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Alternative and Appropriate Technologies: Technology for what? Technology for whom?

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First semester 2013-2014

Manual with syllabus and primary texts

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Alternative and Appropriate Technologies: Technology for what? Technology for whom?

First semester 2013 – 2014

Tuesdays and Thursdays

3:30-4:45 PM

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Particularly relevant links

www.practicalaction.org

<https://sites.google.com/a/upr.edu/marcel/>

<http://greatidea.uprm.edu/>

blogs.uprm.edu/hectorjhuyke

I. INTRODUCTION

The commonly accepted idea that technological innovation and engineering design, as these are presently conceived, are the engine of “real” human progress has been questioned for some time, not only by philosophers and social scientists, but also by engineers. Today many engineers are conceptualizing anew their profession, questioning who it serves and does not serve, developing a broader interdisciplinary context for innovation and design decisions, and devising new career pathways to better serve sustainability, humanitarian causes, and the needs of the community.

Rarely does one find a course in engineering or in general education that challenge students to think broadly about choices in technological innovation and engineering design and to critically examine those choices from the explicit perspective

of producing a better future for humanity. This general education course grounds itself in the Appropriate Technology tradition and Humanitarian Engineering as frameworks to enable **students of all concentrations** to critique practices of innovation and design. Using appropriate technology and other philosophic tools for the analysis and development of case studies, students will examine how consumer choices, professional practices, economic forces and generally poorly analyzed conceptions of human progress actually inform and determine technology innovation and engineering design. With these same tools, they will also explore alternative approaches to pursue innovation and design appropriately, taking into account broad cultural, political, economic and environmental implications for progress.

Students in this course will gain awareness that the choices we all make as citizens – ranging from individual consumer purchases to participation in national agendas – intimately influence the technologies that we create and use. This awareness is vital for students who are in the formative stages of their academic and career preparation, and will potentially lead them to explore new career options that they otherwise might not have imagined. The format of a general education course is chosen to attract students ranging from engineering to liberal arts because individuals from all disciplines share responsibility to govern technological choices, and preparation for this responsibility is best done in an interdisciplinary environment.

This course will serve as a model for any institution of higher education that seeks a practical means to engage their students in a constructive discussion of **the technological choices** that go with achieving sustainability, advancing humanitarian causes, and satisfying the needs of the community.

II. OBJECTIVES

1. Using the appropriate technology and the humanitarian engineering traditions as theoretical frameworks along with other philosophic forms of theory, students will be able **to critique various practices** of technology innovation, engineering design, and poorly analyzed conceptions of human progress.
2. Students will develop some basic **quantitative skills** that will edify them as informed citizens in a science and technology oriented world.
3. Students will be able **to conceptualize alternative approaches** to pursue innovation and design appropriately, considering broad developmental, cultural, political, economic and environmental concerns.
4. Students will be able to describe how consumer choices, professional practices, economic and other powerful forces inform and determine technology innovation and engineering design, and they will be able to describe how technology in turn influences social structures.
5. Students should **develop a shared sense of responsibility for choosing and for collaborating in bringing about the technologies** that go with genuine progress, with achieving sustainability, and with advancing humanitarian causes.

III. MODES OF EVALUATION AND OTHER POLICIES

1. Attendance---being bodily present in class sessions---is an integral part of the learning experience for this course. Coming to class discussions will hence constitute 20% of the overall grade.

We will hold 30 class sessions of an hour and fifteen minutes. Every absence without exception will represent 1.5 points of the 20 points out of 100 (20%) that correspond to class attendance. Every lateness and early departure¹ will represent .5 points. For instance, if at the end of the semester, records show you have been absent twice and you have been late three times, 4.5 points will be subtracted from your overall grade, which would mean that the highest grade you could get for the course would be 95.5 or 'A', which is not that bad. Anyway, during the semester, you will be able to recover some of those points, all of them, and any points whatsoever, doing extra work (Please refer to **EVALUATION MODE 5**).

You don't need to submit medical excuses or anything of the sort. They will not make any difference. Being absent is being absent. The problems arise only if you are frequently absent or late. In that case, you lose too many points in attendance, and most important, you may miss the direction and gist of class discussions, which means that you will probably do poorly in the other modes of evaluation, including the optional work to gain extra points. If you want to do well in the course, we highly recommend you make a commitment with yourself to come to class discussions on a regular basis, and to do optional work to regain whatever extra points you may want to gain during the semester.

2. A second mode of evaluation is class participation. We all need to develop public listening and speaking skills. Participation will hence constitute another 20% of the overall grade. Included in these 20 points is having the corresponding texts at hand in class discussions in order to be able to cite and to refer to particular passages. Class participation includes formulating and expressing reactions, questions and arguments related to the readings assigned. Class participation also encompasses positive and informed collaboration with the group's process, including listening to others. The final grade in this mode of evaluation will be in accordance with the following guidelines:

In general terms, the student collaborated . . .

- . . . **decisively in the discussion of the texts (20 points)**
- . . . **regularly in the discussion of the texts (18-19 points)**
- . . . **with the discussion of the texts (16-17 points)**
- . . . **not very much, but kept up with the readings and mainly listened attentively (14-15 points)**
- . . . **not much, but generally kept up with the readings (12-13 points)**
- . . . **not sufficiently, and was unable to generally keep up with the readings (11 points or less)**

The quality of class participation depends on abilities that vary greatly among students with very different backgrounds. Any student that so desires shall be able to negotiate and reach an agreement with one of the professors on how his or her particular effort in participation will be evaluated. In some cases more than in others, office hours will constitute an important component.

Toward the middle and the end of the semester, every student will submit a statement with her judgment of her own participation in class and the participation of others, and a numeric self-evaluation. The grade for this mode of evaluation will be based on those statements, the numeric self-evaluations, and the judgment of the professors.

3. 40% of the overall grade will be based on two short essays of 10 points each and one

¹ We appreciate being notified in advance of any necessary early departure.

longer essay of 20 points. These will be assigned and discussed in class in accordance with the **COURSE CALENDAR** included in this syllabus. On page 12 of the syllabus, you will find a **GUIDE TO THINK THINGS THROUGH** and, on page 13, you will find a **DIAGRAM ON PUTTING THE PARTS IN ORDER**. The guide and the diagram will help you when you are on your own writing the essays.²

The short essays will be evaluated according to the following table:

Grading: 10 = superior mastery; 9 = full mastery; 8 = meets the challenge; 7 = apprentice; 6 = insufficient effort; 5, 4, . . . = does not seem interested in improving the course			
Challenge	First essay 10 points	Second essay 10 points	Third essay 20 points
Focuses on and explains an important aspect of a theoretical framework discussed in class	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____
Analyzes and develops a case or various cases on the basis of that aspect of the theoretical framework	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____
Discusses a possible weakness of that aspect of the theoretical framework	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____
Deliberates in favor or against the framework taking into account the case or cases presented and the possible weakness of the theoretical framework in discussion	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____
Demonstrates dedication, discipline and pride in the written word	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____
Overall grade for each essay (the sum of the grades for each of the five challenges divided by five and rounded up without decimals or fractions)	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____

4. The remaining 20% of the grade for the course will be based on several short quantitative exercises that will be given periodically.

5. Students may gain extra points through written reports on talks, conferences, and

² Un estudiante podrá sustituir los tres trabajos escritos (40% de la calificación) por informes de análisis y evaluación del proceso en cada sesión de clases. Para más información sobre los **diarios reflexivos** y una guía al respecto, favor hablar con el profesor. La persona debe cumplir con los siguientes parámetros: (1) En primer lugar, ser alguien que se entrega con facilidad y destreza a escribir de día a día en torno a como va la clase; (2) Esta persona también tiene que ser buena observadora en clase; (3) Y esta persona debe ser particularmente organizada en su trabajo, pues es imprescindible, no sólo mantenerse al día en las lecturas, sino también entregar sus diarios con regularidad. La opción de diario reflexivo tiende a ser una gran experiencia de aprendizaje para estudiantes de segundo año en adelante con índice de honor.

activities and engagements related to class discussions. Extra work must be either (1) in response to a general opportunity announced by the professors or (2) individually proposed and approved by the professors.

6. All individual and group work ought to be an original and creative response to particular assigned texts and discussions in this course. Plagiarism will not be tolerated, and neither will the collaboration with the corruption of the potential for originality and creativity of a fellow student. That is the policy of academic integrity in this course. All evidenced absence of integrity will be submitted with the required documentation to the Dean of Students for the corresponding disciplinary actions.

7. Use of all electronic devices during class time is prohibited unless explicitly approved by the professors on a case by case basis.

IV. TEXTS

1. PRIMARY TEXTS

You may acquire the following basic readings in the form of a manual at El Colegio in Mayagüez Terrace. The syllabus for the course comes with the manual.

ESSAY: Lauriston Sharp, "Steel Axes for Stone-Age Australians", pages 1-10
(http://marriottschool.byu.edu/emp/WPW/pdf/class/Class_5-Unintended_Consequences_of_Modernization.pdf)

BRIEF: Practical Action, "What is Appropriate Technology?", pages 1-6.

BOOK CHAPTER: Carl Mitcham and David Muñoz, "1. Engineering", **Humanitarian Engineering**, Morgan & Claypool, 2010, pages 1-9.

BOOK CHAPTERS: Kelvin W. Willoughby, "An Integrated Framework", "A Review of Possible Criticisms", **Technology Choice: A Critique to the Appropriate Technology Movement**, Boulder, Colorado: Westview Press, 1990, pages 265-308, 309-330.

BOOK CHAPTERS: Carl Mitcham and David Muñoz, "3. Humanitarian Engineering", **Humanitarian Engineering**, Morgan & Claypool, 2010, pages 27-35.

BOOK CHAPTER: Practical Action, "Conventional Wisdom – The current development narrative and why it doesn't work", **Wellbeing, Technology Justice and Sustainable Development: Fighting Poverty as if People Really Mattered**, pages 2-43.

BOOK CHAPTERS: E. F. Schumacher, "The Role of Economics" and "Buddhist Economics", **Small is Beautiful: Economics as if People Mattered**, New York: Harper & Row, pages 40-62.

BOOK CHAPTER: Donna Riley, "3. Engineering and Social Justice", **Engineering and Social Justice**, Morgan & Claypool, 2008, pages 47-106.

ESSAY: Pieter Tijmes, "Albert Borgmann: Technology and the Character of Everyday Life", in Hans Achterhuis, editor, **American Philosophy of Technology: The Empirical Turn**. Trans. Robert P. Crease. Bloomington and Indianapolis: Indiana University Press, 2001, pages 11-36.

ESSAY: Sara C. White, "Bringing Wellbeing into Development Practice. Working Paper", University of Bath/Wellbeing in Developing Countries Research Group, Bath, UK, 2009 (unpublished), pages 1-32.

ESSAY: Chloe Blackmore, "Responsible Wellbeing and its Implications for Development Policy", Wellbeing in Developing Countries Research Group Working Paper 09/47, July 2009, pages 1-22.

BOOK CHAPTER: Manfred Max-Neef, "Theoretical Interlude (III)", **From the Outside Looking In: Experiences in Barefoot Economics**, London: Zed Books, 1982, pages 129-144.

ESSAY: Andrew Feenberg, "Del esencialismo al constructivismo: La filosofía de la tecnología en la encrucijada". Trans. Agustina Lo Bianco e Ignacio Perrone, 2006 (<http://www.sfu.ca/~andrewf/U2%20Feenberg.pdf>).

Alternative in English: BOOK CHAPTER: Hans Achterhuis, "Andrew Feenberg: Farewell to Dystopia", in Hans Achterhuis, editor, **American Philosophy of Technology: The Empirical Turn**. Trans. Robert P.

Crease. Bloomington and Indianapolis: Indiana University Press, 2001, páginas 65-93.

BOOK CHAPTER: Héctor Huyke-Souffront, "La sustitución de las cercanías por lo lejano", **Tras otro progreso: Filosofía de la tecnología desde la periferia**, pages 107-124.

BOOK CHAPTER: Juan Lucena, Jen Schneider, and Jon A. Leydens, "Engineering With Community", **Engineering and Sustainable Community Development**, Morgan & Claypool, 2010, pages 85-116.

BOOK CHAPTER: Juan Lucena, Jen Schneider, and Jon A. Leydens, "Listening to the Community", **Engineering and Sustainable Community Development**, Morgan & Claypool, 2010, pages 116-152.

BRIEF: Practical Action, **The Pitfalls of Questionnaire Surveys**, pages 1-5.

2. SUPPLEMENTARY TEXTS

BOOK CHAPTERS: Carl Mitcham and David Muñoz, "2. Humanitarianism", "4. Humanitarian Engineering Education", "5. Challenges" and "6. Conclusion: Humanizing Technology", **Humanitarian Engineering**, Morgan & Claypool, 2010, pages 11-26 and 37-62

BOOK CHAPTER: Carl Mitcham, "From Philosophy to Technology", **Thinking Through Technology: The Path Between Engineering and Philosophy**. Chicago: The university of Chicago Press, 1994, pages 137-160.

BOOK CHAPTER: Kelvin W. Willoughby, "Technological Semantics", **Technology Choice: A Critique of the Appropriate Technology Movement**, pages 15-44;

ESSAY: Kelvin W. Willoughby, "**Technological Semantics and Technological Practice: Lessons from an Enigmatic Episode in Twentieth-Century Technology Studies**", *Knowledge, Technology, & Policy*, Fall 2004-Winter 2005, Vol. 17, No. 3-4, pp. 11-43.

ARTICLE: Paul Polak, "Out of Poverty: What Works When Traditional Approaches Fail". Book review available at <http://blog.paulpolak.com/?p=376>

ESSAY: Indira Nair, "Engineering Technology and Global Justice", Multinational Colloquium on Science and Technology for Development, Center for Research and Advanced Studies, Mexico City, 8 pages.

ESSAY: Sara C. White "Analyzing Wellbeing: A Framework for Development Practice", University of Bath/Wellbeing in Developing Countries Research Group, Bath, UK, 2009 (unpublished), pages 1-25.

BOOK CHAPTERS: E. F. Schumacher, "A Question of Size" and "Technology with a Human Face", **Small is Beautiful: Economics as if People Mattered**, pages 63-75 and 146-159.

V. COURSE CALENDAR

FIRST PART: EXPLORATION

Aug. 15	(1) Exploratory exercises. The velocity exercise as provocation on questioning technology and progress. Discussion on the relevant technologies for class reading materials. The professors' agreement on this matter.		
Aug. 20	(2) The syllabus as contract and continuation of exploratory exercise. Guidance on forming teams for the third essay.		
Aug. 22	(3) Technologies and context READING ASSIGNMENT: Sharp, "Steel Axes for Stone-Age Australians", pages 1-10; Practical Action, "What is Appropriate Technology?", pages 1-6; Mitcham and Muñoz, "1. Engineering", Humanitarian Engineering , pages 1-9.		

Aug. 27, 29	(4)(5) Appropriate technology and humanitarian engineering as general theoretical frameworks READING ASSIGNMENT: Willoughby, “An Integrated Framework”, Technology Choice: A Critique to the Appropriate Technology Movement, pages 265-308; Mitcham and Muñoz. “Humanitarian Engineering”, Humanitarian Engineering, pages 27-35. Supplementary readings: Mitcham and Muñoz, “2. Humanitarianism”, “4. Humanitarian Engineering Education” and “5. Challenges” and “6. Conclusion: Humanizing Technology”, Humanitarian Engineering, pages 11-26, 37-62; Mitcham, “From Philosophy to Technology”, Thinking Through Technology: The Path Between Engineering and Philosophy, pages 137-160; Willoughby, “Technological Semantics”, Technology Choice: A Critique of the Appropriate Technology Movement, pages 15-44; Willoughby, “Technological Semantics and Technological Practice: Lessons from an Enigmatic Episode in Twentieth-Century Technology Studies”, pages 11-43.	Micro-hydro scheme study http://practicalaction.org/energy-access-ecosystems Charcoal Briquettes http://practicalaction.org/energy-access-ecosystems Floating gardens in Bangladesh http://practicalaction.org/cross-curricular-case-studies	
Sep. 3, 10	(6)(7) Review of possible strengths and weaknesses of the appropriate technology general framework: READING ASSIGNMENT: Willoughby, “A Review of Possible Criticisms”, Technology Choice: A Critique to the Appropriate Technology Movement, pages 309-330. Supplementary reading: Polak, “Out of Poverty: What Works When Traditional Approaches Fail”.		
Sep. 12, 17	(8)(9) Critique of the current global development narrative READING ASSIGNMENT: Practical Action, “Conventional Wisdom – The current development narrative and why it doesn’t work”, Wellbeing, Technology Justice and Sustainable Development: Fighting Poverty as if People Really Mattered, pages 2-43; Schumacher, “The Role of Economics” and “Buddhist Economics”, Small is Beautiful: Economics as if People Mattered, pages 40-62. Supplementary reading: Nair, “Engineering Technology and Global Justice”, CINVESTAV final draft, 8 pages		
Sept. 26	(10)(11) Technology and social justice		
Oct. 1	(Electricity)		

READING ASSIGNMENT: Riley, "3. Engineering and Social Justice", Engineering and Social Justice , pages 47-106.		
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First short essay on an aspect of the appropriate technology framework, the humanitarian engineering framework or another theoretic framework for analyzing the technological culture of the times as discussed in this first part of the course, sessions 4 through 11 (three pages double spaced, 10 points) 1. This short essay is to be done individually. 2. For help in conceiving and writing this essay, refer to point 3 in MODES OF EVALUATION, pages 4 and 5 of this syllabus, and refer to the GUIDE TO THINK THINGS THROUGH and the DIAGRAM ON PUTTING THE PARTS IN ORDER in pages 12 and 13. 3. Grapar al final del trabajo la hoja con la tabla de evaluación que los profesores han de proveer y llenar los espacios que corresponden a la autoevaluación del primer trabajo. <i>Todo trabajo deberá ser entregado impreso a doble espacio, en letra comparable en tamaño a la de este prontuario, grapado, sin cartapacio, y en la fecha asignada:</i> Fecha límite:

SECOND PART: CONCEPTUALIZATION

Oct. 3, 8	(12)(13) First philosophical theoretical framework for analyzing and evaluating the technological culture of the times. READING ASSIGNMENT: Tijmes, "Albert Borgmann: Technology and the Character of Everyday Life", American Philosophy of Technology, pages 11-36.		
Oct. 10, 15	(14)(15) (or the equivalent) Visit to Plenitud de Puerto Rico - Iniciativas Ecoeducativas (scheduled for Saturday, September the 21 st)		
Oct. 17	(16) Class is divided in groups of four to read and react among themselves to one of their own evaluated essays. Each member is assigned one part to write up comments on how to improve on the corresponding challenge.		
Oct. 22	(17) The students in the different groups assigned to each challenge meet to develop a presentation on proficiency in that particular challenge. The four presentations are delivered and discussed in class.		

Oct. 24, 29	(18)(19) Bringing wellbeing into development practice READING ASSIGNMENT: White, "Bringing Wellbeing into Development Practice. Working Paper", pages 1-32. Supplementary reading: White "Analyzing Wellbeing: A Framework for Development Practice", pages 1-25.	Micro-hydro systems in Zimbabwe http://practicalaction.org/cross-curricular-case-studies Wind turbines in Perú http://practicalaction.org/cross-curricular-case-studies	
Oct. 31 Nov. 5	(20)(21) Review of the theory of wellbeing READING ASSIGNMENT: Blackmore, "Responsible Wellbeing and its Implications for Development Policy", pages 1-22.		
Nov. 7	(22) The question of size READING ASSIGNMENT: Max-Neef, "Theoretical Interlude (III)", From the Outside Looking In: Experiences in Barefoot Economics, pages 129-144. Supplementary readings: Schumacher, "A Question of Size" and "Technology with a Human Face", Small is Beautiful: Economics as if People Mattered, pages 67-80 and 155-169.		
Nov. 12, 14	(23)(24) Second philosophical theoretical framework for analyzing and evaluating the technological culture of the times. A Marxist approach. READING ASSIGNMENT: Feenberg, "Del esencialismo al constructivismo: La filosofía de la tecnología en la encrucijada", pages 1-47, or Achterhuis, "Andrew Feenberg: Farewell to Dystopia", American Philosophy of Technology, pages 65-93.		

**Second short essay on
an aspect of a theoretical framework
discussed in this second part of the course, sessions 12 through 24
(three pages double spaced, 10 points)**

1. This short essay is to be done individually.
2. For help in conceiving and writing this essay, refer to point 3 in **MODES OF EVALUATION**, pages 4 and 5 of this syllabus, and refer to the **GUIDE TO THINK THINGS THROUGH** and the **DIAGRAM ON PUTTING THE PARTS IN ORDER** in pages 12 and 13.
3. Grapar al final del trabajo la hoja con la tabla de evaluación que los profesores han provisto, y llenar los espacios que corresponden a la autoevaluación del segundo trabajo.

Todo trabajo deberá ser entregado impreso a doble espacio, en letra comparable en tamaño a la de este prontuario, grapado, sin cartapacio, y en la fecha asignada:

Fecha límite:

THIRD PART: APPLICATION

Nov. 18, 21	(25)(26) Third philosophical theoretical framework for analyzing and evaluating the technological culture of the times. An approach from the periphery. READING ASSIGNMENT: Huyke-Souffront, "La sustitución de las cercanías por lo lejano", Tras otro progreso: Filosofía de la tecnología desde la periferia, pages 107-124,.	Biogas: clean energy for cooking, lighting and fertilizing crops in Sri Lanka http://practicalaction.org/cross-curricular-case-studies	
Nov. 26	(27) Engineering with community READING ASSIGNMENT: Lucena, Schneider, and Leydens, "Engineering With Community", Engineering and Sustainable Community Development, pages 85-116.	Smoke hoods for smoke free homes in Nepal http://practicalaction.org/cross-curricular-case-studies	
Dec. 3	(28) Listening to the community READING ASSIGNMENT: Lucena, Schneider, and Leydens, "Listening to the Community", Engineering and Sustainable Community Development, pages 116-152; The Pitfalls of Questionnaire Surveys, pages 1-5. On Steve Jobs: https://www.helpscout.net/blog/why-steve-jobs-never-listened-to-his-customers/ On Howard Moskowitz: http://www.npr.org/2012/05/04/151899611/malc-olm-gladwell-what-does-spaghetti-sauce-have-to-do-with-happiness	Solar powered water pumps for Kenya http://practicalaction.org/cross-curricular-case-studies	

**Third essay on
one or various aspects of a theoretical framework
discussed in the course integrating a developed case analysis,
(five pages double spaced, 20 points)**

1. For help in conceiving and writing this essay, refer to point 3 in **MODES OF EVALUATION**, pages 4 and 5 of this syllabus, and refer to the **GUIDE TO THINK THINGS THROUGH** and the **DIAGRAM ON PUTTING THE PARTS IN ORDER** in pages 12 and 13.

2. The students will form teams of **three** students.

3.As part of the work in teams of **three**, a paragraph should be submitted on a separate piece of paper indicating which of the students developed the first draft of the focused explanation of one aspect of a theoretical framework, which of the students developed the first draft of the case or cases favorable to the theoretical framework, and which of the students developed the first draft of the possible weakness of the theoretical framework. This paragraph should include a summary of the interaction in the group meetings. At least one or preferably two of those meetings ought to be face to face. Since the work ought to show the judgment of the three students, it ought to be presented integrally in one voice, in this case, in the plural. The three students are equally responsible for the work as a whole.

4.Grapar al final del trabajo las **tres** hojas con las tablas de evaluación de los **tres** estudiantes y llenar los espacios que corresponden a la autoevaluación del tercer trabajo.

Todo trabajo deberá ser entregado impreso a doble espacio, en letra comparable en tamaño a la de este prontuario, grapado, sin cartapacio, y en la fecha asignada:

Fecha límite:

VI. GUIDE TO THINK THINGS THROUGH

First challenge: Focuses on and explains an important aspect of a theoretical framework discussed in class * Un marco teórico es una visión amplia y abstracta que sirve para el análisis o la evaluación de un asunto concreto. Los aspectos importantes de los marcos teóricos se discuten en clase. Asegúrate elegir el que más te interesa discutir, estés o no estés finalmente de acuerdo con su visión de los asuntos... * El mejor testimonio de que entiendes un <i>marco teórico</i> en discusión en la clase es que puedas presentar <i>un aspecto</i> del mismo y lo puedas explicar con claridad y en tus palabras, como hemos dicho, estés o no estés finalmente de acuerdo con su visión del asunto.. * No elijas un aspecto de un marco teórico que no se haya discutido en clase. * Tampoco trates de discutir dos o más marcos teóricos de un tiro. * No le des vueltas al asunto: la pregunta que has de contestar en esta primera parte del trabajo es la siguiente: ¿Cómo este aspecto del marco teórico sirve para analizar o evaluar unos asuntos concretos? * Una vez tengas claro lo que quieres discutir, habrá que repasar unas notas de clase, acudir a los apuntes u anotaciones de alguno de los profesores, releer unos pasajes del texto, o quizás aclarar algo visitando algún profesor. * Debes ser breve al citar. Un ejemplo de como citar: 'Según Willoughby, "..." (p. 123).' Por lo general, debe haber una explicación tuya de la importancia del pasaje citado en el contexto de tu discusión. Esta explicación antecede a la cita, o le sigue. Tú llevas el argumento; la cita no te sustituye en tu tarea. * El próximo reto es traer un caso que cuadre y que sea favorable a lo planteado en este primer párrafo (ver próxima columna).	Second challenge: Analyzes a case or various cases on the basis of the chosen aspect of the theoretical framework * Este segundo reto es el equivalente en redacción del laboratorio donde se ha verificado una hipótesis científica. Aquí es donde pones al marco teórico en práctica, lo pones a funcionar. * Para nuestros propósitos, un <i>caso</i> es una historia real en la que se puede palpar el mejor aspecto o la validez del aspecto del marco teórico que has elegido discutir. Los casos se presentan en clase. Debes escoger uno que se preste favorablemente al aspecto del marco teórico en discusión. De no ser uno de los casos discutidos en clase, debes incluir referencias o evidenciar lo narrado. *Para servir de caso,,el mismo debe ilustrar o ejemplificar en forma concreta, sensible y específica lo que ya en el primer párrafo has dicho a favor del marco teórico. Tu exposición del caso debe mostrar que se puede analizar o evaluar desde el punto de vista del marco teórico.. *Tu propia vida es en ocasiones un buen banco de casos. Lo importante, como acabamos de indicar, es que tu exposición ilustre, que ejemplifique, es decir, que 'vaya' con el marco teórico, que 'cuadre' con lo que dicho marco propone. *Es muy posible que debas coordinar en alguna medida este caso favorable con la debilidad que deseas discutir como próximo paso.. La temática en la debilidad, el tercer paso, no puede ser ajena a lo discutido en los párrafos anteriores. *No confundas los casos con meras analogías. Cuando algo es análogo a otra cosa, es sólo parecido a esa otra cosa. Las analogías no constituyen ejemplos, ni prueban nada a favor o en contra de la validez de un marco teórico. Los casos, por el contrario, son precisamente 'casos' de lo que se plantea en el marco teórico y su explicación. Los casos son ejemplos, o 'aplicaciones', como a veces decimos.	Third challenge: Discusses a possible weakness of that aspect of the theoretical framework * No vayas aquí a traer algo simplemente malo, triste, terrible, feo, desgraciado, extraño, o negativo. Se trata de <i>una posible debilidad del aspecto del marco teórico</i> en discusión.. * La idea es traer <i>un posible problema para el marco teórico</i>; traer algo que al menos parece mostrar que el mismo no es satisfactorio; algo que quizás no 'cabe' y debería caber, no 'cuadra' y debería cuadrar; algo que quizás no 'va' con el marco teórico y debe ir con un marco teórico que presuntamente atiende los asuntos que ese marco teórico desea atender. * Si según el marco teórico todos los X deben hacer Y cosa, que casi ningún X haga Y cosa, no es posible debilidad del marco, puesto que el mismo no es acerca de lo que los X hacen o no hacen, sino que es acerca de lo que los X deben hacer. * Según ya indicado, la posible debilidad puede estar coordinada en alguna manera con la narrativa favorable (ver columna anterior). Quizás es una forma diferente de interpretar esa narrativa, o incluye una variante de esa narrativa que presenta un posible problema para la propuesta. * Si finalmente no estás de acuerdo con la posible debilidad, es importante desligarte de ella. Por ejemplo, podrías comenzar este párrafo diciendo que hay quién no concuerda con el marco teórico en discusión y el argumento de <i>esas personas</i> es tal y tal.	Fourth challenge: Deliberates in favor or against the framework taking into account the case or cases presented and the possible weakness of the theoretical framework in discussion * Si resulta que la posible debilidad que has traído a la discusión no te convence, entonces evidentemente el marco teórico se sostiene. Es decir, el marco teórico resiste lo presuntamente problemático. Si la presunta debilidad te convence, pues estás en contra del marco teórico. La propuesta no se sostiene por la razón que has de incluir en este párrafo. *Si estás a favor del marco teórico: ¿Por qué? Si estás en contra: ¿Por qué? Si estás a favor de este punto y en contra de aquel: ¿Por qué estás a favor de lo uno y en contra de lo otro? *Que se vea que has tenido que pensar el asunto que te plantea el marco teórico, que el trabajo te ha hecho pensar –que de veras has llevado el marco teórico al 'laboratorio' de la reflexión filosófica. *En un buen trabajo se debe poder palpar que le das importancia a lo que estás discutiendo.	Fifth challenge: Demonstrates dedication, discipline and pride in the written word * Es bien sencillo: pon tu esfuerzo en redactar bien. ¿No es para sobresalir que venimos a la universidad? * Muestra que has pensado con detenimiento el material leído; que captas el detalle y su diferencia, que no estás meramente compartiendo ideas generales que ya llevabas contigo antes de tomar la clase. * Hacia el final del proceso de redactar, debes elegir un título para tu obra que capte el giro o el punto central de tu trabajo. * Busca el tiempo para hacer una lectura y revisión final del trabajo antes de entregarlo. Casi siempre es mejor al otro día de terminar un primer borrador.
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VII. DIAGRAM ON PUTTING THE PARTS IN THE RIGHT ORDER

título
(véase el tercer punto del quinto reto en la GUÍA)

Primera parte
la presentación de un aspecto de un marco teórico
¿Cómo este aspecto del marco teórico tal y tal sirve para
analizar o evaluar unos asuntos concretos?

(*"Según . . . , . . ."*, véase primer reto)

Segunda parte
la exposición de uno o varios casos favorables al
marco teórico
¿Qué caso me sirve para analizar o evaluar
desde el marco teórico?

(*"Para ejemplificar esto, pensemos . . ."*, véase segundo reto)

Tercera parte
discusión de una posible debilidad del marco teórico
¿Por qué esto otro no parece ir con el marco teórico?

(*"Hay quién señalaría, sin embargo, . . ."*, véase tercer reto)

Cuarta parte
la deliberación en torno al marco teórico
¿Por qué, cómo o hasta qué punto se sostiene el marco
teórico, o por qué y cómo no se sostiene?

(*"Nuestro juicio es que . . ."*, véase cuarto reto)

EVALUATION TABLE AND COMMENTS FROM THE PROFESSORS

INTD 3990: Alternative and Appropriate Technologies

Student's name: _____

**Grading: 10 = superior mastery; 9 = full mastery; 8 = meets the challenge;
7 = apprentice; 6 = insufficient effort; 5, 4, . . . = does not seem interested in approving the course**

Challenge	First essay 10 points	Second essay 10 points	Third essay 20 points
Focuses on and explains an important aspect of a theoretical framework discussed in class	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation ____
Analyzes and develops a case or various cases on the basis of that aspect of the theoretical framework	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____
Discusses a possible weakness of that aspect of the theoretical framework	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____
Deliberates in favor or against the framework taking into account the case or cases presented and the possible weakness of the theoretical framework in discussion	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____
Demonstrates dedication, discipline and pride in the written word	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____
Overall grade for each essay (the sum of the grades for each of the five challenges divided by five and rounded up without decimals or fractions)	self evaluation____ final evaluation____	self evaluation____ final evaluation____	self evaluation____ final evaluation____

Evaluating professor's comments:		
Huyke: Chardon 007 Papadopoulos: OF 402 Castro: OF 324		

**Incluir esta hoja con la evaluación y los comentarios del profesor
al final de cada trabajo e ir añadiendo la autoevaluación que corresponde**

Universidad de Puerto Rico en Mayagüez
Decanato de Asuntos Académicos

SELF-EVALUATION ON CLASS PARTICIPATION

INTD 3990: Alternative and Appropriate Technologies

Student's name: _____

Date: _____

- (1) Describe what you think were your two most important contributions to the class discussions in this part of the course:

- (2) Describe what you think were the most important contributions to the class discussions made by two of your fellow students during this part of the course:

- (3) In general terms, it is my judgment that I collaborated . . .

- . . . decisively in the discussion of the texts (20 points)
- . . . regularly in the discussion of the texts (18-19 points)
- . . . with the discussion of the texts (16-17 points)
- . . . not very much, but kept up with the readings and mainly listened attentively (14-15 points)
- . . . not much, but generally kept up with the readings (12-13 points)
- . . . not sufficiently, and was unable to generally keep up with the readings (11 points or less)

Grade recommended: _____