

Course Syllabus

Communications 682: Telecommunication and Information Services

Telecommunications and Information Resource Management
Graduate Certificate Program
Department of Communication, University of Hawai'i at Manoa

Instructors: Dineh Davis, Ph.D. (dineh@hawaii.edu), Office Tel. 956-3332
Christina Higa (christina@tipg.net), Office Tel. 956-7224

Meeting Locations: Originating Site: Saunders Hall 713 (Honolulu)
Remote Sites: (Kona), CNMI PSS (Saipan, CNMI), ASPA Satala, & ASPA
Tafuna (American Samoa)

Meeting Times: Tuesdays and Thursdays; 6-9 PM Hawaii Standard Time

Course Summary

The objectives of this course is to provide you with an understanding of (a) the digital convergence of what were once separate services (telecommunication and information), (b) regulatory, social, and economic issues relating to the rapid paradigm shift towards digital convergence, and (c) considerations in the development and/or introduction of a new telecommunication service, product or company.

Convergence is happening at many levels including services (voice, data, video); technical infrastructures (fiber optics, cable television or CATV, Internet); end-user devices (cellular telephones, PDAs, computers) and providers (CATV, ISPs, telecommunication carriers).

The International Telecommunication Union (ITU) defines convergence as “technological, market or legal/regulatory capability to integrate across previously separated technologies, markets or politically defined industry structures. Convergence also involved an important international component, as many services and information sources that were traditionally controlled on a domestic level are being provided on a global basis.”

Advancements in technology enable completely seamless integration of services. Cable television companies that traditionally provided ‘information’ and ‘content’ are now providing telecommunication services such as voice over IP (VoIP) telephony and broadband Internet services. Are CATV companies no longer just information and broadcast services? Are they telecommunication carriage providers? Should they be regulated in the same way as telecommunication service carriers? If so, the implications are many including permitting ISP and other service companies to have access to the CATV infrastructure just as telephone lines are used to provide DSL services. This is a major issue now before the U.S. Supreme Court.

A result of regulation reform to encourage competition in the telecommunication and information services (e.g., U.S. Telecommunication Act 1996), there have been many converging telecom businesses that have created mega media conglomerates. Telecommunication carriers are acquiring or developing information service capabilities. Information service providers are acquiring or developing telecommunication capabilities. Entirely new companies, and companies that were never in either business before, are providing converged services and also creating completely new services.

What are the social implications in this knowledge based and digital economy? Some concerns include the Digital Divide, privacy, intellectual property, interpersonal and intrapersonal communication, security issues and many others that will be discussed in this course.

The telecommunication and information services market structure and environment is constantly changing. It is the primary objective of this course to develop your understanding of this converging industry as it relates to policy, services, and social and economic concerns.

Course Format

The course is designed to bring 'real world' experiences and expertise into the classroom through distinguished guest speakers from government, academia, and the public and private telecommunication and information service industry.

The two major class projects also encourage student interaction through interviews of professionals in the telecommunication and information industry.

As this is a rapidly changing field students are encouraged to follow current events relating to the course topics and will be asked to contribute topics of interest for discussion in class or on-line.

This course is conducted through both synchronous video teleconferencing and asynchronous on-line discussion forums.

For synchronous classes, the sessions will be conducted through video teleconferencing. Participants in the course will participate via IP based video teleconferencing systems from their own computers or at other locations as coordinated with the Instructor. The Telecommunications and Information Policy Group (TIPG) Network Operations Center is available for assisting with test calls prior to the start of the semester (telephone contact - 956-6668).

For asynchronous Web course assignments, lectures and other didactic delivery will be accessed by students through an eCourse server (ecourse.tipg.net), Tegrity, and other Windows Media/Real Media course objects.

Grading and Evaluation

Course Grades: Course grades will be based on three papers, a group project and presentation.

The grading scale for all assignments will be as follows:

Telecommunication Case Study (individual work)	
Paper #1 – Case Study (8-Pages)	20%
Presentation	10%
New Service, Product or Company (group work)	
Paper #2 (10-Pages)	25%
Presentation	15 %
Attendance & Contribution	30%
Total 100%	

Final Grade Scale:
A = 90% - 100%
B = 80% - 89%
C = 70% - 79%
D = 60% - 69%
F = < 59%

Attendance & Contribution:

Attendance is required for participation and contribution to the class. This grade will be based on how prepared you are for in-class discussions, assignments and writing activities. On-line activities will be incorporated into your “attendance and contribution” grade. Specific details for on-line participation, expectations, requirements and deadlines will be provided with each assignment. For example you may be required to answer a discussion question and contribute at a minimum two follow-up questions and comments.

Major Course Projects

1. Paper and Presentation #1: Telecommunication Case Study (Individual Work)

Preamble: A case study is a form of naturalistic inquiry as opposed to a positivistic approach to gathering social facts (no pre-defined beginning or end to a case study: you must decide on the chronological parameters).

Conventional scientific research involves manipulation of conditions. A case study seeks to understand phenomena as they currently exist.

Main Uses of a Case Study include: process analysis; environment analysis; needs analysis; evaluation enrichment. Decide which is most applicable to your area of interest.

This is an independent study of a specific service, product, or company. Ideally, your research should be based on a review of the professional literature as well as popular and promotional sources. Interviews should be conducted with company executives, product manufacturer representatives, and/or consumers whenever applicable and possible. Case study phases will

include: conceptualization; choice of data sources; choice of data collection methods; conduct of the case study; and preparation and presentation of the report. The format and content of the paper and the presentation should be as follows:

Name & description of service, product, or company

- Brief historical development
- Current status

Issues:

- Technological
- Social, political, ethical, legal, and cultural
- Economic & marketing

Concluding observations & assessments

This paper should be approximately 3000 words (double spaced) and must include a one-page "fact sheet" or "executive summary" suitable for class distribution via the eCourse Management System.

2. Paper and Presentation #2: New Telecommunication Service, Product or Company (Group Work)

Please keep in mind that this is a group project. The evaluation of the project will be based on the outcome as well as the process, based your self-assessment report.

Students will be able to self-select their groups based on common interests. It is anticipated that there will be approximately three groups with 3-4 people in each group. There is a requirement that at least one member of the group is from a remote video teleconference site. This will require careful planning for communication outside of class either by video teleconferencing, telephone, email or through the eCourse Management System.

This is a "new" service created by you, but based on existing (or soon to be marketed) technology. It should NOT be straight sci-fi and should preferably be implementable within the next two years. It may be a personal/interpersonal, organizational, communal, or global service (or a new category!). Course instructors need to learn about the topic sufficiently in advance to help you avoid a total duplication of an already existing service.

The format and content of this paper and its oral presentation may vary depending on your approach to the topic and your special emphasis on the process or the outcome. You may wish to share a "prototype" of your service with the class; demonstrate the service; present the results of a market survey of your intended consumers; present the outcome of an interview with a venture capitalist based on your discussions of the new service; produce a videotape or use any other appropriate medium for conveying the results of your labor. Fundamentally, however, your classmates and I should be able to clearly decipher the relevance of your work within the

context of a telecommunication service. Based on your presentation, we should be able to answer the following questions:

- (1) What, exactly, is the new service you are proposing? (Name, function)
- (2) What audience (consumer group) will it serve?
- (3) What is its technological base?
- (4) What are its advantages and disadvantages? How does it compare with currently existing "similar" services? (Why should potential users be interested?)
- (5) What will it take, specifically, to implement the service NOW or LATER? (Itemize various types of resources, technology, support, etc. that may be required and/or "nice to have")
- (6) More detailed guidelines follow.

New Telecommunication Service Proposal - A Suggested Process

The purpose of this exercise is not necessarily to have you come up with a saleable new service that is bound to make millions of dollars (though if that happens, Dr. Davis will expect a thank you note in the mail for this inspiration!); but to acquaint you with the process of starting a new telecommunication service: from the original conception of identifying and meeting a certain human information need, through the design phase and choice of appropriate hardware/software in terms of both technological and financial feasibility, to recognizing the need for and planning its evaluation phase.

1. Consider a specific human information need or problem. Consider a small enough problem so that you can do it some justice in the span of six weeks. Spend some time analyzing this need or problem:

What, exactly, is the problem?

Where does it occur (rural, suburban, urban; office, home, school, etc.)?

How prevalent is it and how long has this problems existed?

What segment of the population has this need or problem?

Is it global in nature? (Does it affect the entire population or a subset?)

Is it demographically specific (e.g., age or gender specific)?

Can it be resolved through information and communications technologies?

(If not, begin considering another need or problem)

2. Choose a technology or set of technologies that can be used to resolve the information problem or fulfill the information need.

Choose a telecommunication medium or system (be it point-to-point or point to multi-point), for example: telephone (wireline/wireless), telefacsimile, computer network, cable TV (one-way or two-way), radio, television, satellite, or combination of converged systems.

Briefly describe the characteristics of the technology (or technologies) you have chosen.

3. Be realistic about the service: How much is it likely to cost to start up such a service and keep it going through its first year(s)? (Under \$50,000? \$100,000? \$1 million? \$10 million?...) Is it within reach of the target population and if not, how will it be subsidized? We don't need to get bogged down in the minute details, but no **major category** of expense should be overlooked, such as capital expenditures, human resources, space, operating expenses - including marketing.)

How will you charge for the service and how much?

Will the intended user-group be able to afford this?

How can you realistically finance the development of this service?

(Who might be willing to invest?)

4. How long will it take to set up this service and what are likely to be the major hurdles or roadblocks (other than financing) to getting started?

Do you anticipate any consumer resistance?

How will the competition react?

Will other segments of society have reason to block this service?

If so, who are they and why might they object to this service and how will you respond?

5. How long can you hang on to your lead? Is this an easily duplicable service? Will the competition let you make all the mistakes and when you are ready to benefit from your business risk, can they easily jump in and take over?

This paper should be approximately 5000 words (double spaced) and must include a one-page "fact sheet" or "executive summary" suitable for sharing on the TIPG eCourse Management System.

Quizzes and Exams:

There are no quizzes and exams in this class.

Text and Materials

► Required Text:

Downes, L. & Mui, C. (1998) *Unleashing the Killer App, Digital Strategies for the Market Dominance*. Boston, Massachusetts: Harvard Business School Press

► Supplemental reading and reference materials will be provided in class.

Policies & Guidelines

You will get as much out of this course and you put into it; your final grade should be reflective of this effort in addition to adherence to these general policies.

► Written Assignments

Submitting Instructions:

All written assignments must be submitted through the TIPG eCourse Management System at ecourse.tipg.net. Should there be any technical difficulties in accessing the eCourse Management System please email papers to Dr. Davis and Christina by the end of the due date assigned.

- Submit to: ecourse.tipg.net

Only if there are problems accessing the ecourse system then

- Email to: dineh@hawaii.edu, christina@tipg.net
- Subject Line: Assignment number_First Initial Last Name (e.g., P1_CHiga)
(Assignment number will be provided (Paper #1 – P1, etc.)

Content:

- Please edit all papers for misspellings, typos and grammatical errors.
- Plagiarism will not be tolerated. Use proper citations, references, etc.
- Use APA reference style.

Format:

- Please create a coversheet that includes:
 - Title of Paper <Horizontally Centered>
 - Your Name <Bottom Right Corner>
 - COM 682 <Bottom Right Corner>
 - Date <Bottom Right Corner>
 - WORD COUNT = XXX <Bottom Right Corner>
- 1" Margin: top, bottom, left, right
- Double spaced
- Include page numbers <Bottom Center>

- **In-class Participation:** Attendance is required for in-class participation, contribution, discussions and other activities. There are no make-up opportunities for missing in-class projects and assignments.

- **Group Projects:** Group projects closely resemble 'real world' working environments. Working well in a group means contributing to group discussions, activities, meeting commitments and deadlines.

On-Line Procedures

- TIRM eCourse Management System: ecourse.tipg.net
- Contact instructor for login and password if you don't already have one.

- ▶ Forum Discussions: The correspondence posted here will be available to all students and the professor. Generally a question will be posed to initiate the discussion or comments will be made on a reading assignment. You are expected to respond to the question, review other student's responses and also add additional questions or comments. Specific requirements on the amount of posting will be provided with the question. Generally first posts must be made by Sunday of each week and final posts by Wednesday. (This is to allow discussion during the week).

- ▶ Other Notes:
 - All written assignments must be submitted through the TIPG eCourse Management System by the end of the due date assigned.
 - ✓ eCourse.tipg.net
 - ✓ Only if there are problems with the eCourse System, then email papers to:
dineh@hawaii.edu, christina@tipg.net
 - Subject Line: Assignment number_First Initial Last Name (e.g., P1_ddavis)

Course Schedule*:

*Any changes made to this schedule will be announced in class.

**Supplemental reading to be assigned – see eCourse Management System

#	Day/Date	Topic	Class Activity	Homework/ Assignments**
1	(T) 01/11/04	<ul style="list-style-type: none"> Course Introduction Creativity Discussion Telecom Industry and Convergence 	<ul style="list-style-type: none"> Course Objectives Review Syllabus and Major Projects <p>Discussion: Course Overview, Thinking and Creativity Current ICT Environment and Setting</p>	<ol style="list-style-type: none"> <u>On-line Forum Discussion:</u> Read news articles regarding sale of Verizon in CNMI and Hawaii and other issues. Summarize and provide comments and questions. 3. Review Telecommunication Case Study Assignment, Due: 02/08/04 4. Review Group Project: Creating a New Telecom or Information Service, Due: 02/22/04
2	(R) 01/13/04	<ul style="list-style-type: none"> Government Regulation and Industry 	<ul style="list-style-type: none"> Guest Lecturers: Commonwealth Telecommunications Commission (CTC) Assistant Attorney General James Livingstone, CNMI Consumer Counsel 2Brian Caldwell Guest Lecturers: Frank Fukunaga, Mele Phil Bossert: High Technology Development Corporation 	<ol style="list-style-type: none"> <u>1. Reading Assignment:</u> Downes & Mui, Part 1: Digital Strategy, Pages ix – 57)
	01/16-01/19	COM 680 **PTC Conference**	COM 680 **PTC Conference**	<ol style="list-style-type: none"> Prepare questions for panel discussion. <u>On-Line Forum Discussion:</u> "Metcalfe's Law, Moore's Law, and Law of Diminishing Firms"
3	(R) 01/20/04	<ul style="list-style-type: none"> Market – monopolies, competition Telecommunication Service Providers: Deregulation and Competition 	<ul style="list-style-type: none"> Panel Discussion: <ul style="list-style-type: none"> John Day, Pacific Data Systems, CNMI Steve Coleman, General Manager, MCV, CNMI (tent) Faye Alailima, Blue Sky, A.Samoa (tent) Hawaii 	<ol style="list-style-type: none"> Case study exercise for in-class discussion (Davis)

4	(T) 01/25/04	<ul style="list-style-type: none"> Case Study Research Methods 	<ul style="list-style-type: none"> Davis Lecture: Systematic qualitative study, field work, ethno methodologies 	
5	(R) 01/27/04	<ul style="list-style-type: none"> Social Regulation Intellectual Property 	<ul style="list-style-type: none"> OTTED (Tent) George Darby (Tent) Librarian (Tent) 	1. Reading Assignment: Downes & Mui, Part 2: Designing the Killer App, Pages 79 – 139)
6	(T) 02/01/04	<ul style="list-style-type: none"> Entrepreneurship - Brainstorming and Creativity 	<ul style="list-style-type: none"> Davis Lecture: Generating new ideas, creativity and brainstorming In-class brainstorm 	<p>1. View MIT Video Lecture: “Who Develops Breakthroughs, New Products and Services – Users or Manufacturers?” (Tent)</p> <p>2. <u>On-Line Discussion</u>: MIT Video Lecture (Tent)</p>
7	(R) 02/03/04	<ul style="list-style-type: none"> Universal Service Support Mechanisms A Focus on applications <ul style="list-style-type: none"> eBusiness eGovernment eLearning eHealth 	<ul style="list-style-type: none"> Higa Lecture: Decreasing the Digital Divide Commercial, Government and Public Service Applications: eLearning, eHealth, emergency management, environment, economic development, etc. <p>Guest Speaker:</p> <ul style="list-style-type: none"> Mr. Kepano Kekuewa, Business Development Manager, Oracle 	1. <u>On-Line Discussion</u> : Describe in detail a public service program (e.g., distance learning class – describe the technology, user needs, content provider, purpose, economics...)
8	(T) 02/8/04	<ul style="list-style-type: none"> Telecom Case Studies 	<ul style="list-style-type: none"> Student Presentations (10-min. presentation, 5-min. Q&A) 	<p>1. Due: Telecommunication Case Study Paper.</p> <p>2. Due: Telecommunication Case Study Presentation (10-min. Presentation, 5-min. Q&A).</p>
9	(R) 02/10/04	Economics of Telecommunication and Technology	<p>Guest Speaker:</p> <ul style="list-style-type: none"> Dr. Meheroo Jussawalla 	1. Reading Assignment: Downes & Mui, Part 3: Unleashing the Killer App, Pages 167-213)
10	(T) 2/15/04	Open Source Software, Democratizing Capitalism	<p>Guest Speaker:</p> <ul style="list-style-type: none"> Scott Belford, Director, Hawaii Open Source Education Foundation 	

11	(R) 02/17/04	Outsourcing	Guest Speaker – TBA ("By year's end, one of every 10 jobs at U.S.-based IT vendors and service providers and one of every 20 jobs at enterprise IT shops will be transplanted to emerging markets such as India and China, according to Gartner.")	
12	(T) 02/22/04	<ul style="list-style-type: none">• Student Presentations		1. Due: New Telecommunication Service Paper (Group Work)
13	(R) 02/24/04	<ul style="list-style-type: none">• Student Presentations• Course Evaluations		

The detailed course activities, readings, and assignments may be accessed via <http://ecourse.tipg.net/>