

PD-ABE-426
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**[WORCESTER POLYTECHNIC INSTITUTE]
UNIVERSITY DEVELOPMENT LINKAGES PROJECT
ANNUAL WORKPLAN — YEAR 2**

Date: July 31, 1992

Cooperative Agreement No. DAN-5063-A-00-1111-00

GOALS & PURPOSE	OBJECTIVES	ACTIVITIES	DESIRED OUTCOMES	RESOURCES REQUIRED	NEEDED INPUTS	ACTIVITY BY QUARTER Start = S, Ongoing = O, Completed = C			
						1st	2nd	3rd	4th
<p>GOAL(S)</p> <p>The goal is to establish a solid foundation for mutual and sustainable collaboration between WPI and ESPOL in the areas of;</p> <ul style="list-style-type: none"> o Environment o Business <p>research and development needs of Ecuadorian society and the professional goals of the faculties of WPI and ESPOL.</p>	<p>Establish for ESPOL/WPI Project Center that will create a five year curriculum of mutual interaction positioning each institution to better meet their societal needs.</p>	<p>1. Execute "Bootstrap" project team for FY 1993.</p>	<p>Two "Bootstrap" projects completed by WPI student teams at ESPOL.</p>	<p>Activity #1 \$47,268 WPI Total: \$47,268</p>	<p><u>Who:</u> James E. Rollings, P.I. and two student teams <u>Where:</u> ESPOL <u>When:</u> Dec 23, 1992.</p>	C			
<p>PURPOSE(S)</p> <p>The purpose is to support collaboration of WPI and ESPOL in order to;</p> <ol style="list-style-type: none"> 1. Strengthen ESPOL's research and technology transfer infrastructure 2. Further the internationalization objectives of WPI. 		<p>2. Solicit projects for FY 1994</p>	<p>Three projects selected for FY 1994 student teams.</p>	<p>Activity #2 \$23,635 WPI \$1,925 A.I.D. Total: \$25,560</p>	<p><u>Who:</u> James E. Rollings <u>Where:</u> ESPOL <u>When:</u> June 30, 1993.</p>	S	O	C	
		<p>3. Execute projects for FY 1994</p>	<p>Three projects completed by student teams.</p>	<p>Activity #3 \$1,925 A.I.D. Total: \$1,925</p>	<p><u>Who:</u> Faculty Advisor and three project teams <u>Where:</u> ESPOL <u>When:</u> Dec 23, 1994.</p>				S
		<p>4. Solicit projects for FY 1994</p>	<p>Four projects selected for FY 1995 student teams.</p>	<p>Activity #4 \$1,925 A.I.D. Total: \$1,925</p>	<p><u>Who:</u> Faculty Advisor <u>Where:</u> ESPOL <u>When:</u> June 30, 1994.</p>				S

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GOALS & PURPOSE	OBJECTIVES	ACTIVITIES	DESIRED OUTCOMES	RESOURCES REQUIRED	NEEDED INPUTS	ACTIVITY BY QUARTER Start = S, Ongoing = O, Completed = C			
						1st	2nd	3rd	4th
	ESPOL/WPI Faculty Development that will create a five year curriculum of mutual interaction positioning each institution to better meet their societal needs.	1. Graduate students at WPI.	Six ESPOL faculty trained at M.S. or PhD level in Engineering and/or Management disciplines.	Activity #1 \$34,841 A.I.D \$27,600 WPI Total: \$62,441	<u>Who:</u> TBD <u>Where:</u> WPI <u>When:</u> Sept 30, 1995		S	O	O
		2. Environmental workshop.	Environmental workshop conducted at WPI.	Activity #2 \$29,504 \$56,797 Total: \$86,301	<u>Who:</u> TBD <u>Where:</u> WPI <u>When:</u> Sept 30, 1993.		S	C	

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UNIVERSITY DEVELOPMENT LINKAGES PROJECT

Recipient: Worcester Polytechnic Institute

Agreement Number: DAN-5063-A-00-1111-00

Date Prepared: 07/15/92

ANNUAL WORKPLAN BUDGET Cost Element	Objective: Total of all 3											
	Agrmt Yr: 2											
	First Six Months				Second Six Months				Full Year			
	Begin: 10/01/92		End: 03/31/93		Begin: 04/01/93		End: 09/30/93		Begin: 10/01/92		End: 09/30/93	
A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	
Salaries & Wages	0	38,370	0	38,370	34,710	24,070	0	58,780	34,710	62,440	0	97,150
Fringe Benefits	0	9,439	0	9,439	8,538	5,921	0	14,459	8,538	15,360	0	23,898
Indirect Costs	0	44,688	0	44,688	0	22,345	0	22,345	0	67,033	0	67,033
Consultants	0	0	0	0	4,000	0	0	4,000	4,000	0	0	4,000
Travel, Transportation & Per Diem	4,275	7,650	0	11,925	5,775	3,250	0	9,025	10,050	10,900	0	20,950
Nonexpendable Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Participant Training	11,602	9,191	0	20,793	23,239	18,409	0	41,648	34,841	27,600	0	62,441
Other Direct Costs	2,000	2,500	0	4,500	2,000	2,500	0	4,500	4,000	5,000	0	9,000
Subcontracts/Subagreements	1,500	0	0	1,500	1,500	0	0	1,500	3,000	0	0	3,000
TOTAL	\$19,377	\$111,838	\$0	\$131,215	\$79,762	\$76,495	\$0	\$156,257	\$99,139	\$188,333	\$0	\$287,472

Signature: 

Name/Title: PI

Date: July 24, 1992

UNIVERSITY DEVELOPMENT LINKAGES PROJECT

Recipient: Worcester Polytechnic Institute

Agreement Number: DAN-5063-A-00-1111-00

Date Prepared: 07/15/92

ANNUAL WORKPLAN BUDGET	Objective: 1 of 3											
	Name: Planning for ESPOL/WPI Project Center and Faculty Development Objectives											
	Agrmt Yr: 2											
	First Six Months				Second Six Months				Full Year			
Begin: 10/01/92		End: 03/31/93		Begin: 04/01/93		End: 09/30/93		Begin: 10/01/92		End: 09/30/93		
A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	
Salaries & Wages	0	0	0	0	0	0	0	0	0	0	0	0
Fringe Benefits	0	0	0	0	0	0	0	0	0	0	0	0
Indirect Costs	0	0	0	0	0	0	0	0	0	0	0	0
Consultants	0	0	0	0	0	0	0	0	0	0	0	0
Travel, Transportation & Per Diem	0	0	0	0	0	0	0	0	0	0	0	0
Nonexpendable Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Participant Training	0	0	0	0	0	0	0	0	0	0	0	0
Other Direct Costs	0	0	0	0	0	0	0	0	0	0	0	0
Subcontracts/Subagreements	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

UNIVERSITY DEVELOPMENT LINKAGES PROJECT

Recipient: Worcester Polytechnic Institute

Agreement Number: DAN-5063-A-00-1111-00

Date Prepared: 07/15/92

ANNUAL WORKPLAN BUDGET Cost Element	Objective: 2 of 3 Name: Establish ESPOL/WP! Project Center Agrmt Yr: 2											
	First Six Months Begin: 10/01/92 End: 03/31/93				Second Six Months Begin: 04/01/93 End: 09/30/93				Full Year Begin: 10/01/92 End: 09/30/93			
	A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total
Salaries & Wages	0	28,850	0	28,850	17,050	14,550	0	31,600	17,050	43,400	0	60,450
Fringe Benefits	0	7,097	0	7,097	4,194	3,579	0	7,773	4,194	10,676	0	14,870
Indirect Costs	0	27,806	0	27,806	0	13,904	0	13,904	0	41,710	0	41,710
Consultants	0	0	0	0	2,000	0	0	2,000	2,000	0	0	2,000
Travel, Transportation & Per Diem	4,275	6,150	0	10,425	4,275	0	0	4,275	8,550	6,150	0	14,700
Nonexpendable Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Participant Training	0	0	0	0	0	0	0	0	0	0	0	0
Other Direct Costs	0	1,000	0	1,000	0	1,000	0	1,000	0	2,000	0	2,000
Subcontracts/Subagreements	1,500	0	0	1,500	1,500	0	0	1,500	3,000	0	0	3,000
SIJBTOTAL	\$5,775	\$70,903	\$0	\$76,678	\$29,019	\$33,033	\$0	\$62,052	\$34,794	\$103,936	\$0	\$138,730

UNIVERSITY DEVELOPMENT LINKAGES PROJECT

Recipient: Worcester Polytechnic Institute

Agreement Number: DAN-5063-A-00-1111-00

Date Prepared: 07/15/92

ANNUAL WORKPLAN BUDGET	Objective: 3 of 3											
	Name: Establish Programs for WPI and ESPOL Faculty Development											
	Agrmt Yr: 2											
	First Six Months				Second Six Months				Full Year			
Begin: 10/01/92		End: 03/31/93		Begin: 04/01/93		End: 09/30/93		Begin: 10/01/92		End: 09/30/93		
A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	A.I.D.	Recipient/ Others (Non-Fed)	Recipient/ Others (Federal)	Total	
Salaries & Wages	0	9,520	0	9,520	17,660	9,520	0	27,180	17,660	19,040	0	36,700
Fringe Benefits	0	2,342	0	2,342	4,344	2,342	0	6,686	4,344	4,684	0	9,028
Indirect Costs	0	16,882	0	16,882	0	8,441	0	8,441	0	25,323	0	25,323
Consultants	0	0	0	0	2,000	0	0	2,000	2,000	0	0	2,000
Travel, Transportation & Per Diem	0	1,500	0	1,500	1,500	3,250	0	4,750	1,500	4,750	0	6,250
Nonexpendable Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Participant Training	11,602	9,191	0	20,793	23,239	18,409	0	41,648	34,841	27,600	0	62,441
Other Direct Costs	2,000	1,500	0	3,500	2,000	1,500	0	3,500	4,000	3,000	0	7,000
Subcontracts/Subagreements	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	\$13,602	\$40,935	\$0	\$54,537	\$50,743	\$43,462	\$0	\$94,205	\$64,345	\$84,397	\$0	\$148,742

The WPI-ESPOL workshop is to take place at WPI on September 18-27, 1992. The workshop will feature roundtables on different topics with groups of WPI and ESPOL divided into disciplinary and topical areas of interest. Tours to MQP sponsoring firms are also being planned. On the last two days, we are scheduling workshops on TQM (Total Quality Management) and Systems Thinking.

TENTATIVE SCHEDULE

Fri. Sept. 18th	7:00pm	Dinner at President's Home
	8:30pm	Opening Meeting (WPI/ESPOL/AID Winners) Feature Speakers: Ruth Frischer and Jon Strauss
	9:30pm	Distribution of all relevant printed material
	10:00pm	Adjourn
Sat. Sept. 19th	10:00am	Trip to Boston
Sun. Sept. 20th	10:00am	Trip to Sturbridge Village
	7:00pm	Dinner at Rollings' Home
Mon. Sept. 21st	8:30am	Full Breakfast at Higgins House
	9:30am	Institutional Introductions (F. Lutz and D. Tapia)
	10:15am	WPI-ESPOL Linkage: Workshop Activities and Expectation (J. Rollings)
	10:45am	WPI's Strategic Plan: The Planning and Development Phases (F. Lutz and Blue Ribbon Committee)
	11:15am	Questions & Answers
	11:30am	Update on ESPOL Strategic Plan (ESPOL team)
	12:15pm	Questions & Answers
	12:30pm	Lunch at Higgins House (Over dessert remind attendees of the workshop group structure)
	1:30pm	Roundtable Discussions: Strategic Planning and Goals
	3:30pm	Collect Reports
	4:15pm	Adjourn

Tue. Sept. 22nd

- 8:00am Continental Breakfast at Founders Hall
- 8:30am Strategic Plan at Departmental Level: A Panel Discussion
Management (H. Vassallo)
Civil Eng'g (R. Fitzgerald)
Biotech (J. Bagshaw)
Mfg Eng'g (R. Sisson)
Fire Protection Eng'g (D. Lucht)
Continuing Education (A. Lowenstein)
Student Life (J. Begin-Richardson)
- 10:30am Research, Teaching and Service in the Lives of WPI Faculty (D. Apelian)
- 11:15pm ESPOL Faculty Academic and Professional Activities (D. Tapia)
- 12:00pm Lunch at Morgan A - then return to Founders
- 1:30pm Parallel Tracks (depth's. may arrange tours, face-to-face meetings between faculty members interested in research and teaching, or MQP/IQP topics, some questions will be distributed, answered in a roundtable, and later collected) Research and Teaching in Management Research and Teaching in Engineering Research and Teaching in Biology & Biotechnology
- 4:15pm Collect Reports
- 4:45pm Adjourn

Wed. Sept. 23rd

- TODAY ATTENDEES MAY EITHER TOUR SOME MQP & IQP SPONSORING FIRMS OR MEET OTHER FACULTY WITH SAME RESEARCH INTEREST OR ADMINISTRATIVE FUNCTION**
- 8:30am Continental Breakfast - Gordon Library Archives Room
- 9:00am MQP and IQP System (C. Kornik) - Seminar Room
- 10:00am Tour of Kennedy Die Casting/Norton/DEC/NYPRO/any High School
- 4:00pm ESPOL team prepares feedback on WPI's MQP-IQP System (at Seminar Room). Verbal feedback will occur at dinner time. Written comments to be delivered next morning.
- 7:00pm Dinner at Holiday Inn
- 8:30pm UFA: A Successful MQP Entrepreneurial Effort (A. Gerstenfeld) - Holiday Function Room
- 9:30pm Adjourn
- 8

Thur. Sept. 24th

TODAY ESPOL TEAM MAY ATTEND REGULAR WPI CLASSES, MEET WITH RESEARCH GROUPS, OR ATTEND WORKSHOP PRESENTATIONS. EVERYONE SHOULD RECONVENE FOR AFTERNOON PRESENTATIONS AND FOLLOW-UP ROUNDTABLE.

9:00am WPI's Campus Computer Center: Presentation and Tour (J. Jackson) Adjourn to Founders Hall

10:30am Undergraduate Admissions Criteria (K. Dietrich)

11:15am M.B.A. Admissions: An Example of Graduate Admissions Criteria (L. Jernberg)

12:00pm Lunch at Higgins House

1:15pm Curriculum Innovation & Educational Development (J. Groccia)

2:00pm Student Advising (A. Garvin)

3:00pm ESPOL's Student Advising System (ESPOL team)

3:30pm Roundtable Discussions: Student and Faculty Development

4:30pm Meet with Latin Students/B'92 IQP students

5:15pm Collect Reports

5:30pm Adjourn

Fri. Sept. 25th

TQM WORKSHOP

8:00am Full Breakfast at Higgins House

9:00am TQM in Academia: An Introduction (E. Velazco)

10:30am TQM in WPI's Business Office: An Update (R. Gailey)

11:00am Effective Communication, Decision Making, Teamwork and Conflict Management as part of TQM process: Part I (H. Vassallo and M. Elmes)

12:00pm Lunch at Higgins House

1:00pm Effective Communication, Decision Making, Teamwork and Conflict Management as part of TQM process: Part II (H. Vassallo and M. Elmes)

4:00pm Adjourn

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Sat. Sept. 26th

SYSTEMS THINKING WORKSHOP

- 8:15am Continental Breakfast at Fuller Labs - Lounge
at Main Entrance (Salisbury Street)
- 9:00am Introduction to Systems Thinking (Innovation
Associates) at Fuller Labs Rm. 311
- 12:00pm Lunch at Higgins House - Return to Fuller
- 1:00pm Systems Thinking as part of TQM process and
its Archetypes (Innovation Associates)
- 4:00pm Workshop Closure and Farewell (J. Strauss
and J. Rollings)
- 4:30pm Adjourn

Sun. Sept. 27th

Return to Ecuador

PREPARATORY COURSE FOR PROJECTS IN ECUADOR

Bland Addison, Jr. (course organizer)
831-5190
Salisbury 2

Term A, 1992
3:30-5:30 p.m. MW
Salisbury Labs 11

This team-taught course is designed to prepare students to carry out projects in the WPI Project Center at the Escuela Superior Politecnica del Litoral in Guayaquil, Ecuador. The course is designed to:

- a. train students in certain research and organizational skills necessary to carry out a successful project,
- b. heighten student sensitivity to matters of cultural diversity,
- c. present background knowledge about political, social, and economic factors in developing nations, particularly in Latin America and specifically in Ecuador,
- d. introduce students to the fundamental features of Ecuadorian history and culture,
- e. introduce students to environmental and entrepreneurial research in Ecuador.

Course Schedule. In addition to the 14 twice weekly meetings (2 hours each), students are expected to meet for one hour per week with the technical adviser to their IQP team (Profs. E. Velazco or G. Salazar). The course will include an afternoon retreat and picnic at the Heifer Farm Project (September 5 or 6, 12:00 noon to 6:00.) <Jim, Enio, Guillermo: I suggest we also conclude the course by eating Hispanic food together one evening during the last week of the course. Perhaps after presentations of initial project proposals, Monday, October 12?>

Course Assignments. Course grading will be based upon a final examination, a term report, and active participation in classroom activities and discussions.

Assigned Texts. Students will be asked to purchase a variety of xeroxes and brochures, as well as to consult texts in the Ecuador collection of the Global Resources Library, Project Center. (Texts in the Global Resources Library must be read there; please allow adequate time for all team members to cover material before class.) Students are encouraged to purchase a good, comprehensive guidebook to Ecuador; some suggested titles will be provided.

COURSE SCHEDULE

Monday, August 31: Introduction to Ecuador and Bootstrap Project on Environment and Entrepreneurship

Assignment: "WPI-ESPOL UDLP Proposal"
A.I.D. Policy Statements on Democracy, Environment, Enterprise, and Family Planning.

Topics:

Agency for International Development UDLP and the Escuela Superior Politecnica del Litoral (Guayaquil, Ecuador) (J. Rollings)
ESPOL Video
Environmental Issues in Ecuador (G. Salazar)
Entrepreneurial Issues in Ecuador (E. Velasco)
Ecuador Today--People, Culture, Politics (B. Addison)

Wednesday, September 2: Conflict Resolution in the Global Village
(J. Rollings, B. Addison)

This session will lay out academic material concerning negotiating strategies, personal insight, and conflict resolution as they might apply to developing world realities. It will serve as preliminary training for the weekend afternoon retreat at Heifer Farm, devoted to case study, problem solving, and team building. Assignment not yet determined.

Saturday or Sunday, September 5 or 6, 12:00 noon to 6:00 p.m.: Heifer Farm Retreat--Building a Project Team for the Developing World

Monday, September 7: Current Economic Development and Political Structure of Ecuador--Guest Lecture, Ecuadorian Consulate

Assignment: Francisco X. Swett, Turnarounds: The Political Economy of Development and Liberalization in Ecuador, 1984-88 (International Center for Economic Growth, 1989); selection from J. Estrado Hidrobo, Power and Industrialization in Ecuador (Westview Press, 1992).

Wednesday, September 9: Developing a Project Proposal

Assignment: Reviews of award winning IQPs, project proposal literature, and introduction to bibliographic research and literature review, in Gordon Library (D. Richardson)

Topics:

Defining Characteristics of Award Winning IQPs (L. Schachterle)
How to Conceptualize, Define, and Analyze Projects in Entrepreneurship and Environment (K. Rissmiller)

Monday, September 14: What is Modernization and Underdevelopment--Latin America

Assignment: Readings from The Challenge to the South: The Report of the South Commission (1991); Magnus Blomström & Björn Hettne,

Development Theory in Transition: The Dependency Debate & Beyond Third World Responses (Zed Books, 1988); Gareth Porter and Janet W. Brown, Global Environmental Politics (Westview Press, 1991); Inter-American Development Bank, 1991 Annual Report on the Environment and Natural Resources (1992); John Martz, Politics & Petroleum in Ecuador (Transaction Pubs, 1987).

Topics:

Colonialism, Nationalism, and Economic Imperialism (P. Dunn or T. Thomsen)

World Economic Systems (M. Radzicki)

Wednesday, September 16: Techno-Serve Case Study in South America, Guest Lecture, André Luery

Monday, September 21: Carrying out a Project in Ecuador

Students will attend Collective Reports session on WPI-ESPOL Strategic Planning and Goals of WPI-ESPOL Workshop and will meet with visiting ESPOL participants to talk and exchange ideas.

Assignment: Readings from David Corkill (ed), Ecuador (ADC-Clio, 1989).

Wednesday, September 23: The Socio-Political History of Ecuador (B. Addison)

Assignment: Readings from Catherine M. Conaghan, Restruction Domination: Industrialists & the State in Ecuador (U. of Pitt., 1988), David Corkill and David Cubbitt, Ecuador: Fragile Democracy (Monthly Review Press, 1988), Augustin Cueva, The Process of Political Domination in Ecuador, tr. D. Salti (Transaction Pub., 1981).

Film: The Sword and the Cross, 6th part of Columbus and the Age of Discovery, (Films for the Humanities & Sciences, Inc., 1992).

Monday, September 28: Twentieth-Century Economics and Politics of Ecuador (Guest lecturers)

Assignment: Readings from Joan B. Anderson, Economic Policy Alternatives for the Latin American Crisis (Taylor & Francis, 1990); James F. Hicks, et al, Ecuador's Amazon Region: Development Issues & Options (World Bank, 1990); M. R. Redclift, Agrarian Reform & Peasant Organization on the Ecuadorian Coast (Humanities, 1978); David W. Schodt, Ecuador: An Andean Enigma (Westview, 1987); Peter H. Smith, Modern Latin America (Oxford, 1989); World Bank, Public Sector Reform for Growth in the Era of Declining Oil Output (World Bank, 1991).

Film: Flames in the Forests: Indians and Oil in the Amazon (Films for the Humanities & Sciences, Inc.)

Wednesday, September 30: The Amazon and Indigenous Peoples: Guest Lecturer, O.P.I.P.-Confeniae, Amerindian spokesperson.

Assignment not yet determined.

Monday, October 5: Ecuadorian Literature and Culture

Assignment not yet determined.

Topics:

Spanish for Visitors to Ecuador

The "Indianist" movement, the "novela de fundación," and the literature of social protest (C. Ferreira-Pinto)

Ecuadorian music (guest musicians? or tapes)

Wednesday, October 7: Cultural Awareness and the Psychology of Difference (J. Groccia)

Assignment: Readings from M. H. Segal, P. R. Dasen, J. W. Berry, and Y. H. Poortinga, Human Behavior in Global Perspective: An Introduction to Cross-Cultural Psychology (Pergamon Press, 1990); C. Storti, The Art of Crossing Cultures (Intercultural Press, 1989).

Monday, October 12: TERM REPORTS DUE
Presentations of Initial Findings by Project Teams
Discussion and Critique

Wednesday, October 14: Final Examination

**ECUADOR PROJECT CENTER
WORCESTER POLYTECHNIC INSTITUTE**

**PROCEDURES MANUAL FOR FACULTY AND STUDENTS
1992 - 1993**

**James E. Rollings
Director
Ecuador Project Center
(508) 831-5664**

**Projects Office
100 Institute Road
Worcester Polytechnic Institute
Worcester, Massachusetts 01609**

ECUADOR PROJECT CENTER

Overview and Procedures Manual

A wealth of experience indicates that the accompanying OVERVIEW and PROCEDURES MANUAL provides a framework within which achieving the objectives of the Project Center program can be effectively attained.

This document is divided into three major sections:

Section One contains general information on hotel and transportation services, working with your liaison, and things to keep in mind throughout the project.

Section Two reviews the schedule of due dates for the individual sections of the final report and lists a schedule of meetings. You will be given the actual calendar for the term separately. This section also incorporates detailed procedures for all regularly scheduled meetings with advisors and liaisons.

Section Three contains specifications for the Proposed Work Plans and Summary Progress Charts that students fill out weekly. This section also is the Procedures Manual for the final report. It specifies the format and content requirements for the final document.

In addition, there are several appendices included in this procedures manual. These appendices are grouped into two classes. The first group (Appendices A, B, C, etc.) is a collection of general notes on Ecuador compiled by the U.S. State Department, tourist agencies, and two large appendices taken from the South American Handbook(1990), Prntice Hall Travel, Ben Box, editor and Managing Cultural Differences, Moran. You will be assigned an updated travel guide as part of your book purchases. The second group (Appendices I, II, etc.) are materials specifically concerned with the development of your projects. Appendix I contains samples of the Weekly Proposed Work Plan and Summary Progress Chart and other forms that will be used. Appendix II lists the project teams and the addresses and phone numbers of their primary contacts at ESPOL.

All procedures outlined in Section Two and Section Three are mandatory, unless the student, faculty, and organization liaison agree to an alternative mode of operation, which then may supersede those outlined in this memorandum. The only legitimate reason for such a change is that the educational quality of the project will be enhanced as a result.

The format guidelines for the FINAL REPORT have been developed with the student in mind. The guidelines are meant to allow the production of a report that meets all appropriate publication standards while eliminating wasteful use of time (a precious commodity in a seven-week term).

SECTION ONE

I. City Lay-out.

A Detailed description of Guayaquil is given on page 643 of the South American Handbook(1990); Appendix D.

Although Guayaquil has a large population (1.6 million) and is the largest city in Ecuador, it has the feel of a much smaller (Worcester size) city. In part, this is due to the fact that more than half of the population live in poor shanty towns/squatter camps that are located in outlying regions of the city.

As in many Latin American societies, Ecuador has great disparities in economic distribution. This, in part, fuels petty crime (i.e. theft due to pickpockets and scams directed at newcomers/tourists). You are a newcomer to this environment and thus must be suspect of people who you don't know. You are directed to head the various warnings that you will read about or will be told to you by your advisor and Ecuadorian colleagues. In general, however, you are considerably safer in Guayaquil than you would be in large cities in the United States. As anywhere, avoid certain regions that are known to pose problems. You will be given an orientation to Guayaquil by our hosts from ESPOL, and they will describe the city lay-out including specifics on each region of the city.

We will be housed in the Uni Hotel near the Parque Bolivar located in the city center a few short blocks from the Rio Guayas.

II. Mail, Email and Fax.

You may have mail directed to you at either the Uni Hotel or ESPOL. The main city post office is located one block from the Uni Hotel and this is the best place to send packages.

We will have access to E-mail (via Bitnet) at ESPOL and Fax services at both ESPOL and the Uni Hotel.

III. Telephones.

You will be responsible for all phone charges made. International phone charges to the United States from Ecuador can be very expensive. You will be told stories on this subject later. Consult the appendices for further information regarding phones.

IV. Hotel.

We will be using the Uni Hotel (see city map on page 645 of the South American Handbook). The rooms in our tower are suites where 2 to 3 students will live. These rooms are equipped with kitchen facilities, etc and will provide you more room than you are normally used to with on-campus housing. Our rooms will all be located near each other and are very secure. Valuables

(passports, etc.) can be left in the hotel safe if need be.

It is recommended that you take inventory of the contents of your rooms upon check-in. This is important so that we can insure that you will not be assessed damages for those that already exist. Keep a copy of this list and give another to your advisor and provide one to the hotel management. Keep the room assignments you receive.

V. Accommodations.

Each apartment is fully equipped with furniture, bed linen and towels. You will be doing much of your own housekeeping. The kitchens are equipped with enough glassware, utensils, silverware, dishes, and pots for survival. You may want to bring along a vegetable peeler and a favorite knife or two. You can readily purchase anything else you need, and you can share items with other groups in other apartments. You will need to check with your roommates and decide who will bring a hairdryer or audio equipment (walkman & speakers, etc.). Share music with each other; you can buy tapes inexpensively. You won't need three of everything in a room.

VI. Food.

Restaurants in large hotels offer international cuisine. But one must try Ecuadorian cuisine, which is tasty and varied. Each region has its specialties, influenced by three centuries of Spanish presence as well as ancestral customs of indigenous populations. Without trying to cover the entire range of national dishes, it is useful to know that Serranos, the inhabitants of the mountain regions, prefer corn and potatoes, while Costeños prefer rice and bananas. Here are some specialties:

Arroz con pollo: Fried chicken cut in small pieces and cooked with rice.

Ceviche: Many kinds of sea food (ceviche de mariscos), fish (ceviche de pescado), shrimp (ceviche de camarones), octopus (ceviche de pulpo), and prawns (ceviche de langostinos), cut up in small pieces and marinated in lime. They are served with raw onions, corn and sweet potatoes, not to be missed.

Churrasco: Not to be confused with the steak one finds in the United States or in Europe, Churrasco is a thick piece of fresh meat, eaten with rice, manioc, corn, hearts of palm or some other vegetable. Preferably, it should be eaten grilled.

Cuy: Guinea pigs are such finicky rodents that they refuse to eat the grass they have just trod upon. They are vegetarians. Ecuadorians eat them grilled or steved. Cuy con papas is one of the specialties of the Cuenca region. (It is pronounced kwee; the plural is cuyes, pronounced kwees.)

Espanada: Dough patty filled with meat or cheese.

Fritada: Fried pork.

Humitas: Pieces of chicken or pork wrapped in corn or banana leaves. They are eaten with corn middlings and hot pepper (aji).

Llapingachos: Mashed potatoes with peanut oil and cheese.

Locro: The national soup. Generally it is made with potatoes, cheese and avocados. One adds a few pieces of meat.

Mote Pillo: Corn cooked with eggs, bacon and onions.

Sancocho: Stew with green bananas and corn.

Tostado: Grilled corn served with ceviche.

Drink mineral water. There is only one national brand: Gütig. Do not be surprised if the waiter suggests a gütig and not an agua mineral. It is generally carbonated. This product is safe for drinking and brushing your teeth too.

For cooking in your rooms, several large supermarkets are available within walking distance from the hotel. The green vegetable market is also within walking distance, but be sure to wash all food and cook it well before eating (see health precautions).

VII. Transportation.

Currently there are problems with bus routes to the new campus at ESPOL. Taxis are relatively cheap and by pooling together, we might be best off using this means. There are bus routes from downtown to the campus and return for about 10-15 cents U.S. (100-150 sucre) each way. Local city-to-city buses are also available at reasonable rates and we will be using these on several weekends.

VIII. Medical Services, Health Precautions.

Generally, your stateside medical insurance will allow you to be treated in Ecuador. There is excellent medical care available. Good medical centers exist, like Clinica Kennedy, Alcivar, PanAmericana and others. ESPOL has a medical center at the campus and they are looking into other private physician options.

Consult the State Department notes on general health precautions, vaccinations, etc. Malaria and yellow fever vaccinations are needed for the Amazon. The U.S. Public Health Department has current information.

IX. Banking.

The most straightforward way to handle your money is by purchasing travelers checks before you arrive in Ecuador. If you or your parents are AAA members, you can get the travelers checks without charge. Remember to account for food, laundry, entertainment, and miscellaneous. If you have a credit card (Mastercard or VISA), you can receive a cash advance from any commercial bank. However, you are charged a fee for the service at the time that the advance is given. Most students find that the amount they budgeted is not enough--account for miscalculation because you cannot cash a Massachusetts check in Ecuador. Your parents can wire money to you through Western Union or to a commercial bank in extreme emergencies, or you can use your bank card at ATM machines at the Pacific Bank.

The best way to establish a bank account is at the Pacific Bank in Miami, FL. You can get cash at the Pacific Bank in Guayaquil if you have a major credit card. Generally, however, you should use travelers checks.

X. Banks, Change and Money.

Banks are open from 9:00 a.m. until 1:00 p.m., from Monday through Friday. If you are changing money, it is better to carry U.S. dollars and travelers checks. Be aware, however, that the Casas de Cambio, which are officially authorized, offer more advantageous exchange rates.

Foreign exchange rates vary daily. Money can be changed at hotels and banks, but it is advisable to go to the Casas de Cambio(exchange houses) because they are officially sanctioned. The hours do not necessarily correspond to those of banking establishments. It is better to find out beforehand. At any rate, the U.S. dollar is king. All other foreign currencies have less advantageous exchange rates. The exchange rate in July 1992 was 1550 sucre to one dollar.

The national currency is the sucre, named after the national independence hero, Marshall Antonio Jose de Sucre. One should not confuse the \$ sign with the U.S. dollar(US\$). There exist 5, 10, 20, 50, 100, 500 and 1,000 sucre bills. The sucre is divided into 100 centavos. There are 20 and 50 centavos coins as well as one sucre coins. Among the locals, dos reales means 20 centavos; un real, 10 centavos; and un medio, 5 centavos.

XI. Visas.

You will need a current U.S. Passport and Ecuadorian Visa for stays longer than 60 days, and we might exceed this. We will update you on this during the PQP.

XII. Communication.

Communication between faculty and students at the Ecuador Project Center is usually easy. Two students will be designated as CONTACTS by the faculty. These students will be responsible for getting information to the rest of the

students at the Project Center. For example, if the faculty advisor decide to change the time of a scheduled meeting, he or she will tell the Contacts who will have the responsibility of telling all other students.

XIII. Dress Code.

It is always summer in Ecuador. Temperatures range from the low 80's to the high 80's and it is humid. Bring summer cloths only and a light sweater or two for the mountains in case you stay overnight there. Obviously you will need bathing suits. Bring sun block; the tropical sun is dangerous. This is no joke. You will have a great tan after a few short days even if you wear sun block every day.

Professional dress is required at all times at the agencies. Follow the local customs.

IVX. Meetings.

Please note that all Center meetings and weekly faculty meetings at ESPOL are considered mandatory. If another meeting comes up that conflicts with these, make sure that you have prior approval of your faculty.

Occasionally, a group will feel some pressure to go beyond the bounds of what reasonably can be accomplished in seven weeks. If such is the case with your team, enlist the help of your advisors early to negotiate a way to contain the project.

XV. Required Books and Other Materials.

Bring your A-Term books and writing cribs. Also bring your stats manual if you are analyzing statistical data.

1. Dictionaries for both English and Spanish.

2. The Modern Writer's Handbook by Frank O'Hare. This has grammar and punctuation rules, as well as rules for writing. It also has a sample of how to do a Bibliography.

XVI. Sightseeing.

Ecuador is rich in Hispanic heritage. There are numerous guide books commercially available to help you plan leisure time. Plan to get out of Guayaquil occasionally to see the sights. The South American Handbook has volumes of trips described. Don't leave the country!

XVII. Markets.

With the exception of Guatemala in Central America, Ecuador is the one Latin-American country to have the most beautiful local and regional markets. One can find there every popular handicraft product. Each city, in fact, has its "Indian market", which takes place on a different day of the week. Ecuador

has such handicraft wealth that going to any market is an experience not to be missed. Nonetheless, the most famous is in Otavalo, on Saturday mornings, and the most important, in Ambato, on Mondays, Wednesdays and Fridays.

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SECTION TWO**Weekly Schedule****Orientation Week**

To be arranged--schedule forthcoming

Weekly Project Schedule--Note that this schedule begins on March 22nd

Week 1.

Saturday Arrive Guayaquil

Sunday 10:00 A.M. Orientation meeting with the faculty advisor, in the adviser's apartment. The purpose of the meeting is for the advisors and you to exchange information that will make the first week a smooth one. Your advisor will present some valuable pointers about the resources in Ecuador and how to get access to them. The advisor will also go over the schedule for the week, including the time for tomorrow evening's meeting, appoint CONTACTS, and explain their expectations for the first presentations on Friday. Faculty will suggest schedule for weekly meetings at agencies.

Monday Each student project group will meet with its liaison at ESPOL promptly at 9:00 a.m. The projects officially start then. At the first meeting with the liaison, ask for organizational information, including that needed to fill out the index cards at the evening meeting. Take detailed notes. Identify available information sources, including how to gain access to the ESPOL library, if it has one, for example. Ask for a regular meeting time each week with the liaison. Early Monday mornings is great!

Evening meeting with students and faculty at 7:30 in the faculty's apartment: Fill out 2 sets of Index Cards (see Appendix A). Often, there are minor problems to discuss or questions to ask. Sometimes there are feelings that need airing. Also arrange weekly meetings for faculty, liaisons and students.

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Friday
8:00-12:00

Each team will make its first presentation. Each team member will speak for ten minutes. This first presentation is intended to convey to your classmates and advisor what the project will be. You may want to include a recap of the project as it was conceived in A-Term and whatever clarifications or changes are required now. Don't forget to use appropriate visual aids - flip charts, overheads, handouts, for example. Prepare your visual aids professionally and carefully and make sure they can be seen by the person in the last row.

Critique your colleagues carefully. You have a fifteen minute period in which to do so. Mannerisms, grammar, voice projection, style, content, the logic of the presentation, the kind and quality of the visual aids are fair game for comments. You should also comment on where and how teammates who are not presenting place themselves while their colleague is speaking. Please remember that the two people who are not speaking to the audience should not be whispering to each other nor should the teams who are in the audience be whispering or giving last minute attention to their own presentations. Each team's presentation requires everyone else's full attention. Past experience dictates that the presentations, while anxiety producing at first, become extremely important to everyone because they provide a forum in which to give and receive honest, thorough, tough, but fair feedback.

The detailed draft outline of the final report is due at the beginning of the meeting.

Week 2.

Tuesday

First on-site meeting with advisors and liaisons. Schedule the final presentations at you ESPOL. Generally, this first meeting is an informal meeting designed to make sure everyone agrees on the direction and content of the project. You should prepare carefully for the meeting, however, and perhaps prepare materials for your advisors and for your liaison and others from ESPOL who are involved with your work and who have been invited to attend. (See Appendix A of the Procedures Manual for suggested format of meeting.)

Wednesday

Summary Progress Chart for Week 1 and proposed work plan due for Week 2 (see Appendix A for forms, which you should copy and for directions on how to use them). Use these forms each week.

Friday **Second presentations.** These presentations should be devoted to your methodology for collecting data and for analyzing them. By now you should have actively begun your research and your plan should be complete. You should know whom and how many people you will be interviewing, and you should have begun making appointments. If you are administering a questionnaire, it should already have been developed and pretested.

First Draft of Chapter III. (Literature Review) due before the presentations.

This week you should have arranged for your room for your final presentations. You must anticipate properly the correct size of the room you will need.

Week 3.

Wednesday **Weekly on-site meeting**

Visits at ESPOL by Ecuadorian Project Center Director. No meeting at the hotel on Friday this week. Formal presentation instead for the faculty liaison and Director.

First draft of Introductions and Methodologies due by 6:00 p.m. to advisor.

Friday **Weekly presentations with faculty and other teams on Friday. The faculty may exercise the option not to have the Friday presentations.**

Week 4.

Monday **Second drafts of Literature Review Due by 6:00 p.m. (attach first drafts)**

**Tuesday
and
Wednesday** **Weekly On-site meeting**

Friday **Weekly presentations with faculty and other teams. Focus on your data.**

Second drafts of Introductions and Methodologies due (attach first drafts) by 6:00 p.m.

Week 5.

Monday **Table of Contents, List of Table, List of Figures, Appendix A due by 6:00 p.m.**

**Tuesday
and
Wednesday** **Weekly on-site meeting at faculty discretion.**

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Friday **Draft proposals due to liaisons and faculty (by 6:00 p.m.) No a.m. presentations at faculty discretion.**

Week 6.

**Tuesday
and
Wednesday** **Weekly on-site meetings.**

Wednesday **Exchange drafts. Advisors will announce in advance with whom each team will exchange.**

Draft authors submit one Xerox copy to student reviewers NO LATER THAN 6 p.m.

Draft should clearly indicate which sections are incomplete with a detailed explanation of what they will contain.

The three peer draft reviewers will mark up their copy and each will prepare a report critique. By sharpening your ability to be a critic for another team, you will develop the ability to critique your own work better.

Thursday **8:00 p.m. Teams meet to give feedback to the team whose draft they reviewed and to receive feedback. The reviewers will orally present their critiques with special emphasis on the results chapter. (Please note: while reviewing the draft, do not ask the authors to explain what they wrote; the point of the review is to respond critically to what is on the typed page.) Draft reviewers will submit their marked-up copy to the team that wrote the draft immediately after the feedback session Thursday evening. The critique write-ups will be given to the faculty at the Friday morning session. There should be twenty-four write-ups.**

Friday **Dress rehearsals. Faculty will announce schedule.**

Saturday **Dress rehearsals. Faculty will announce schedule.**

Week 7.

No weekly meetings

Thursday **FINAL PRESENTATIONS Break a leg!**

SECTION THREE

Due to the heavy workloads that will be experienced during the term, certain procedures have been adopted to facilitate efforts. You will need to determine what access you will have to a word processor and become familiar with its format specifications as soon as you begin to work on your projects.

1. Everything submitted to the faculty advisor must be on the same size paper (either 8 x 10 1/2, government size, or 8 1/2 x 11), and either stapled or punched with 3 holes and put in a loose-leaf binder.
2. Everything submitted must be dated and initialed and must have the name of the project and students on it. All drafts of chapters must be typed. No handwritten drafts will be accepted.
3. A Task Chart for the entire term project, written by the project team jointly, is to be submitted at the first weekly meeting with the faculty advisor.
4. At the weekly organization meeting with the faculty advisor, each team will submit a:
 - a. Proposed Work Plan, identifying major tasks to be done in the next week by the group.
 - b. Summary Progress Chart, briefly indicating the team's overall fulfillment of its Task Chart for the project. The Task Chart may be overhauled as necessary, but advisors must be given a copy of the Chart each time it is revised. Advisors should be able to understand the progress of the project by matching the tasks on the team's Task Chart to the Summary Progress Chart.

FORMAL GUIDELINES FOR FINAL REPORT**CONTENTS:**

Letter of Transmittal
Title Sheet
Abstracts
Authorship Page*
Table of Contents

- I. Executive Summary
- II. Introduction
- III. Literature Review (or Background Information)
- IV. Procedure
- V. Results
- VI. Analysis of Results
- VII. Conclusions
- VIII. Recommendations
- IX. Appendices
- X. References

APPENDICES

- A. Mission and Organization of the Agency
- B.
- C.

* This page is required by WPI for all group projects. It identifies which student holds primary responsibility for each section of the report.

FORMAT FOR LETTER OF TRANSMITTAL

(Business letter format, written to agency (ESPOL) liaison)

The Letter of Transmittal is a letter formally submitting the project report to the agency involved. A sample letter of transmittal is given below. The letter must contain the title of the report and include the following sentences:

"Copies of this report are being submitted simultaneously to (faculty advisors) for evaluation."

"Upon faculty review, the original will be catalogued in the Gordon Library of Worcester Polytechnic Institute."

The letter should close with a statement which thanks the liaison for his/her help.

(Sample Letter)

October 12, 1990

Mr. Louis C. Santone, Director
Office of Business and Legislative Issues
U. S. Department of Commerce
San Juan, Puerto Rico 009011

Dear Mr. Santone:

Enclosed is our report entitled The Impact of the Petro-chemical Industry of Unleaded Gasoline Production. It was written at the U. S. Department of Commerce during the period August 26 through October 12, 1990. Preliminary work was completed in Worcester, Massachusetts, prior to our arrival in Ecuador. Copies of this report are simultaneously being submitted to Dr. Lutz and Dr. Weinrich for evaluation. Upon faculty review, the original copy of this report will be catalogued in the Gordon Library at Worcester Polytechnic Institute. We appreciate the time which you and Mr. David Glancy have devoted to us.

Sincerely;

TITLE PAGE

Report Submitted to:

Name of WPI Faculty Advisor(s)

Ecuador Project Center

By

(typed names)

(signatures)

In Cooperation With

(names and titles of ESPOL liaison)

(name of university and division)

REPORT TITLE IN ALL CAPITAL LETTERS

(Date)

This project report is submitted in partial fulfillment of the degree requirements of Worcester Polytechnic Institute. The views and opinions expressed herein are those of the authors and do not necessarily reflect the positions or opinions of (Agency Name) (ESPOL) or Worcester Polytechnic Institute.

This report is the product of an education program, and is intended to serve as partial documentation for the evaluation of academic achievement. The report should not be construed as a working document by the reader.

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ABSTRACT

The Abstract is of prime importance since it is used by readers for guidance as to subject, treatment and results. Often the quality of the Abstract will determine how much attention a decision-maker will devote to the rest of the report. Therefore, the Abstract must summarize the contents briefly and accurately, and be understandable independent of the text. It must not exceed 80 words in length and should contain no equations, figures or illustrations. The Abstract must contain the name of the organization with which you worked. It might begin, for example: "This report, prepared for the U. S. Department of Commerce..." The Abstract must be single-spaced. (This abstract, unless revised by the faculty advisors, will appear on your transcript.)

AUTHORSHIP PAGE

When a single, comprehensive written report is submitted for a project, each individual's contribution to the group effort must be clearly identified. The authorship page is either a simple list of individual chapters and their respective authors, or a statement in which each contributing group member is named as having carried out one or more specific tasks within the overall project effort.

ACKNOWLEDGMENTS

Students often insert an acknowledgments page if they wish to specifically acknowledge the assistance or involvement of particular people.

TABLE OF CONTENTS

This should be the last part of the report you do, because you cannot fill in the page numbers until you are finished with the report. However, you should have developed the Table of Contents early in the formulation of the report. It can serve as the basic outline of the paper.

I. EXECUTIVE SUMMARY

This will also be one of the last sections written. This section of the report, like the Abstract, should be understandable independent of the rest of the report. It should be able to stand by itself, and should be tightly written, concise and right to the point because this may be all that a top manager has time to read.

While the format for this section may vary from report to report, the following outline (all in very brief statements) may prove helpful:

Introduction
 Objective
 Background
 Present Situation
 Projections
 Constraints
 Alternatives
 Comparison of Alternative
 Results (or Recommendations of Conclusions)

The Executive Summary should be not more than 2 or 3 pages.

II. INTRODUCTION

The Introduction should contain a section on the significance of the subject matter. It usually runs about 4 to 5 pages in length and describes in general terms what the reader will read in the body of the report. The subject, goals, purposes, importance, method, audience, and anticipated form of the results for the project should all be touched upon. The Introduction must contain the following statement single-spaced:

This report was prepared by members of Worcester Polytechnic Institute Ecuador Project Center. The relationship of the Center to the (name of organization) and the relevance of the topic to the (name of organization) are presented in Appendix A.

III. LITERATURE REVIEW (or Background Information)

Usually, a project topic will deal with several areas of knowledge. The literature review is a discussion of the theoretical background your topic and current and past research performed in the topic area. It provides the reader with the information necessary to understand your topic. It, also, leads the reader to understand how and why you formulated the problem in the way you did. Your project is intended to fill a gap in knowledge or add to the store of knowledge in the subject area. In some cases, when a project results in a product such as a script for a video tape, for example, the literature review is more difficult to conceptualize. However, even in such cases, the literature review creates the rationale for creating the product, which, in turn, will be used as a tool for actions that in the end will develop knowledge. If your literature review does not clearly provide a rationale for your project, you have not covered your field or you have not conceptualized the problem rationally. Your literature review from C-Term should provide you with a good start. But you are expected to greatly expand your own knowledge through new literature sources and to provide the reader with many more sources. Remember, people who have no knowledge in your project area may look at your report in Gordon Library. Your literature review should enable them to understand the basics in your topic area, the rationale of your methodology, the data you discuss, and your conclusions and recommendations. Remember to focus on points not on particular authors or sources, unless they are seminal works in the field that are so commonly recognized that the name of the author or work is immediately recognized.

O'Hare gives you examples of formats for citing sources and reporting references.

Citations should be embedded in the text by number and should be in

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last name of author and year of publication.

IV. PROCEDURE or METHODOLOGY

This chapter, one of the most important in the report, must present your methods of analysis in a way which will allow the reader to replicate your efforts with a different sample. The Procedure is the general, conceptual flowchart of the problem-solving approach. You must provide rationale for all procedures you elect. If, for example, you plan to conduct interviews, you must tell why you chose to conduct unstructured versus structured interviews. If you sent out questionnaires, why did you do so? Justify the type and size of your interview sample or your questionnaire sample.

Many projects will NOT require statistical analysis. However, if your project did require statistical analysis, why did you choose one statistical procedure over another? What were the difficulties in choosing your sample? How did you pretest your interview questions or your questionnaire? What were the time, money, geographic and human resource constraints? If you did not choose a random sample, why not? If you stratified your sample, why did you stratify it that way? Use Bailey, K. Methods of Social Research (2nd ed.), or any other good social research methodology text for help in reviewing these concepts. Kidder, L. (1981) Selltiz, Wrightsman and Cook's, Research Methods in Social Relations (4th ed.), New York: Holt, Rinehart & Winston is also excellent and supplements Bailey.

Whenever possible and if appropriate for your topic, make sure that your methodology includes procedures that will allow you to quantify at least some of your results. For example, if you interviewed nine people using an open-ended interview schedule, you may still be able to tabulate your results in some way so that trends at least can be noted, reported in your Findings chapter, discussed in your Analysis chapter, and used for the basis of recommendations in your Conclusion and Recommendations chapter. Be complete and be specific.

In conducting your work, you may have had to modify the procedures you first intended to use. Explain what modifications you made and why. Hunches, even based on interviews, cannot be reported unless they are backed by data that has been analyzed systematically, even if not statistically. Systematic analysis requires organizing data according to criteria set up in advance. Usually systematic analysis means numbers are involved.

Some projects do not lend themselves to quantification. Talk to your advisors.

V. RESULTS

This chapter contains the presentation of the findings of your investigations. Start with the simplest material, but be specific. Your reporting and any arguments you make will be infinitely stronger if you use, whenever possible, tabulations of the findings. An example is, "Six out of twenty people interviewed wanted the airport to be transferred to private ownership." Proceed to more complicated reporting. "In spite of the fact that so few people were in favor of private ownership, the majority - 18 out of 20 - felt that private ownership would result in more efficient service for passengers. Not all projects will lend themselves to this sort of reporting.

Tables may be used when doing so supplements but does not simply duplicate the text. Use as few as possible. In the text, tell the reader what

to look for in the table, but discuss only the highlights. Do not use a table to take the place of text. Each table should be numbered and have a name. For example, the first table might be labeled as:

Table 1. Engineers by Field

Readers should be able to understand the table without explanation. Have others who are not in your team look at your tables and tell you what they mean. If the reader does not understand the table, revise it. Refer to the table by number: "High school students are more informed about the tasks of mechanical engineers than they are about those of electrical engineers (See Table 4)," for example; or "Table 4 shows the number of manufacturing plants that"

VI. ANALYSIS

The second part of your Procedure is the Analysis of your Results. The analysis focuses on the significance of patterns you see in your data. This chapter enables you to make recommendations and conclusions by focusing on the significance of patterns you discern in your chapter on Results. Hence, you will be able to say, "Seven out of the nine people indicated a preference for Classic Coca-Cola, indicating a trend." Or, "Since only four out of nine people believed the regulations should be changed, we cannot justify a recommendation to change the regulations. Nevertheless, our sample was so small that we cannot conclusively state that our findings constitute an adequate picture of the opinions of the total population from which the sample was drawn."

Remember that your samples will not be large enough to allow you to make statements about cause and effect. In order to do so, you would have had to use a classic experimental design in which you controlled for all variables except the ones you wished to test. You would, also, have had to use a large sample. Hence, while always referring back to your sample size for justification, you can talk only about trends and about their strength. Provide the reader with alternate explanations for the outcomes of your data. When the majority of adopters of solar equipment are between the ages of 30 and 50, it is not because older people do not like or believe in solar equipment as an energy saver but because older people have smaller access to media sources from which they can learn about solar equipment. Or they have lower incomes than the younger group, and, therefore, cannot afford solar equipment, for example. Do not reject data you feel will not support your hypotheses or that will not please your ESPOL. As researchers you have an obligation to report and analyze all relevant data. Disproving a theory or stating that the evidence is inconclusive is always as important as proving a theory.

Sometimes the writing of the report will be more logical when the authors integrate their reporting of findings with the analysis of the data. Before electing to do so, discuss your rationale with your advisors and get their permission. Many of the projects report findings that do not lend themselves to a statistical reporting style. Check with your advisor.

VI. CONCLUSIONS AND RECOMMENDATIONS

Be sure that all your conclusions are consistent with and follow from an analysis of your data. Everything in this chapter must grow logically from what you have presented in earlier sections.

The chapter indicates what policy recommendations you are making. Recommendations must follow from conclusions, which follow from your analysis.

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which follow from your data, which follow from your methodology, which follow from your hypotheses, which follow from your theoretical discussion.

While recommendations grow logically from your investigation, they do not necessarily grow logically from the opinions of ESPOL personnel nor from the political climate of an agency. Upon occasion, recommendations may be contrary to what an agency may wish to hear. This is a delicate situation and will require tact on your part. Discuss controversial findings and recommendations with your liaison and advisors, but be true to your data and your analysis.

VII. APPENDIX A. MISSION AND ORGANIZATION (of Agency - ESPOL)

This Appendix should include a general background statement on the history and development of the agency or organization, recent budgetary trends, how and by whom its policy is set, and a specific statement of current mission, policies, goals and objectives. The original letter from the agency, identifying the topic, should be included as an exhibit. The final section should describe how your project topic is related to the agency's mission, the position and responsibilities of the people working with you in the agency (show an organization chart), and how the project topic's results would affect components of the organization.

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GUIDELINES FOR FINAL REPORT

1. Use Roman numerals for Chapter Numbers, capital letters for Appendices. All Chapter Appendix titles should appear as follows:

1. **INTRODUCTION**

2 spaces

When using subtitles, capitalize the first letter of each word and begin two lines lower.

2. All Figures, Tables and Exhibits in a particular Chapter or Appendix should be identified and numbered by Chapter or Appendix. Each must have a short descriptive title. For example:

Figure I-2. Regional growth trends

Table I-1. Energy consumption per capita (first figure in Chap. II)

This procedure allows each chapter to be typed separately. (Page numbering can be completed at the end of the term.)

3. **MARGINS** - very important to observe in order to be able to bind all materials in a readable way. (Beware of 8 x 10 1/2 paper)

From top of page and from right-hand side: 1 inch.

From bottom of page: 1 1/4 inch.

From left-hand side: 1 1/2 to 2 inches in order to leave room for binding.

Nothing should appear outside these margins except the page number which should be centered at the bottom of the page.

4. **FOOTNOTES** - Footnotes should be embedded in the text in parentheses using the Chicago Manual of Style's preferred method (12th Edition, p. 374, chapter 16.5). This relatively newly preferred form takes the place of the older standard form for footnoting by numbers and puts the author's last name, year of publication, and when a direct quote is used, page numbers in parentheses. The full citation can be found alphabetically listed in the back of the document in a section called References. For example, (Jones, 1988:63) means that Jones wrote the book or article, published it in 1988 and you are using a direct quote from page 63. When you are not using a direct quote, the citation would be as follows: (Jones, 1988) or (Jones, Smith, Brown et al., 1988) or (Jones in Brown, 1977). In all examples you are using Jones' materials. In the second example, there were more than three authors to the book. In the last instance, Brown wrote the book and cited Jones or Jones had an article in Brown's book. In the References section, use standard citation forms for your full citations. See pages 384-388 for a guide (sections 16.46-16.68). You may also use the format given by the American Psychological Association the standard for social science research. O'Hare gives you a model. Do not call the References section "Endnotes" or "Footnotes" or "Bibliography."

You may also have referred to other books and articles from which you got general ideas but from which you have not draw specific enough material that warrants footnotes. In this case, you will want to have an Additional Bibliography section in which you alphabetically list in full citation form those sources.

5. **REFERENCES** - The References come at the end of your project report and should include all books, journal articles, newspaper articles, etc. that

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you used in researching your topic. The References section is an alphabetical listing according to author of all your listed References. If in the text you referred to (Walters, 1967), you must give the full citation in the References.

Example:

Walters, A. (1967). The Growth of American Industry. New York:Harper & Row.

NOTE: Periods follow the author's name and the title of the work. For journals:

Grant, R., Higgins, C., and Irving, R. (Spring 1988).
"Computerized Performance Monitors: Are They Costing You
Customers?" Sloan Management Review. Vol. 29: 39-36.

(In this case, the article title is enclosed in quotation marks and the name of the magazine is underlined).

Fuller explanations of proper forms may be found in Kate L. Turabian, A Manual or Writers, the most recent edition or in The University of Chicago Press' A Manual of Style, the most recent edition, under Bibliographies, and O'Hare. There may be slight variations of style among authors.

SUPPLEMENTARY GUIDELINES FOR FINAL REPORT

DOUBLE SPACE all sections of your final report, **EXCEPT:**

- the **ABSTRACT**
- indicated sections of the Title Page
- Quotations, References, Illustrations, Footnotes, and other items that are normal single spaced.

Be consistent in footnote style. The Procedures Manual includes comments on proper footnote form and bibliographic form. If in doubt, consult Chicago Manual of Style.

COPIES OF THE REPORT TO BE SUBMITTED (Faculty will expect 4 copies, first 3 items below):

- 1) **ONE COPY:** for Project Center files (S. Vernon-Gerstenfeld). This copy will be used to duplicate your report for any agencies who wish to have a copy. Make sure, therefore, it is the cleanest copy possible with the highest white/black contrast.
- 2) **ONE COPY:** for Gordon Library
- 3) **TWO COPIES:** one for each of the faculty advisors
- 4) **ONE COPY:** for organization liaison
- 5) **THREE COPIES:** one for each member of the project team.

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SUPPLEMENTARY GUIDELINES FOR ILLUSTRATIONS

Graphs, charts, and other illustrations are normally referred to as Figures. Tables are referred to as such.

If an illustration takes up 1/2 page or more, give it its own page. Place the illustration as closely as possible to the section of the text to which it refers to.

If a single illustration is more than 2 or 3 pages long, include it as an appendix to the report.

If the illustration is taken from or is a modification from an outside source, credit that source.

Source: Statistical Abstract of the U.S., 1966, p. 23 or Adapted from Statistical Abstract of the U.S., 1966, p. 25.

This sort of reference appears below the illustration. Do not use an illustration if it is not referred to in your text.

Below is an example of a table:

Table 1. Fruit Grown in Massachusetts

(Given by town in percent of total yield of fruit in state)

	Leominster	Cambridge	Springfield
Apples	10.0	0.05	6.0
Oranges	3.0	0.01	0.0
Plums	2.0	3.00	17.0

Adapted from the U.S. Department of Agriculture, July 1990

SUPPLEMENTARY NOTE ON SPELLING

A few words commonly misspelled and/or misused are: liaison, effect/affect, methodology/method, which/that - check dictionary for correct usage; it's/its first is contraction of it is, second is possessive pronoun of it.

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Appendix A: FORMS, FORMATS, AND MEETINGS

Complete These Index Cards Monday Night - first week

Card # 1.

Student's name

Social Security No.

Major

Room No.

Room Tel. No.

Parent or next of kin

Addresses

Telephone No.s

Card # 2

Students' Name

Name of Agency

Your Tel. # at Agency

**Your Room # at
Agency**

Liaison's Name

**Agency Room #
for Meetings**

**Weekly On-Site Meetings of Advisors,
Students, and Liaisons**

It is students' responsibility to arrange this meeting and to invite people directly involved in the project.

Suggested Guidelines for Conducting the Meeting

1. Presentation of accomplishments to date. (Five-minute oral presentation by one member of the group backed by other's comments when appropriate.)
2. Presentation of procedures to be used to collect data and of techniques to be used to analyze data. Approximately 15-minute oral presentation with visual aids and handouts.
3. Discussion of data sources (three minutes).
4. Faculty-student interchange on adequacy and appropriateness of procedures and data.
5. Faculty may wish to waive the formal structure of the meetings and conduct the meetings informally. If so, it is, nevertheless, important for students to prepare handouts or overheads that will provide necessary information for the discussions.

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SUMMARY PROGRESS CHART

Project Name: _____

Date: _____

Students: _____

Tasks	Draft Submitted To Advisor	Advisors Comments Obtained	Liaison Comments Obtained	Final Draft Rewritten	Final Copy Typed
-------	----------------------------------	----------------------------------	---------------------------------	-----------------------------	------------------------

- 1.
- 2.
- 3.

Filling Out the Summary Progress Chart

The use of this form can be suspended and subsequently reinstated after the second week at the discretion of the faculty advisors.

1. Under "tasks," number all tasks worked on. Check off by date "Draft Submitted to Advisor," "Final Draft Rewritten," and "Final Copy Typed" only for chapters of final report. For other tasks, use only "Advisor Comments Obtained" and "Liaison Comments Obtained."
2. Tasks must be keyed to Tasks listed on Group Task Chart.
Example: Conducting Interviews may be labeled "1", or Writing Chapter 3 may be task "2", Researching Literature Review "3".
3. Enter dates under appropriate columns as work progresses.

PROPOSED WORK PLAN

Project Name: _____

Organization: _____

Student Names: _____

From: _____ to _____
(date) (date)**TASK ACTIVITY**

Task No.

Filling out the Proposed Work Plan

Each team should fill out one form each week

Under "Task," fill in the appropriate task number. Under "Activity," give detailed explanation of how task will be accomplished. Identify all data sources. Identify all meetings and purpose of meetings.