the cradle of life and the origin of most phyla. This class explores the enormous variety of living and fossil organisms from the sea and looks at the special problems and adaptations of benthic, planktonic and nektonic species. It examines functional and taxonomic relationships using lectures, laboratories with living organisms, and a field trip.

Instructor: C. Corkett, R. Scheibling

Format: Lecture 2 hours, lab 3 hours

Prerequisites: One full credit in Biology.

One-half credit

2 Coastal Ecology. BIOL 3623.03

This summer class will provide students with field experience in various aspects of the ecology of near-shore marine systems. Class projects will include the following: the zonation of intertidal communities along with marine-terrestrial gradients of rocky shores, shady beaches, and saltmarsh-tidal flats; the behaviour of intertidal animals; field experiments in marine ecology; and methodologies for ecological sampling and study design. Students will obtain hands-on experience

in measuring physical factors (e.g., wave action, desiccation, temperature, solar radiation, sediment structure) and biological interactions (e.g., predation, competition, facilitation) to determine how these relate to patterns of distribution and abundance of organisms. During the second half of the class, students will design, conduct, and present independent research projects. Field trips will leave from the university each day. This class carries an additional fee to cover the costs of transportation.

Format: Field intensive

One-half credit

IV Courses Available in International Business

1. Seminar on Marine Resources and Ocean Industry. BUSI 6805.03
The class objective is to introduce seminar participants to the nature and operations of ocean business, both traditional and modern. The content recognizes both national and international dimensions in such areas as policy, ownership, technology, finance, marketing, and operations. In the process, participants are also made aware of the relevant aspects of ocean management and law. Specialists from business, government, and the academic community address the seminar on their particular areas of expertise. The class moderator provides for the integration of the material, drawing out the business implications of each aspect. A major research paper is required.

Instructor: Don Patton

Format: Seminar

One-half credit

V Courses available at the Law School

1. Law of the Sea: LAWS 2022.03
The conclusion of the Third U.N. Conference on the Law of the Sea was the result of the world's most ambitious law reform movement in the form of the Third United Nations Conference on the Law of the Sea (UNCLOS III), which was in preparation and in session from 1968 to 1982. The result is a new treaty which governs almost every conceivable aspect of ocean use, establishes a new

regime for ocean jurisdictional zones and provides a global administrative and regulatory structure for the oceans. This seminar will undertake a detailed analysis of the “new law of the sea” by examining the Convention and other materials. Included in the analysis will be an examination of navigational issues (territorial sea, international straits, archipelagoes), resource issues (exclusive economic zone, fisheries, nonliving resources, maritime boundary delimitation); protection of the marine environment, transfer of marine technology, marine scientific research, dispute settlement, international ocean development. The Canadian interest in the new law of the sea will also be examined. The class will be conducted as a seminar and students are expected to make contributions based on substantial reading. A major term paper on an approved topic will be written by all students and students may be required to make a special oral presentation in class. It is expected that several expert visitors will address the class.

Instructor: P Saunders

Format 2 hours a week

Evaluation: Major paper, presentation and class participation.

One-half credit

2 Coastal Zone Management: LAWS 2041.03

Coastal areas, home to nearly three quarters of the world’s population, support some of the most biologically diverse and productive ecosystems. The number and variety of uses and user groups competing for this land, air and sea space is ever increasing; resource-use conflicts are increasing and are often difficult to effectively resolve, whilst the resources in these coastal environments are decreasing and deteriorating. As a result, there is an urgent need for integrated coastal management (ICM) in Canada and other coastal States to plan, manage and regulate multiple uses and achieve sustainable use of the coastal environment. This is a complex challenge and raises many legal and policy issues at all levels, from community-based to global initiatives.

The seminar examines the legal framework, concepts, principles, tools and models associated with coastal zone management worldwide. The approach will be comparative and interdisciplinary, examining coastal zone management from a community, national, regional and international perspective. The responses will be analysed through lectures (including guest lecturers from Canada and abroad), case studies, simulation exercises and class discussion. There will be specially

assigned readings for each class and general class materials. Class outline is available.

Instructor: E. Meltzer

Valuation: Major paper (80%; class participation, 20%.

One-half Credit:

2. Fisheries Law: LAWS 2020.03

This seminar is designed to acquaint students with the public and private law aspects of fishing and fishery management in Canada. While the central focus is on law and the regulatory framework, questions of policy frequently arise for discussion. The class is taught by a combination of questioning, lectures and guest speakers. Problems unique to fisheries regulation and methods of fishery management will be discussed to set the context in which the law operates. International considerations, constitutional problems, fisheries legislation, the interplay between private rights and public rights and the problems of enforcement and environmental protection will be the central topics discussion.

Instructor: W. Moreira

Format: Two credit hours

Evaluation: Minor paper and class participation

One-half credit

4. International Environmental Law: LAWS 3051.03

The progression of international environmental law from “customary” co-existence to “conventional” cooperation is explored through nine topics: (1) State Responsibility and the Environment: One Step for Humankind (2) “Soft Law” Environmental Principles: From Stockholm to Rio; (3) the Legal Waterfront of Marine Environmental Protection; (4) The International Law of the Atmosphere. Acid Rain, Climate Change, Ozone Depletion; (5) The Protection of Biodiversity; (6) the International Framework for Controlling Transboundary Movements of Hazardous Wastes and Toxic Chemicals; (7) the Politics and Prospects of a Global Forests Convention; (8) Polar Regions and the Environment: The Arctic and Antarctica: and (9) Free Trade and the Environment.

Co-requisites: International Law or Environmental Law

Evaluation: Major paper 80% and class presentation 20%

One-half credit

5. Marine Environmental Protection Law: LAWS 2124.03
Protection of the Marine Environment was one of the earliest and most extensive areas of development in international and national environmental law. The transboundary nature of the issues and dramatic public impact of marine pollution incidents have contributed to a dramatic growth in the number and scope of legal instruments aimed at regulating uses and resources of the marine environment. This legal activity has been accompanied by a growing understanding of the critical importance of the oceans to the health of global systems in general, whether as a source of food, a sink for pollutants or a regulator of climate.

The objective of this class is to provide an understanding of the development and current state of law dealing with protection of the marine environment. The examination will proceed initially from the international level, but will focus on the implementation (or non-implementation) of these principles in Canadian law. The specific topics covered in the seminar will vary from year to year depending on current issues and student research interests, but the following list indicates the general subject areas which will be addressed: (1) The Legal Status of the Marine Environment (International and Domestic); (2) Vessel Source Marine Pollution; (3) Land-based Marine Pollution; (4) Dumping of Wastes at Sea; (5) Regulation of Activities on the Continental Shelf; and (6) Protection of Particular Interests (e.g., protected areas; biodiversity).

Instructor: P. Saunders

Evaluation: Major paper and class presentation

Prerequisites: One of Environmental Law 1, Maritime Law 1, Law of the Sea, or Ocean Law and Policy

One-half credit

6. Maritime Law and Policy -- Carriage of Goods by Sea: LAWS 2134.03
This is an advanced seminar that deals in depth with different fields of maritime law and policy from year to year. When the seminar focuses on marine transportation, the class will explore the rights and responsibilities of the various parties to the export and import of goods by sea. Thus it will interest students of maritime law, shipping management, foreign trade and international business generally. The class will be conducted by discussion of a variety of shipping documents and legal materials, both Canadian and international, in the context of a number of transactional problems which students will be invited to argue.

Student papers directed to overseas trade or shipping policy issues as well as maritime law reform will be encouraged.

Instructor: H. Kindred

Format: 2 hours a week

Evaluation: Oral assignments and a major research paper.

One-half credit

VI Courses available in Mining and Metallurgical Engineering

1. Mineral Economics MINE 4712.03
This class applies the economic concept of a free enterprise system to evaluate the investment risk factors in the mineral industry. The major subjects discussed are the influence of mineral commodities on economy and politics, mineral policy, marketing of mineral commodities, price mechanisms, mine projects evaluation, feasibility studies and mine financing. A term report is assigned to each student to conduct a mineral economics analysis.
Format: Lecture 2 hours, Lab 2 hours
One-half credit.

VII. Courses available in Ocean Studies

1. Community-based Co-management. MARA 5012.03
This class will critically examine the extent to which community-based co-management provides a viable approach to marine resource management in terms of its costs and benefits, opportunities for and barriers to its implementation, and conditions necessary for its long-term survival as a practical management tool.
Instructor: A. Dwire
Winter
Format: Lectures, 3 hours
One half credit.
2. Marine Protected Areas. MARA 5013.03
The creation of refugia from human exploitation in the marine environment for the purposes of conservation and sustainable resource usage is a fast-growing application of ecological theory and ecosystem-based management practice. The holistic approach marries fundamental ecological research, fisheries science,

park management and social policy. Most applications have been in the tropics where effective tools for conservation of marine resources are urgently needed, but MPAs are planned for virtually every maritime country. Criteria and information requirements for the selection, establishment and adaptive management of MPAs are evolving on many fronts. Broadly interdisciplinary approaches are required. Professionals in marine affairs need to be aware of the state of the art in MPA theory, design and operation. That is the goal of this course.

Instructor: G.B. Hatcher

Format: Lecture, 2 hours

One-half credit

VIII. Courses available in Oceanography

1. Introduction to Oceanography. OCEA2850.06 (*Core Course*)
A general survey of Oceanography showing how the oceans, which account for more than 70% of the earth's surface, function as a dominant environmental force. Consideration also is given to man's impact on this ecological system. Designed to give a background or feeling for the ocean, what oceanography is, and what oceanographers do. It is not a good "background to science" class, since little feeling will be obtained for scientific techniques which would otherwise be acquired in a laboratory class. Most of the material covered is descriptive rather than basic, inasmuch as it is impossible in the time allowed and the material covered to also teach the basic required sciences.
Instructor: R.O. Fournier
Format: Lecture 3 hours
Restriction: Second year students only, or more advanced students
One full credit
2. Fisheries Oceanography. OCEA 4160.03
Students who are not competent with fundamental population dynamics, ecology, physical oceanography, calculus, statistics, and computerized analysis should not enroll. The class focuses on the ecology of marine fish (including significant advances made in freshwater systems) and on the biotic and abiotic influence on marine fish population dynamics and production, distribution and abundance. Lectures include reproduction, early life history, feeding, growth, metabolism,

mortality, and recruitment variability and forecasting. Emphasis is placed on: (1) hydrological and meteorological processes influencing the above and on (2) the primary literature, current problems and hypotheses, and fruitful research directions, approaches and techniques. Some emphasis is also placed on the application of scientific insights to fishery management techniques. Students are required to write a primary publication-style research paper.

Instructor: C.T. Taggart

Format Lecture 3 hours, some practicums/tutorials

Prerequisites: OCEA 2850.06 or 2851.03 or equivalent or instructor's consent.

One-half credit

3. Introduction to Biological Oceanography OCEA 5140.03
A class for graduate students in which the relationship between the plants and animals of the sea and their chemical and physical environment is explored. The class is concentrated on the research literature, so that students can examine the major unsolved problems of the discipline, as well as gain background knowledge for research in oceanography.
Instructor: M. Lewis
One-half credit
4. Invertebrate Fisheries and Aquaculture OCEA 4600.03
Subject matter will deal with commercially exploited invertebrates (crustaceans and molluscs) with a heavy emphasis on bivalves. Topics to be covered include: (1) Review of the major invertebrate harvest fisheries (location, methods, population cycles, fisheries models) (2) Biology and ecology of the Bivalvia (feeding, bioenergetics, growth, and reproduction) (3) Shellfish aquaculture (methods, species, site location, economics). These topics will be covered with respect to the Maritimes as well as non-local fisheries. Class structure will be a mixture of lecture and class discussions, supplemented by visits to aquaculture sites. Class requirements will include a research paper and oral presentations.
Instructors: J. Grant, G. Newkirk
Format: Lecture/discussion 3 hours
One-half credit
5. Ecology and Evolution of Fishes. BIOL. 3067.03
This class will examine selected topics on the ecology and evolution of marine and

freshwater fishes. Topics shall include systematics, morphology, evolutionary ecology, behaviour, life history strategies, population biology, and fisheries management.

Instructor: J. Hutchings

Format: Lecture 3 hours, tutorial/lab 2 hours

One-half credit

6. Aquatic Microbiology BIOL. 3100.03

The main emphasis of this class is on the interactions of microbes with aquatic plants and animals including nutrition, disease and disease resistance mechanisms. Part of the class considers the role of microorganisms in nutrient variability and productivity in aquatic environments.

Instructor: R.G. Brown and D. Cone

Format: Lecture 2 hours, lab 3 hours

One-half credit

7. Sustainability and Global Change BIOL 4065.03

Since the publication of the Brundtland Commission's report (Our Common Future), Sustainable Development has become a world-wide concept both embraced and argued over by the North and the South. Most countries include it in their national priorities and approaches to development. At the same time, it is as controversial as it is challenging particularly when moving from the philosophical level to the applied one. At the center of the challenge is the balance to be achieved between a healthy and enduring environment, and economic growth designed to raise real incomes in a consumption-crazed North and a rapidly more populated, and often impoverished, South. Governmental departments, non-governmental organizations, and private enterprises are all challenged to produce sustainable development strategies. The Rio Earth Summit (1992) was a watershed exposé of the gaps between myth and reality. Yet for all, achieving sustainability must be considered the best way to traverse the 21st century. Both theoretical and applied research are urgently needed. It appears increasingly likely that the concept, 'sustainable development', will be a central theme in development studies for the foreseeable future, however elusive that concept may prove to be.

This class traces the development of the concept and reviews a cross-section of

situations encountered in both at the macro and micro levels, in the North and South. Essentially, to achieve sustainability required genuinely interdisciplinary and holistic approaches. Practical tools will be introduced to measure sustainability and to evaluate its general application for a variety of development scenarios. Students will be given the opportunity to sample a diverse literature of promoters and critics of the concept. Preparation of a term paper to be presented at a class conference open to the public will provide students with an experience of evaluating sustainability in a concrete manner

Instructor: J. Lane (Biology) with I. McAllister (Economics)

Format: Lecture and tutorial

One-half credit.

8. Marine Modelling OCEA 4380.03

A graduate level survey of modelling techniques applied to biological-physical problems in oceanography. Lecture material includes philosophy of modelling, dimensional analysis, parameterization of unresolved processes, numerical representation of ordinary or partial differential equations, model validation and fundamental limits to predictability and frequency domain analysis. Students are given the opportunity to study special topics in the current literature, e.g., prey-predator models, spatial patchiness models, models of the biomass size spectrum, models of pollutant dispersal, etc.

Instructor: M. Lewis

Format: Lecture 3 hours

Prerequisites: Instructor's consent

One-half credit

IX Classes Available in Political Science

1. Management and Conservation of Marine Resources. POLI 3537.06 (*Core Course*)

This is an intensive programme on the problems of managing the multiple uses of the Exclusive Economic Zone. It covers the new law of the sea and its many implications for politics and management, the social, economic, and technical aspects of managing living resources, nonliving resources, shipping, ports and harbours, coastal management and the protection of the environment; national legislation and required institutional infrastructure, regional cooperation and

cooperation with international institutions.

Instructor: E.M. Borgese et al.

Summer programme. Six hours a day for ten weeks. Seminar style discussions, simulations; field trips

One full credit

2. The Politics of the Sea. POLI 3589.03
The major issues involved in the Law of the Sea, the differing interests of different countries, the developing legal framework, and the political process of the ongoing negotiations are covered.
Instructor: Staff
Format: Seminar 2 hours
One-half credit
3. Comparative Maritime Strategies and Oceans Policy. POLI 3591.03
With enormous maritime responsibilities, spread over an area that is beyond the national ability to regulate, the domestic and international forces affecting marine security and oceans policy require continuing study and discussion in Canada. The following are among the topics to be covered in the class: the military dimension of oceans, including comparative naval strategies; proliferation of naval weaponry; arms control and disarmament; conflict resolution and other collective/cooperative security arrangements; the role of international law at sea; the use of rules of engagement as a means of exercising political control. Students will be expected to participate in one or more simulation exercises throughout the class.
Instructor: P. Haydon/F. Crickard
Format: Lecture/seminar 2 hours.
One-half credit

X. Courses Available in SCIENCE

1. Exploring Geographical Information Systems. SCIE 3600.03
This class provides a general overview of Geographic Information Systems (GIS), examines what GIS is, what it can do, and how it works. This class is aimed at non-geoscientists (planners, business majors, etc.). It will include topics such as network analysis, address matching, shape analysis. Lectures are common tp a;

students in the class, while laboratory sessions will be provided to meet the needs of programmes (e.g. urban planning, biology) when enrollments of approximately 12 can be obtained.

Instructor: G.K. Muecke

Format: Lectures - Monday/Wednesday/Friday, 13:35-14:25

Tutorial: Wednesday/Thursday, 14:35-17:25

One-half credit

Virtual Members of the Virtual Faculty
(Many of them have not yet been consulted)

Biological Engineering

N. Ben-Abdallah
J.R. Burney
A.E. Ghaly
K.Z. Watts

Economics

Anthony Charles
S. Dasgupta
W.C. Kimmins
Ian McAllister

Environmental Science

C. Corkett
R Scheibling

International Business

Don Patton

Law

Hugh. Kindred
Evelyn Meltzer
V. Moreira
Philip Saunders

Mining and Metallurgical Engineering

W.F. Caley
G.J. Kipouros

G.M.C. Lee
M.C. Rockwell
N.B. Yemenidjian

Ocean Studies

A. Dwire
R.G. Hatcher

Oceanography

R. G. Brown
D. Cone
Robert Fournier
J. Grant
J. Hutchings
P. Lane
M. Lewis
G. Newkirk
Mary-Jane O'Halloran
C.D. Taggart

Political Science

Robert Boardman
Elisabeth Mann Borgese
Frederic Crickard
Peter Haydon
Timothy Shaw

Science

G.K. Muecke

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POLI 3589.03 : The Politics of the Sea.

The major issues involved in the Law of the Sea, the differing interests of different countries, the developing legal framework, and the political process of the on-going negotiations are covered.

FORMAT: Seminar 2 hours

PREREQUISITE: Preference is given to graduate students, although mature students from other relevant disciplines are welcome.

CROSS-LISTING: [POLI 5589.03](#)

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INTRODUCTION

All of you who take this course have an idea of the importance of the world ocean for life on earth, for States, for the international community. Otherwise you probably would not be here. I will therefore not start by telling you what you already know: that the ocean contains living resources, mineral resources, energy; that it is of vital importance for transport and international trade; for tourism; for national and international security; that large parts of the ocean are badly polluted, endangering living resources and human health; that the management of the increasingly more complex and diversified ocean uses must be based, among other things, on scientific knowledge, while this knowledge itself is in a process of rapid evolution.

Let me just give you a few startling facts and figures which may be news to you:

- At this time, the total value of ocean-related goods and services is in the order of 8 trillion dollars a year -- and it is growing fast.
- There is a continuous stream of developments of new resources (e.g., deep-sea genetic resources; energy resources) and new services (e.g., half a billion nautical miles of submarine optic fibre cables, generating annual revenues of one trillion dollars!)
- The value of the *eco-system services* of the ocean has been estimated to amount to \$21 trillion compared to only \$9 trillion provided by terrestrial eco-systems.
- A large and fast growing majority of the global population lives in coastal zones, subjecting coastal seas and oceans to unsustainable pressures, destroying the oceans' eco-system services and endangering its living resources as well as human health;
- In 1982, the Third United Nations Conference on the Law of the Sea

(UNCLOS III) adopted the United Nations Convention on the Law of the Sea to govern all major uses of ocean space and resources. The adoption of this instrument was hailed by the Secretary-General of the United Nations as the most important event in international relations since the adoption of the UN Charter itself. This Convention, also called “a Constitution for the Ocean” really marks a breakthrough in international law and introduces a number of innovating concepts.

- The Convention entered into force in 1994. In the intervening decade, it was overtaken by other important developments, above all, the 1992 Earth Summit in Rio de Janeiro on Environment and Development which generated a slew of Conventions, Agreements and Programmes, all of which have important ocean dimensions. Therefore they overlap and must interact with the Law of the Sea Convention. This whole complex, multifaceted ocean development is a powerful agent of change.

THE PURPOSE OF THIS COURSE

The purpose of this course is

- to study the great sea change in the broader context of global change as we enter the new millennium and
- to encourage innovative thinking.

What is really new in this Law of the Sea Convention? How does it inter-relate with market-driven globalization? How does it relate to climate change, biodiversity, Agenda 21, the Global Plan of Action to prevent pollution from land-based activities? How can all these inter-relations be managed?

We will observe the emergence of new forms of ocean governance at local, national, regional and global levels. What do they forebode for global governance in general? Can we glimpse new forms of democracy emerging from “integrated coastal management”? Does “sustainable ocean development imply the need for

new economic thinking? What is the impact of *uncertainty* -- more profound in ocean uses than in land uses -- on ocean management and governance -- on management and governance in general? How is risk management to be integrated into “integrated coastal management”? What has sustainable ocean management to contribute to the “eradication of poverty,” to job creation to the enhancement of international social justice? How can ocean governance contribute to the enhancement of peace and security, without which we can have neither economic development nor conservation of the environment?

These and similar questions will occupy us during this course. We don't expect you to answer them. We want you to think about them independently and constructively. THE POLITICS OF THE SEA deals with the relations between humans and the ocean. Clearly, this is a deep and complex emotional relationship.

METHODOLOGY

The course will be conducted in seminar style, with a maximum of student participation. Each two-hour class will be divided into two parts. Students will be assigned selected topics from the syllabus to present to the class during the first hour. During the second hour, the instructors will expand on the student's presentations and discuss additional subjects. Topics will be assigned two weeks prior to presentation. These will commence during the third week of classes.

Students will also be required to write a research paper of 20-30 double spaced pages on a topic of their choice, subject to the instructor's approval. Students will also submit an annotated research bibliography on their research topic and make a short seminar presentation on their research paper at the end of the term.

The class will participate in a simulation exercise, held sometime during the middle of term. The simulation is normally held on a Saturday, and occupies the whole day. The exact date will be agreed upon during the first class.

Students will be graded on their research paper, seminar presentation and class and simulation participation..

COURSE SYLLABUS

September 7: Introduction. The changing international system. Major issues facing the world community and States. Developments leading to UNCLOS III; the politics of UNCLOS III.

September 14: The United Nations Convention on the Law of the Sea, 1982

Overview
Innovative features

Reading: *Ocean Governance and the United Nations, Chapter 1.*
The United Nations Convention on the Law of the Sea, "Introduction

September 21: Implementing the new agenda. National infrastructure. Case study: Canada's Ocean Act; Canadian Ocean Assessment; Integrated Coastal Management and Co-management.

Reading: *Ocean Governance* pp. 151-156. Canada Oceans Act
Reading: *Ocean Governance and the United Nations*, Pp1-11

September 28: Post-UNCLOS developments: The Preparatory Commission and the Secretary-General's Consultations. The Sea-bed Authority in Jamaica: Problems and options

Reading: *Ocean Governance*, Pp 35-48
Implementation Agreement, July, 1994
Secretary-General's Report to the General Assembly on the Law of the Sea, 1994.

Approval of Research Paper Topics

October 5: UNCED, its Conventions, Principles, Agenda 21, and Decisions. Coastal Management; Small Island Developing States; Straddling Stocks and Highly Migratory Stocks. Adaptive change: EEZ/High Seas interaction Global Programme of Action for the Protection of the Marine Environment from Land-based Activities.

Reading: Peter Payoyo, Synthetic Chart
UNEP 1996, Draft Proposal Submitted by the United Nations Environment Programme on Institutional Arrangements for Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (28 October 1996)

Guest Lecturer: David Vanderzwaag

October 12: The Economics of the Common Heritage
Reading: *Ocean Governance*, Chapter 4
The Oceanic Circle, Chapter 3.

October 19: The status of the marine sciences
Guest lecturer: Dr. Robert Fournier

Outlines and Research Bibliography for Research Papers due

- October 26 Building Regional infrastructure. Case study: the
Mediterranean
Revitalising the Regional Seas Programme
- The Global level: The Law of the Sea and the Restructuring
of the United Nations The UN Commission on Sustainable
Development
- Reading: The Barcelona Convention
Ocean Governance, pp. 195-228
IOI UNEP Brochure: The Mediterranean in the 21st century
Simon Upton, Statement at London Preparatory Workshop
IOI Working Paper, April, 1999
The Oceanic Circle, Chapter 6
- November 2: Maritime Security. New missions of navies in the 21st
century. The Agenda for Peace.
- Reading: *Ocean Governance*, pp. 175-194
- Guest Speaker: Rear Admiral Fred Crickard
- November 9: Presentation of Research Papers
- November 16: Presentation of Research Papers
- November 23: Presentation of Research Papers
- November 30 To be noted for the future
Reading: IGPE article offprint

EVALUATION

Your grades will be based on the following criteria:

- | | | |
|----|---------------------------------------------------|------|
| 1. | Research proposal & bibliography | 10 % |
| 2. | Research paper
(Paper 40%
Presentation 10%) | 50 % |
| 3. | Short topical presentation | 20 % |
| 4. | Participation in simulation | 20 % |

SUGGESTED RESEARCH TOPICS (indicative only; other subjects may be proposed and discussed)

1. The Canadian fisheries crisis: social, economic, political implications
2. Co-management: institutional implications
3. The future of aquaculture: environmental, social, economic aspects.
4. The freedom of the High Seas: historic and future perspectives
5. The Common Heritage of Mankind and the future of sea-bed resources
6. The Arctic as a Regional Sea
 - . Environment
 - . Fisheries
 - . Marine scientific research
 - . Technology cooperation
 - . Surveillance and enforcement
7. The North Atlantic as a Regional Sea

8. The Biodiversity and Climate Conventions: Interactions and synergisms with the Law of the Sea
9. Intellectual property and marine technology transfer in the 21st century
10. Maritime security: the oceans and peace
11. 2004: how much updating will the LOS Convention need?
12. The Institutional Framework Created by the Convention

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POLI 3537X/Y.06 : Management and Conservation of Marine Resources.

This is an intensive programme on the problems of managing the multiple uses of the Exclusive Economic Zone. It covers the New Law of the Sea and its many implications for politics and management, the social, economic and technical aspects of managing living resources, non-living resources, shipping, ports and harbours, coastal management and the protection of the environment; national legislation and required institutional infrastructure, regional cooperation and cooperation with international institutions.

NOTE: Students taking this class must register in both X and Y in consecutive terms; credit will be given only if both are completed consecutively.

INSTRUCTOR: E.M. Borgese

FORMAT: Seminar 2 hours

PREREQUISITE: Class in international politics or instructor's permission. Offered as a summer class only; consult instructor.

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Res/IOI Virtual
University
Doc 1094

UNITED NATIONS  NATIONS UNIES

One United Nations Room DC1-1334
Telephone: (212) 963-4035 [] Facsimile: (212) 963-9224

RECEIVED JAN 25 2000

25 January 2000

Dr. Elisabeth Mann Borgese
International Ocean Institute Canada
Dalhousie University
1226 LeMarchant Street
Halifax, Nova Scotia
Canada

Dear Elisabeth,

Yours was one of the first letters to come to my attention as we begin this new Millennium and it was characteristically, excitingly visionary and eminently timely and practical. I cannot think of a more propitious and promising beginning to this new era, one which can make major contributions to shaping the human future, which I am convinced will be largely determined by what we do or fail to do, in the first part of this new century.

I am also pleased that it demonstrates that, while we see little of each other, we are still very much on the same wavelength. Your plans to establish an IOI Virtual University correspond with and complement the plans we are developing for strengthening and revitalizing the UN University for Peace. I am enclosing with this an Executive Summary which summarizes our plans and will send you separately in the near future detailed information concerning them. You will see that there are so many synergies between your proposal and what we are planning to do at the University for Peace, and this leads me to suggest that we must certainly explore how the two can be closely related.

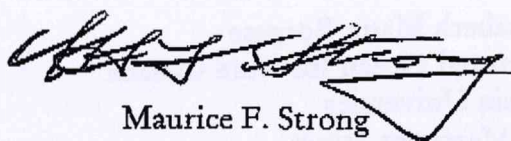
I am dictating this in a very brief stopover in New York, just as I leave for an extensive trip to Asia and Europe, hence by the time I return I hope you will have received the information I am sending you and, in conjunction with what you sent me on the IOI Virtual University proposal, would provide the basis for our meeting in which we could discuss how we might best cooperate in the development of our respective plans.

Dr. Elisabeth Mann Borgese
International Ocean Institute Canada
Dalhousie University
Page 2

In the meantime, I hope you had an enjoyable Holiday Season and that the New Year and the New Millennium which began with it have started well for you and will unfold to meet your highest aspirations.

Warmest regards and best wishes.

Sincerely,



Maurice F. Strong

Cc: Mr. Gerardo Budowski
Mr. Martin Lees

President of the Council
UPAZ-MFS-015-00
January 9, 2000

DRAFT

**EXECUTIVE SUMMARY
A STRATEGY
FOR THE DEVELOPMENT OF
THE UNIVERSITY FOR PEACE**

Background

1. The University for Peace was established pursuant to a resolution of the General Assembly of the United Nations in December 1980 to "provide humanity with an international institution of higher education for peace and with the aim of promoting among all human beings the spirit of understanding, tolerance and peaceful co-existence, to stimulate co-operation amongst people and to help lessen obstacles and threats to world peace and progress, in keeping with the noble aspirations proclaimed in the Charter of the United Nations". It is headquartered at its campus of 302 hectares located on the outskirts of San José, Costa Rica.
2. The University has a unique constitutional status within the United Nations family having been established by an international agreement approved by the General Assembly. It therefore exists outside the normal framework of reporting and accountability requirements which apply to most UN Organizations and Agencies. This gives it an unusual degree of operating autonomy and flexibility and will enable the University for Peace to serve as a link between the governmental and non-governmental constituencies in addressing peace and security related issues.
3. Although this autonomy and flexibility has been utilized thus far to only a limited extent, it will have much greater relevance and value in the period ahead in which new alliances and public-private partnerships will provide the most effective means of dealing with the complex issues that bear on peace and security. The University for Peace is also a truly international University with the authority to grant degrees, which it does at the Master's and Doctor's level.
4. The University for Peace receives no financial support from the United Nations budget. It must seek its financing entirely from voluntary contributions. Since its inception, the University has received only limited funding from relatively few sources and its programs have necessarily been modest in scale and largely confined to Central and South America.
5. Most of the programs and activities of the University have been carried out at its campus. In addition there is the World of Research Center and Information for Peace, in



UNITED NATIONS/NACIONES UNIDAS
UNIVERSITY FOR PEACE
 UNIVERSIDAD PARA LA PAZ



2

CREATED BY U.N. GENERAL ASSEMBLY, RES. / 35 / 55, Dec. 5, 1980

Montevideo, Uruguay and, there are advisors in six other Central American countries, as well as Brazil, Ecuador, Peru, Chile, Argentina, the Dominican Republic and Italy. There has also been a European Center for the University for Peace established in Belgrade. All of these are being re-examined to determine how they can best contribute to the University's new strategy and global mission.

The New Council and Administration

6. The governing body of the University for Peace consists of a Council composed of 15 Members appointed by the Secretary General of the United Nations, in consultation with the Director-General of UNESCO. These include two nominees of the host country, Costa Rica and, as ex-officio Members, representatives of the United Nations, UNESCO and the UN University.
7. In early 1999, as part of his continuing program of reform, UN Secretary General Kofi Annan, with the support and advice of UNESCO Director-General Federico Mayor, and the encouragement and support of the Government of Costa Rica, took the necessary steps to reorganize, strengthen and more fully internationalize the University for Peace so as to enable it to contribute more effectively to the peace and security programs of the United Nations and the goals of its Charter.
8. The Council was reconstituted with an entirely new membership and a list of the Members of the Council is attached as Annex A. The first meeting of the new Council was held at UNESCO headquarters in Paris on March 29th and 30th, 1999. Mr. Maurice F. Strong of Canada, a Senior Advisor to UN Secretary General Kofi Annan, was elected President of the Council. The executive head of the University is the Rector, and Mr. Maurice Strong was appointed Rector by the Council on an interim basis pending recruitment of a new Rector.
9. The second meeting of the new Council – the 11th Session of the Council of the University – was held in San José, Costa Rica, from November 21st to 23rd 1999. The Council agreed on strategic and program guidelines which will launch a new era in the life of the University. These are reflected more fully in the document prepared as a result of the decisions taken by the Council at the November 21-22, 1999 meeting. This will provide the basis for consultations with potential partners and sources of funding and for the initiation of a number of projects designed to be valuable in their own right, while contributing to the further development of the Strategy and Program.

"Si vis pacem, para pacem"

Tels: 249-1072; 249-1512; 249-1511. Apartado 138-6100 Ciudad Colón, Costa Rica, C.A. Fax: 249-1929.
 e-mail: info@upeace.org



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UNIVERSITY FOR PEACE
 UNIVERSIDAD PARA LA PAZ



3

CREATED BY U.N. GENERAL ASSEMBLY, RES. / 35 / 55, Dec. 8, 1980

Vision and Future Perspectives

10. The Charter of the University mandates in broad but clear terms the activities to be carried out: "The University shall contribute to the great universal task of educating for peace by engaging in teaching, research, post-graduate training and dissemination of knowledge, fundamental to the full development of the human person and societies through the interdisciplinary study of all matters relating to peace". The proposed Strategy and Program is designed to build the capacity and program of UPAZ over a 5 year development period to the point where it will be in a position to be the focal point of a truly international program network developed and implemented through close collaboration with many institutions and experts around the world, in particular within the United Nations system. It will make full use of the open-learning/distance-education techniques and technologies, in engaging and reaching people and partner institutions in other locations around the world.
11. In the field of education UPAZ aspires to develop programs at both the Master's and Doctor's level in cooperation with other leading universities in which course credits would be recognized by both parties, leading, in some cases, to granting joint degrees. By the end of the five year development period it should be possible for students with the necessary undergraduate qualifications throughout the world to enroll in a UPAZ Program, select from a range of course modules required to qualify for a degree and take the courses at the campus of a partner University, at the UPAZ campus and through distance-learning. A certain proportion of the courses would need to be taken on-campus, although the selection of the campus would be at the choice of the student. A number of the course modules would also be accessed through virtual and distance-learning techniques. In developing its courses UPAZ would also plan to utilize the expertise of policy research institutes, academies of science and other institutions which have significant knowledge and capability in areas in which UPAZ decides to develop its courses but which do not normally carry out teaching programs of their own. This would give the University an important additional source of intellectual input into its programs through an "institutional faculty".
12. The research programs of UPAZ will also be carried out in cooperation with partner institutions in which both partners can make important value-added contributions. Many established institutes have specialized capabilities and expertise which UPAZ does not have and need not duplicate whereas UPAZ can often provide a much broader reach and influence for the work of such partner institutions and add UN involvement and expertise which would not be so readily available to them
13. In addition to its Degree and Research Programs a special priority of UPAZ will be to foster and support citizen and community level programs and dialogue for the development of a Culture of Peace, for the prevention of conflicts and for their peaceful

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 e-mail: info@upeace.org



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4

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resolution. For this purpose it will make available the results of its professional research and academic work in the forms and through the channels which will make them most relevant and useful at the citizen and community levels as well as to special constituencies of minorities, indigenous peoples, disenfranchised, elderly and disadvantaged people. A particularly important constituency will be youth and the University will foster and support, in cooperation with UNESCO and leading youth organizations, the development of curricula and other materials for use in schools, and the dissemination of information and material for youth groups and other community organizations and special constituencies. All of these would be designed to stimulate and support the development of a broad, people-based peace movement.

14. To guide the development of these activities UPAZ plans to undertake an extensive review of existing peace education and research programs. Consultations, already in progress, with leading institutions and experts which will assist in setting priorities and initiating programs as well as in identifying potential partners and sources of support. It will also draw upon people of exceptional experience and standing in the fields of peace education, research policy and negotiations as distinguished faculty members, fellows, and experts to assist in development and carrying out its academic and research programs. These would also contribute to a roster of senior experts **with experience which would be available to the United Nations, and particularly the Secretary General, for peace-related assignments.**

Current Programs

15. The Culture of Peace and Consensus Building, Conflict Prevention and Resolution have been a key focus of the University's current program. Other important components are a Doctor's Degree Program in Communications and Peace, a Master's Degree in Human Rights and Education for Peace and reputable programs in the field of Natural Resources Management and Conflict Prevention.
16. In addition, UPAZ has an International Documentation and Information Center, (CEDIPAZ) depository of U.N. documents, and the Gandhi Center for Communications and Peace, which operates as an audio visual production unit. Radio for Peace International, a separate, but closely related non-profit short-wave radio station is located on the campus of UPAZ which broadcasts peace related programs throughout the world and the World Research and Information Center for Peace located in Montevideo, Uruguay. Each of these is being evaluated to determine its role in the future of UPAZ.

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New Initiatives

17. In addition UPAZ has already taken three new initiatives:

- a) Peace Parks- UPAZ has joined with IUCN (The World Conservation Union), the Peace Parks Foundation which is promoting and developing Peace Parks in Southern Africa, and other interested organizations, in exploring the prospects for cooperative development of a program designed to foster and support Peace Parks in trans-boundary and other sensitive areas in which they can contribute to peaceful cooperation in prevention of conflict as well as protecting the environment and natural resources of those areas.
- b) The Ombudsman Institute for Environment and Development (OIED)- UPAZ has agreed to cooperate with IUCN and the Earth Council in development of an independent Ombudsman Institute for Environment and Development to assist in anticipating and avoiding environment and resource-related conflicts of an international nature and resolving them when they occur. The Institute will be located at the campus of UPAZ in San José and is expected to initiate it's activities on a pilot basis during the year 2000.
- c) Development of a Master's degree program in two fields, "Ecology and Peace", "Managing Natural Resources Sustainability" building on the successful previous program and "Tourism and Peace" with the emphasis on eco tourism.

Program Development

Main Themes

18. **Conflict prevention** would be the principal guiding concept of UPAZ's educational and research programs. To achieve this they will be organized around five themes:

- a) Culture of Peace
- b) Human Security
- c) Governance, Democracy and Peace
- d) Environment and Peace
- e) Economics and Peace

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Proposed New Research and Education Activities

19. Some promising opportunities have already been identified in each of these areas for the further extension of UPAZ's programs on matters most directly relevant to the peace and security goals of the United Nations where the University can make a distinctive contribution. But the launching of additional activities will be subject to very careful prior consultation and analysis, and in some cases pilot projects, before long term commitments are made. During the initial preparatory year, studies will be carried out on a limited number of topics selected from amongst those referred to below based on the guidance of the UN Secretary General, the availability of appropriate partnership arrangements, and necessary funding.

20. In all cases decisions to undertake new programs, as well as monitoring and evaluation of ongoing programs, will be guided by expert panels. The existing capacities of UPAZ, its strategic partnership with the Earth Council and IUCN provide the basis for a comparative advantage in developing programs in the area of environment and peace in which there is a growing potential for conflict. In developing and carrying out its programs in other theme areas, UPAZ will enter into cooperative arrangements with the most appropriate partner organizations.

21. Research projects on a few selected regional issues will be undertaken during the development phase. Some of the issues being considered are:
 - i) Europe and North Africa- The prospects for developing long term mechanisms to increase cooperation, relieve tensions and prevent conflicts between these two important and closely linked regions.
 - ii) Ensuring Stability in Central Asia- Analysis of prospects for the development of measures to promote economic recovery and cooperation within this turbulent but promising region.
 - iii) The Role of Cuba in the Americas - Lessons to be learned from the unique and distinctive role that Cuba has played in the Americas.
 - iv) The Development of Structures of Peace in Southern Africa- How to build on the remarkable success achieved to date in the transition to peace, democracy and sustainable development in Southern Africa.

Work Plan, Financial and Administrative Matters-

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22. The most immediate priority of the new Administration of UPAZ, when it assumed its responsibilities in March 1999, was to put the house in order. Financial constraints and related inadequacies in administrative capacities had placed UPAZ in a position where its viability was at risk and it was not able to function in accord with the standards of professionalism, administrative and financial accountability that accord with United Nations and international standards. The University was in debt and had no sources of finance that were adequate to cover its financial and current obligations. This situation has now been rectified and the viability of UPAZ restored with the help of the United Nations Development Program, the Canadian International Development Agency and others. However, the availability of finances remains the most important constraint on the ability of UPAZ to realize, develop and carry out its new Strategy and Program.
23. This Strategy and Program is designed to enable the University to achieve its objectives of becoming over a five year period a significant and effective center of a global network of peace education, research and related activities. The initial three years of this will be particularly focused on program development, the first year being the preparatory phase. In the final two years of the five year period the focus is expected to move more to implementation and strengthening the long term foundations for the continued evolution of the program. During the preparatory year (2000) the current program will continue, under the direction of the Vice-Rector, with such improvements and modifications as may be desirable and feasible.
24. In this period existing programs and activities located in other centers will be reviewed and evaluated as to whether and how they might best contribute to UPAZ's Strategy and Program. Recruitment of new faculty and staff for these purposes will necessarily be limited because of the difficulty of offering security of employment until sufficient finances are available. Accordingly extensive use will be made of contract personnel and of part time faculty and experts, out of whom candidates for longer term appointments will undoubtedly be identified. Some of UPAZ's most important and immediate needs may be met through conformations with and secondments from other organizations.
25. In parallel with these continuing activities a new Executive Director for Program Development, Mr. Martin Lees, has been appointed who will initially function from offices in Geneva as well as San José. He will lead the process of Strategy and Program development, in close cooperation and inter-action with UPAZ existing program activities. By the end of the preparatory year it is expected that the current and new activities would be integrated within a single program framework.

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26. This combination of current program and program development will require significant strengthening of management of the University, upgrading its physical plant, equipment and facilities at the San José campus and, especially important, upgrading the communications and computing and information processing capabilities of the University to provide it with the latest and best electronic communications, computing, and distance-learning capabilities.

Financing

This is the most immediate and critical need if UPAZ is to be able to move ahead expeditiously with the realization of its proposed Strategy and Program while continuing its current activities. Attached is a summary of projected financial requirements. Of particular urgency and importance is funding for the first year preparatory phase which has already begun. The minimum required for this purpose is approximately X dollars and the optimum would be at the level of some X dollars. It will be essential to ensure continuity in the development and implementation of the new Strategy and Program to have in place funding commitments expanding over several years. However initially, potential supporters will undoubtedly not want to make unconditional commitments of a long term nature. Accordingly supporters are encouraged to make an initial commitment for the first preparatory year with an indication of potential future support which would depend on performance and progress during the preparatory phase. Discussions on the particulars and modalities of such contributions need to be undertaken on an individual basis with each prospective supporter.

28. **Initial consultations with potential partners, supporters and other interested parties have been extremely encouraging and helpful. This has re-enforced the conclusion of the UPAZ Council that its ambitious program of strengthening and revitalization of the University is achievable.**

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President of the Council/Rector

April 10, 2000
MFS-073-00

Ms Elisabeth Mann Borgese
International Ocean Institute Canada
Dalhousie University
1226 Le Merchant Street
Halifax, Nova Scotia
Canada

Fax: 902-868 2455

Dear Elisabeth:

I am sorry that with my extensive travels it has taken so long to follow up with you on your proposal for the establishment of a "Virtual Ocean University". One of our problems has been to identify the right person to help us explore this project in more depth with you and work out how it can best be related to Upeace.

As I indicated earlier we like the idea very much and see many synergies with our own plans. We have now engaged a person I believe you know, Gudmundur Eiriksson, who currently serves on the Law of the Sea Tribunal and has a long history in respect of ocean issues. He is moving to Costa Rica and we envisage a significant role for him at Upeace so this is really his first assignment for us. I have asked him to be in direct touch with you to arrange his visit to Halifax for this purpose. In the meantime you may have heard from my secretary in New York, Dolores Lois that we would like to have an e mail version of the project outline so we can disseminate it in our own way. Her email address is: lois@un.org.

I hope arrangements can be made for an early visit to you by Mr. Eiriksson and I hope to follow up this with you.

Warm regards,

Maurice Strong
Rector



United Nations Educational, Scientific and Cultural Organization
Organisation des Nations Unies pour l'éducation, la science et la culture
Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura

RECEIVED APR 13 2000

#1172 file:res/ioi virtual university

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Tel : +33 (0)1 45 68 10 00
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The Director-General

Reference: DG/2.10/20

- 4 APR 2000

Dear Professor Mann Borgese,

I was touched by the gift of your book *The Ocean Circle*, and by the kind remarks in your fax of 23 January concerning my recent election. Our mutual friend, Fujiko Hara, has my gratitude for encouraging you to write to me, and I look forward to the opportunity of meeting you and discussing common interests and concerns.

I am aware of the long-standing cooperation between the International Ocean Institute and UNESCO, particularly through its Intergovernmental Oceanographic Commission, and I welcome your proposal for the establishment of an IOI Virtual University which addresses a need that has long been felt in the world of marine science education.

UNESCO's IOC has indeed been considering for some time how modern technology might best be exploited to add a new dimension to the Training, Education and Mutual Assistance, or TEMA, programme through which we deliver the means of capacity-building in marine science to developing countries. It has become clear that distance learning provides an ideal route, and also that training towards an advanced degree is a desirable mechanism. But we had not solved the problem of how best to translate this idea into reality. Your proposal to combine distance learning with the award of an advanced degree offers an excellent solution, and one which accordingly opens up welcome prospects for further strengthening the cooperation between us.

Bearing all that in mind, it would seem only natural that UNESCO, from its educational perspective, as well as from the perspective of its IOC, should be associated with the new development spelled out in your concept paper. In view of the Organization's broad interest in the scope of your project and its potential for marrying UNESCO interests in education and the oceans,

..!..

Professor Elisabeth Mann Borgese
International Ocean Institute
Dalhousie University
1226 LeMarchant Street
Halifax, Nova Scotia
Canada B3H 3P7

- 2 -

I particularly appreciate your kind offer to me to join or to be represented on the Board of Trustees of the IOI Virtual Ocean University. While I shall certainly follow closely the development of this project, it would, I think, be more appropriate, considering your focus on marine education and the fact that what you have to offer will in many ways be a powerful aid to the IOC's TEMA programme, that Mr Patricio Bernal, Assistant Director-General, Executive Secretary of the IOC, serve on the Board of Trustees. This will give him an excellent chance to work with you to dovetail the efforts of the IOC and the IOI in spreading the education needed to take the marine sciences forward in the service of the sustainable development of the oceans. He stands ready to work closely with you in this exciting project for which I wish you every success. I look forward to being kept informed of its progress.

With every good wish,

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Koïchiro Matsuura', with a stylized flourish at the end.

Koïchiro Matsuura

To: (unknown), EBorgese
CC: (unknown), INTERNET:EH@wmu.se
From: "Karl LAUBSTEIN", INTERNET:Karl.Laubstein@wmu.se
Date: 25/01/100, 7:01 AM
Re: IOI Virtual University

Dear Professor Mann-Borgese,

I hope you had a most pleasant passage into the new century and that everything is well with you.
I apologize sincerely for the delay in responding to your queries on the establishment of the IOI Virtual University which sounds like a very interesting initiative. Of course, we would be pleased to co-sponsor this project and, if you like, I would be pleased to participate on your Board of Trustees.

Kindest personal regards and best wishes,
Karl

Karl Laubstein
Rector
World Maritime University (WMU)
Malmö, Sweden
Phone: +46 40 356 321
Fax: +46 40 128 442

----- Internet Header -----
Sender: Karl.Laubstein@wmu.se
Received: from nic.lth.se (nic.lth.se [130.235.20.3])
by spangaab.compuserve.com (8.9.3/8.9.3/SUN-1.7) with ESMTTP id GAA24678
for <EBorgese@compuserve.com>; Tue, 25 Jan 2000 06:01:51 -0500 (EST)
Received: from wmu.se (wmu6.wmu.se [195.178.246.6])
by nic.lth.se (8.9.3/8.9.3) with ESMTTP id MAA11989
for <EBorgese@compuserve.com>; Tue, 25 Jan 2000 12:01:48 +0100 (MET)
Message-Id: <200001251101.MAA11989@nic.lth.se>
Received: from WMU6/SpoolDir by wmu.se (Mercury 1.46);
25 Jan 00 11:59:20 +0100
Received: from SpoolDir by WMU6 (Mercury 1.46); 25 Jan 00 11:59:13 +0100
From: "Karl LAUBSTEIN" <Karl.Laubstein@wmu.se>
Organization: WORLD MARITIME UNIVERSITY
To: EBorgese@compuserve.com
Date: Tue, 25 Jan 2000 11:59:09 +0100
MIME-Version: 1.0
Content-type: text/plain; charset=ISO-8859-1
Content-transfer-encoding: 8BIT
Comments: Sender has elected to use 8-bit data in this message.
If problems arise, refer to postmaster at sender's site.
Subject: IOI Virtual University
CC: EH@wmu.se
Priority: urgent
X-mailer: Pegasus Mail for Win32 (v3.12b)

United Nations Development Programme
Sustainable human development



RECEIVED APR 25 2000

30 March 2000

File: GLO/95/G35

RES/IOI Virtual Univ.

#1176

Dear Elisabeth,

Please forgive me for not responding to your fax of 10 January with your new proposal for the International Ocean Institute of Virtual University. Once again you seem to be about five years ahead of the rest of us.

At the same time, I like you, would like to encourage collaboration with work that is going on in the field. For this reason I am sending your letter and its attachments to Steila Vallejo, Coordinator of TRAIN-SEA-COAST and to Sheldon Annis, Coordinator of the IW:Learn project, which has already established a Virtual Masters degree course in Coastal Management. I encourage them to network with you on this important issue. I also **enclose** a copy of the TRAIN-X network brochure which you may find of interest. You have heard me talk about this network, which formed the basis for TRAIN-SEA-COAST. In particular I urge you to contact Barbara Wilson, Traintel, on how they have established their Virtual Telecommunications University. I am taking a very open and constructive attitude towards possible collaboration and hope that this exchange of information might be beneficial to all. By the way, the TRAIN-X network has in a way already created an ocean curriculum based on the work of IW:Learn, the 17 course modules for TRAIN-SEA-COAST, the TRAINMAR port training programme, the CC:Train course on the impact of climate change on small islands and the still to be developed Train-Fish programme for the implementation of the FAO code of conduct on responsible fisheries.

With kind regards,

Yours sincerely,

Philip Reynolds
Chief, Water Programme

Sustainable Energy and Environment Division

Ms. Elisabeth Mann Borgese
International Ocean Institute
Canada

Cc + incoming + Brochure: Sheldon Anis
Mr. Andrew Hudson
Cc + incoming : Ms. Stella Vallejo

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UNIVERSITÉ DE NICE-SOPHIA ANTIPOLIS
INSTITUT DU DROIT DE LA PAIX ET DU DÉVELOPPEMENT

Nice April 10, 2000

International Ocean Institute Canada
Dalhousie University
Mrs Elisabeth Mann Borgese

FACSIMILE TRANSMISSION

Dear Elisabeth,

Thank you for your Fax of last April 6. Concerning the Pacem in Maribus Conference I remembered the meetings held in Malta at the beginning of the 70' when I participated, as a young Assistant of Pr René-Jean Dupuy.

Concerning the two points of your fax, please find my answers and questions :

1. Your project of a "Virtual University on the Oceans", able to grant an international Masters's Degree, is very interesting and we intended to develop the same idea for the Francophone World. But perhaps we'll have to discuss to have a joint project. My question is : we are a Center which is a member of the UN Train Sea Coast Program. Could you tell me how your project is connected or not with the TSCP ?

I hope to read you soon and expect to meet you at the Hambourg Pacem in Maribus Conference in December.

With my best personal regards,



Alain PIQUEMAL

Professor at the University of Nice-Sophia Antipolis
Director of C.E.R.D.A.M

PS : my Email is piquemal@unice.fr and the web site of our Center is <http://www.unicc.fr/CERDAM/>

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INTERNATIONAL OCEAN INSTITUTE - TRAINING PROGRAMME for 2000
The United Nations Convention on the Law of the Sea: Its Implementation and Agenda 21

Thursday, April 20, 2000

PRELIMINARY MODULE SYNOPSIS

MODULE 1	<i>Introduction to the Training Programme and Introduction to Oceanography</i>
MODULE 2	<i>Introduction to the Law of the Sea and its Interaction with the UNCED Process — UN Conventions and Mechanisms</i>
MODULE 3	<i>Management of Living Resources</i>
MODULE 4	<i>Management of Non-Living Marine Resources and Off-Shore Activities</i>
MODULE 5	<i>Integrated Ocean and Coastal Management</i>
MODULE 6	<i>Shipping, Ports/Harbours, and Tourism</i>
MODULE 7	<i>Risk Management and Negotiation Skills</i>
MODULE 8	<i>Project Cycle Management and International Organizations</i>

BACKGROUND

Since 1980 IOI B Canada, with the support of Dalhousie University, has offered an intensive ten-week training programme on coastal zone management entitled *The United Nations Convention on the Law of the Sea: Its Implementation and Agenda 21*.

The ratification and implementation of the United Nations Convention on the Law of the Sea places significant demands upon the professionals and civil servants assigned to the task. Developing countries, in particular, face special challenges. It became clear in the seventies that these countries would require new skills if they were to benefit fully from their newly acquired Exclusive Economic Zones (EEZs).

The IOI was the first to raise the issue of training programmes in ocean management for developing countries.

The IOI B Canada Training Programme is designed with the intent of helping developing nations form a core of decision-makers aware of ocean management issues and able to contribute to their solution. Participants are largely, but not exclusively, mid-career professionals working in developing countries who are responsible for the various aspects of marine management of their Exclusive Economic Zones.

The Programme is broadly interdisciplinary B the new science of ocean management B where the ocean must be seen as a system with its varied users and multiple, often competing and conflicting, uses.

While it is primarily lecture-based, the Programme also includes round table discussions, simulation exercises, and field trips.

THE PURPOSE OF THE TRAINING PROGRAMME IS:

- To deepen the understanding of the ever-increasing importance of the oceans and their resources in world politics and sustainable economic development;
- To enhance awareness, and find new approaches;
- To develop new thinking on the complex issues of ocean governance;
- To increase awareness of the fact that ocean management adds a new dimension of development strategy;
- To contribution to the wealth of nations, to peace, and to environmental and economic security;
- To maximize benefits to be derived from the United Nations Convention on the Law of the Sea through the proper integration of ocean management into national

and international development strategy; and

- Increase the number of women involved in development in developing countries by building a core of women decision makers.

Participants should be prepared to step out of their fields of specialisation and be exposed to broadly interdisciplinary work. The Programme is not intended to provide specialised training. It is a foundational programme in a totally new and very important field of development strategy rooted in the notion that ocean management is indeed a dimension of development strategy that requires broad inter-disciplinary skills, new institutional and legal infrastructures, and new forms of local national and international, intergovernmental and non governmental organisation all of which must incorporate the special needs of women in development.

IOI B Canada has offered this course since 1980 and each year has attempted to achieve an equal representation of men and women Participants. This objective has proven to be difficult and is symptomatic of the under-representation of women in the upper echelons of administration and policy-making in organizations world-wide.

The IOI has recognised the importance of training women decision-makers and has also provided a forum where men and women can learn together, sharing different perspectives, examining issues from different viewpoints, thus coming to a better understanding of the work that needs to be done and how to do it.

METHODOLOGY

The course takes place at Dalhousie University, in Halifax, (Nova Scotia) Canada, for a period of ten weeks typically between late May and early August. Eighteen participants from developing countries are accepted, with half the participants expected to be women.

The course is an intensive ten week programme of lectures, seminars, workshops, simulation exercises and field trips constituting over three hundred hours in the classroom and extensive evening and weekend group work.

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 Programmes with Particular Emphasis on Chapter 17 of Agenda 21
- Management of Living Resources
- Management of Non-Living Resources

- Coastal Zone Management
- Development of Ports and Harbours
- Shipping and Navigation
- Disaster Preparedness
- Project Management
- National Legislation & Infrastructure
- Simulation Exercise on Contract Negotiation

BENEFICIARIES

This training has proven over the last twenty years to give its alumni a significantly increased potential for advancement. It can be expected that the individuals attending this programme will also advance to significant positions of responsibility in their countries.

The countries of origin of the participants will benefit from gaining a core of decision makers not only aware and capable of dealing with the complexity of ocean issues but also bringing with them their unique perspectives.

The course relies heavily on group work, and as previously mentioned, all participants in the programme will benefit from the improved group dynamics afforded by having an even gender distribution and a strong representation of women's perspectives.

MODULE SYNOPSIS

MODULE 1

Introduction to the Training Programme and Introduction to Oceanography

MODULE 2

Introduction to the Law of the Sea and its Interaction with the UNCED Process — UN Conventions and Mechanisms

MODULE 3

Management of Living Resources

MODULE 4

Management of Non-Living Marine Resources and Off-Shore Activities

MODULE 5

Integrated Ocean and Coastal Resource Management

MODULE 6

Shipping, Ports/Harbours, and Tourism

MODULE 7

Risk Management and Negotiation Skills

MODULE 8

Project Cycle Management and International Organizations

INTERNATIONAL OCEAN INSTITUTE - TRAINING PROGRAMME for 2000
The United Nations Convention on the Law of the Sea: Its Implementation and Agenda 21

PRELIMINARY SYLLABUS

MODULE 1 *Introduction to the Training Programme and Introduction to Oceanography*

<i>Date</i>	<i>Times</i>	<i>Lecture</i>	<i>Speaker</i>
Monday, May 29	09:00–11:00	Course Administrative Matters	Mr. François Bailet
	11:00–13:00	Lunch	All
	13:00–15:00	Organization of Course Work	Dr. Noel Brown Mr. François Bailet Mr. Robert Race
	15:00–17:00	Opening Ceremonies	All + Guests
Tuesday, May 30	08:30– 09:30	Killam Library Tours	Ms. Sharon Longard
	09:30–11:00	Academic Computing	Mr. Phil O'Hara
	11:00–12:00	Weldon Library Tours	Ms. Carla Gobessi-Lynch
	13:30–17:00	Earth's Oceans and Seas Building the Oceans: Geological/Geophysical Oceanography	Dr. Bill Miller
Wednesday, May 31	AM	Filling the Oceans: Chemical Oceanography	Dr. Bill Miller
	PM	Mixing the Oceans: Physical Oceanography	Dr. Bill Miller
Thursday, June 1	AM	Living in the Oceans: Biological Oceanography	Dr. Bill Miller
	PM	The Ocean as a System	Dr. Bill Miller
Friday, June 2	08:30–16:00	Bedford Institute of Oceanography Tour	Mr. François Bailet
Saturday, June 3	All Day	FREE	
Sunday, June 4	All Day	FREE	

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MODULE 2 <i>Introduction to the Law of the Sea and its Interaction with the UNCED Process — UN Conventions and Mechanisms</i>

Monday, June 5	All Day	The United Nations Convention on the Law of the Sea	Mr. Ismat Steiner
Tuesday, June 6	All Day	The United Nations Convention on the Law of the Sea	Mr. Ismat Steiner
Wednesday, June 7	AM	United Nations Conference on Environment and Development (UNCED) [link to Agenda 21]	[Mr. Andrey Vasilyev]
	PM	Post-UNCED Developments	[Mr. Andrey Vasilyev]
Thursday, June 8	AM	UNCED — Precautionary principle, polluter pays principle, intergenerationality – their application and implications for legal reform	Dr. David VanderZwaag
	PM	Convention on Climate Change	Mr. Meinhard Doelle
Friday, June 9	AM	Participant Exercise	Mr. François Bailet
	PM	MODULE REVIEW	All
Saturday, June 10	All Day	FREE	
Sunday, June 11	All Day	FREE	
Monday, June 12	AM	Global Programme of Action for the Protection of the Marine Environment From Land-based Activities	
	PM	Straddling fish stocks and highly migratory fish stocks	Ms. Evelyne Meltzer

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Tuesday, June 13	AM	Convention on Biological Diversity and its activities in the area of marine and coastal diversity	Mr. Sam Johnston
	PM	MODULE DISCUSSION	Participants

MODULE 3 <i>Management of Living Resources</i>

Wednesday, June 14	All Day	Tour of Sambro Fisheries Ltd. and Coast Guard Search and Rescue Station. Coastal Zone Use Matrix.	Mr. François Bailet Mr. Donnie Heart Mr. Stephen Basly
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Thursday, June 15	All Day	The World Fisheries: A Systems Overview	Dr. Tony Charles
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Friday, June 16	AM	Fisheries: An Ecosystem Perspective	Dr. Mike Sinclair
	PM	Fisheries: A Management System	Dr. Tony Charles

Saturday, June 17	All Day	FREE	
Sunday, June 18	All Day	FREE	

Monday, June 19	AM	Fisheries: A Management System Perspective, concluded	Mr. Chris Milley
	PM	Fisheries: A Human System Perspective (Anthropological/Social)	[Dr. Anne Dwire]

Tuesday, June 20	AM	Theory and Practice of Aquaculture Systems	Ms. Brenda Bradford
	PM	Round Table Discussion – current status, potential, and constraints of aquaculture	Dr. R. Rajagopalan Ms. Brenda Bradford

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Wednesday, June 21	All Day	The Barbados Programme of Action for Small Island Developing States & The Open-Ended Working Group on the Oceans	[H.E. Neroni Slade] Prof. Elisabeth Mann Borgese
Thursday, June 22	AM	Integrated Maritime Enforcement – Lecture	Rear-Admiral Fred Crickard Mr. François Bailet
	PM	Presentation of Sambro Coastal Zone Use Matrix	All
Friday, June 23	AM	Strategic Analysis and Planning 1	Dr. Robert Blunden
	PM	MODULE DISCUSSION	Participants
Saturday, June 24	All Day	FREE	
Sunday, June 25	All Day	FREE	
Monday, June 26	AM	Integrated Maritime Enforcement – Exercise	Rear-Admiral Fred Crickard Mr. François Bailet
	PM	Integrated Maritime Enforcement – Exercise	Rear-Admiral Fred Crickard Mr. François Bailet
Tuesday, June 27	AM	Integrated Maritime Enforcement – Debriefing	Rear-Admiral Fred Crickard Mr. François Bailet
	PM	Strategic Analysis and Planning 2	Dr. Robert Blunden

MODULE 4 *Management of Non-Living Marine Resources and Off-Shore Activities*

Wednesday, June 28	AM	Non-Fuel Resources	
	PM	Non-Fuel Resources [Or TRIP]	
Thursday, June 29	AM	Fuel Resources (Oil & Gas)	
	PM	Fuel Resources (Oil & Gas)	
Friday, June 30	AM	Non-Fuel Oceanic Resources and Off-Shore Activities: The International Seabed Authority	[Jamaica seminar topics EMB]
	PM	MODULE DISCUSSION	Participants
Saturday, July 1	All Day	FREE	
Sunday, July 2	All Day	FREE	
Monday, July 3	All Day	FREE – Canada Day	

MODULE 5 *Integrated Ocean and Coastal Resource Management*

Tuesday, July 4	AM	Integrated Coastal Zone Management – Overview	Mr. Larry Hildebrand
	PM	Integrated Coastal Zone Management – Overview	Mr. Larry Hildebrand
Wednesday, July 5	AM	Integrated Coastal Zone Management	Mr. Larry Hildebrand
	PM	Remote Sensing of the Marine Environment	Mr. Dirk Werle

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Thursday, July 6	AM	Integrated Coastal Zone Management	Mr. Larry Hildebrand
	PM	Integrated Coastal Zone Management	Mr. Larry Hildebrand
Friday, July 7	AM	Integrated Coastal Zone Management	Mr. Larry Hildebrand
	PM	MODULE DISCUSSION	Participants
Saturday, July 8	All Day	FREE	
Sunday, July 9	All Day	FREE	

MODULE 6 <i>Shipping, Ports/Harbours, and Tourism</i>

Monday, July 10	AM	Economics of Shipping and International Sea-Borne Trade – the globalization of the industry	Dr. Awni Behnam
	PM	UNCTAD Conventions on Liner Conferences. Registration of Ships. Multi-Modal Transport.	Dr. Awni Behnam
Tuesday, July 11	AM	Management of Ports and Harbours. Information Systems. Vessel Traffic Management.	Dr. Awni Behnam
	PM	Policy Options and Sustainable Development in Maritime Transport	Dr. Awni Behnam
Wednesday, July 12	AM	Tourism and the Coastal Zone	Dr. Awni Behnam
	PM	Tour of Port of Halifax Ms. Jill Van de Sande Sgt. Larry Bowden Captain Randall Sherman	Dr. Awni Behnam Dr. Noel Brown Mr. François Bailet

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Thursday, July 13	AM	IMO Conventions on the Safety of Navigation, the Protection of the Marine Environment and the Transport of Hazardous Waste. Oil and Gas Transport. Tanker Traffic and its Hazards. Basel Convention.	Dr. Edgar Gold
	PM	MODULE DISCUSSION	Participants

MODULE 7 *Risk Management and Negotiation Skills*

Friday, July 14	AM	Risk Management	Mr. Robert Race Mr. François Bailet
	PM	Risk Management	Mr. Robert Race Mr. François Bailet

Saturday, July 15	All Day	FREE	
Sunday, July 16	All Day	FREE	

Monday, July 17	AM	Risk Management	Mr. Robert Race Mr. François Bailet
	PM	Risk Management	Mr. Robert Race Mr. François Bailet

Tuesday, July 18	AM	Risk Management	Mr. Robert Race Mr. François Bailet
	PM	Risk Management	Mr. Robert Race Mr. François Bailet

Wednesday, July 19	AM	Risk Management	Mr. Robert Race Mr. François Bailet
	PM	Risk Management	Mr. Robert Race Mr. François Bailet

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Thursday, July 20	AM	Risk Management	Mr. Robert Race Mr. François Bailet
	PM	TRIP / FREE	All
Friday, July 21	AM	Negotiation Skills	Dr. Gil Winham
	PM	Negotiation Exercise – Brief	Col. Gerald Morey
Saturday, July 22	All Day	FREE	
Sunday, July 23	All Day	FREE	
Monday, July 24	AM	Negotiation Exercise	Col. Gerald Morey
	PM	Negotiation Exercise	Col. Gerald Morey
Tuesday, July 25	AM	Negotiation Exercise	Col. Gerald Morey
	PM	Negotiation Exercise – Debrief	Col. Gerald Morey
Wednesday, July 26	AM	MODULE DISCUSSION	Participants
	PM	Trip to MARLANT Conference Call with Costa Rica	All

MODULE 8 <i>Project Cycle Management and International Organizations</i>

Thursday, July 27	AM	Participant's Presentations	
	PM	Participant's Presentations	
Friday, July 28	AM	Participant's Presentations	
	PM	Participant's Presentations	
Saturday, July 29	All Day	FREE	
Sunday, July 30	All Day	FREE	

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Monday, July 31	All Day	Project Management	Mr. Lennox Hinds
Tuesday, August 1	All Day	Project Management	Mr. Lennox Hinds
Wednesday, August 2	All Day	International Organizations Round Table Presentations	<i>Cf.</i> list of Representatives
Thursday, August 3	All Day	International Organizations Round Table Discussions	<i>Cf.</i> list of Representatives
Friday, August 4	09:00 – 11:45	CLOSING REMARKS	All

Tentative

Wednesday, August 2 and Thursday, August 3, 2000.

INTERNATIONAL COMPETENT ORGANIZATIONS

- Division for Ocean Affairs and the Law of the Sea
[Ms. Annick de Marffy]
- International Maritime Organization
Mr. Agustin Blanco-Bazan, Deputy Director, Head of the Legal Office
- United Nations Environment Programme
[Mr. Adnan Amin, Director - Regional Office for North America]
- United Nations Development Program
[Mr. Philip Reynolds, Senior Programme Officer - Sustainable Energy and Environment Division]
- World Bank
Mr. Stephen Schonberger
- Global Environmental Facility
Mr. Al Duda, Principal Environmental Specialist

REGIONAL INTERGOVERNMENTAL ORGANIZATIONS

- Organization of Petroleum Exporting Countries
Dr. Seyyid Abdulai, Director General – OPEC Fund for International Development
- Organization of American States
[Dr. Richard Meganck, Director - Sustainable Development and Environment Unit]
- Association of Southeast Asian Nations
Dr. Jarupong Boon-Long, Bureau of Economic and Functional Cooperation, Coastal Marine Environment Working Group