

Mobile Communications

ECS 455



Asst. Prof. Dr. Prapun Suksompong

(ผศ.ดร.ประพันธ์ สุขสมปอง)

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Asst. Prof. Dr. Prapun Suksompong

(ผศ.ดร.ประพันธ์ สุขสมปอง)

prapun@siit.tu.ac.th

Introduction



Office Hours:

BKD, 6th floor of Sirindhralai building

Tuesday **14:20-15:20**

Wednesday **14:20-15:20**

Friday **9:15-10:15**

These devices need no introduction

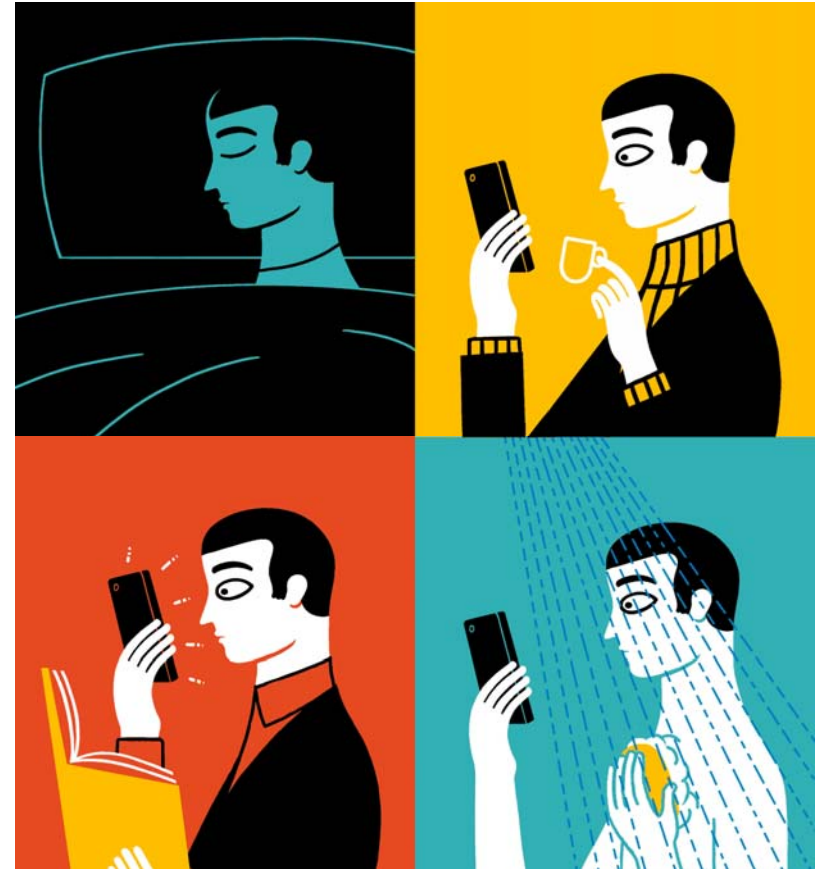
- We all know them and use them heavily.



More than just making phone calls



On average,
how many times per
day do we check our
phones?



How many times per day do we check our phones?

Life's essentials:

Air, water, food, and smartphones

The speed in which we look at our phones in the morning is continuing to become faster and faster.

43% of consumers check their phones within **5 minutes** of waking up.

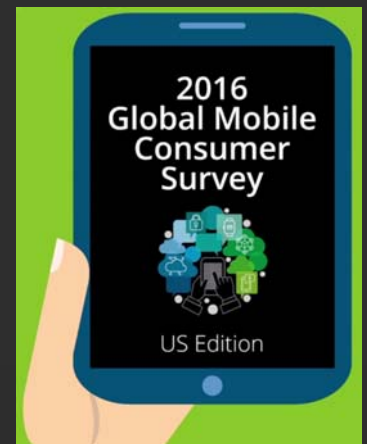
As a first thing, we check our IM or text messages (35 percent), followed by emails (22 percent).

We check our phones approximately **47 times** a day.

82 for
18- to 24-
year-olds

Similarly, **35%** of consumers check their phones 5 mins before preparing to sleep.

50% of the consumers check their phones in the middle of the night.



How many times per day do we check our phones?

- The average adult checks their phone 30 times
- The average millennial checks their phone more than 150 times a day.
- Presented by Michelle Klein
 - Head of Marketing for North America at Facebook.
- May 31st, 2016



Recent Research

- A journal article in 2015



- Title: “The **Extended iSelf**: The Impact of iPhone Separation on Cognition, Emotion, and Physiology”
- Conducted by University of Missouri
- <http://onlinelibrary.wiley.com/doi/10.1111/jcc4.12109/full>



The Extended iSelf: The Impact of iPhone Separation on Cognition, Emotion, and Physiology

Russell B. Clayton

Missouri School of Journalism, University of Missouri, 120 Neff Hall, Columbia, MO 65211

Glenn Leshner

Gaylord College of Journalism and Mass Communication, University of Oklahoma, 395 W. Lindsey Room, Norman, OK 73019

Anthony Almond

The Media School, Indiana University, 1229 E. 7th St., Bloomington, IN 47405

This study uniquely examined the effects on self, cognition, anxiety, and physiology when iPhone users are unable to answer their iPhone while performing cognitive tasks. A 2 x 2 within-subjects experiment was conducted. Participants (N= 40 iPhone users) completed 2 word search puzzles. Among the key findings from this study were that when iPhone users were unable to answer their ringing iPhone during a word search puzzle, heart rate and blood pressure increased, self-reported feelings of anxiety and unpleasantness increased, and self-reported extended self and cognition decreased. These findings suggest that negative psychological and physiological outcomes are associated with iPhone separation and the inability to answer one's ringing iPhone during cognitive tasks. Implications of these findings are discussed.

Keywords: Cell Phone Separation, Extended Self, Cognition, Anxiety, Physiology.

doi:10.1111/jcc4.12109

Cell phone use has become a ubiquitous part of everyday life, and the cell phone has become one of the most popular devices for communicating with others. Consistent with the primary social functions of the household/landline telephone, mobile communication via the smart phone helps strengthen bonds among family members (Wei & Hwei-Lo, 2006) while also expanding the user's "psychological neighborhoods" and facilitating "maintenance of symbolic proximity" (Wei & Hwei-Lo, 2006). While

Author Disclosure Statements: The authors have no commercial interest related to this manuscript and there are no conflicts of interest for any author of this manuscript

Editorial Record: First manuscript received on May 20, 2014. Revisions received on August 15, 2014 and October 10, 2014. Accepted by Matthew Lombard on October 25, 2014. Final manuscript received on October 27, 2014.

Excerpts from the paper

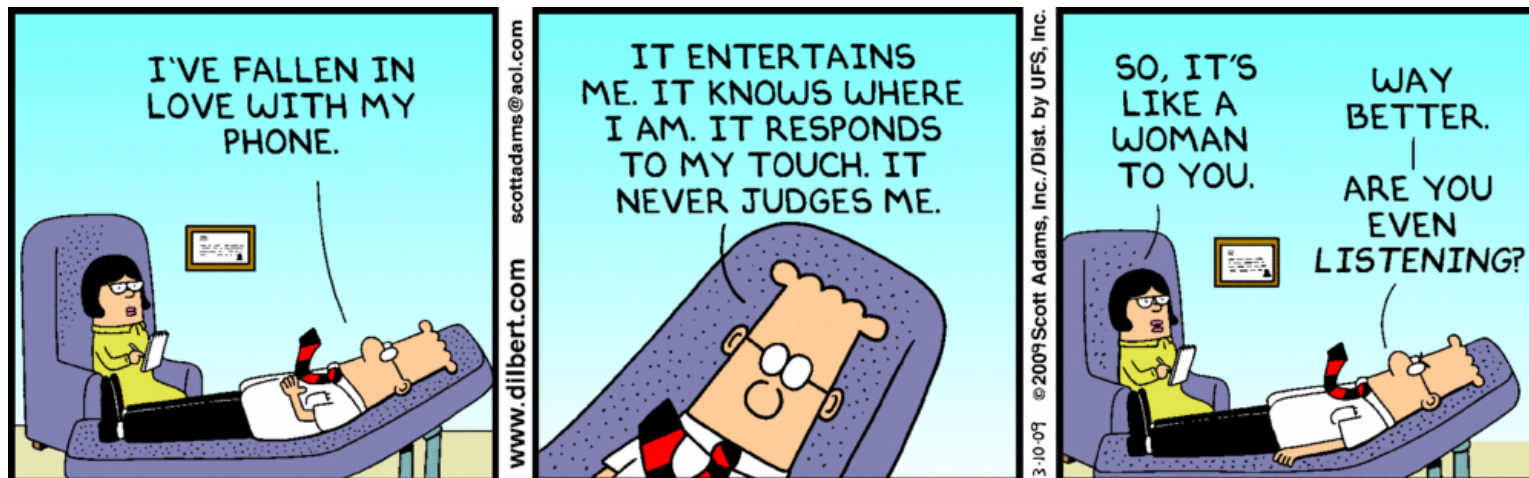
- Cell phone use has become a **ubiquitous** part of everyday life, and the cell phone has become one of the most popular devices for communicating with others.
- Mobile communication via the smart phone helps **strengthen bonds** among family members [Wei & Hwei-Lo, 2006] while also
 - expanding the user's "**psychological neighborhoods**" and
 - facilitating "**maintenance of symbolic proximity**".

Excerpts from the paper

- Harkin (2003) proposes that mobile technologies are important to the **modern sense of self** because they
 - “function as comfort objects, antidotes to the hostile terrain of wider society,” and
 - have become entities so intimately a part of us that they are capable of representing “an **extension of our physical selves** – an umbilical cord, anchoring the information society's digital infrastructure to our very bodies”
- Extended-Self Theory [Belk, 1988/2013]

Excerpts from the paper

- The **physical and emotional attachments** humans have developed with cell phones have simultaneously increased [Srivastava, 2005].
- Recent research indicates that such attachments are associated with **greater feelings of anxiety** when users are distanced from their smart phone devices [Cheever, Rosen, Carrier, & Chavez, 2014]



Nomo-“phobia”

- run out of credit
- lose your phone
- in an area with no reception

- An abbreviation for *no-mobile-phone* phobia.
- A term coined in a study (of around 2000 people) in UK.
“anxiety” (in 2008)
- The “fear” of being without your mobile phones.
- About 58% of men and 47% of women suffer from the phobia, and an additional 9% feel stressed when their mobile phones are off.
- Stress levels induced are on-par with getting married, moving into a new house, or going to the dentist.



Mobile Communications

ECS 455

Dr. Prapun Sukksompong

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Course Organization



Course Syllabus



Sirindhorn International Institute of Technology
Thammasat University
School of Information, Computer and Communication Technology

ECS455: Course Syllabus

Semester/Year: 2/2016

Course Title: Mobile Communications
Instructor: Asst. Prof. Dr. Prapun Suksompong (prapun@siit.tu.ac.th)
Course Web Site: <http://www2.siiit.tu.ac.th/prapun/ecs455/>

Please check the course web site regularly for updated information about this course.

Lectures

- Wednesday 10:40-12:00 BKD 3511
- Friday 10:40-12:00 BKD 3511

You are STRONGLY encouraged to attend lectures. (See the grading policy below.)

Course Information

Prerequisite: ECS 332 or consent of Head of School

Course Description: This course introduces selected topics in mobile communications to undergraduate students. Topics include wireless channel, principles of cellular communications, multiple access methods, digital mobile communication systems: TDMA, GSM, CDMA, WCDMA, multi-carrier and OFDM systems.

Grading Policy: Coursework will be weighted as follows:

- | | |
|-----------------------------------|-----|
| Assignments (HWs) | 5% |
| In-Class Exercises | 5% |
| Class Discussion/Participation | 10% |
| Midterm Examination | 40% |
| Final Examination (comprehensive) | 40% |
- Late assignments will be heavily penalized or rejected.
 - The lowest in-class exercise score will be dropped. Similarly, the lowest assignment score will be dropped.
 - Cheating will not be tolerated

Textbook: D. Tse and P. Viswanath, "Fundamentals of Wireless Communication," Cambridge University Press, 2005

- [<http://www.eecs.berkeley.edu/~dtse/book.html>]
- Chapters from other books will be used as well.

Additional References:

1. A. Goldsmith, "Wireless Communications," Cambridge Press, 2005. [<http://wsl.stanford.edu/~andrea/Wireless/>]
2. Theodore S. Rappaport, "Wireless Communications: Principles and Practice," 2nd Edition, Prentice Hall PTR, 2002. ISBN-13: 978-0130422323. Call No. TK5103.2 R37 2002 [<http://authors.phptr.com/rappaport/>]
3. M. R. Karim and Mohsen Sarraf, *W-CDMA and cdma2000 for 3G Mobile Networks*, McGraw-Hill Professional, 2002.
4. J. S. Lee and L. E. Miller, "CDMA Systems Engineering Handbook." Boston, MA: Artech House, Oct. 1998.
5. R.E. Ziemer, "Fundamentals of Spread Spectrum Modulation." Colorado Springs: Morgan & Claypool Publishers, 2007
6. A. Bahai, B. R. Saltzberg, and M. Ergen, *Multi-Carrier Digital Communications: Theory and Applications of OFDM*, 2nd ed., New York: Springer Verlag, 2004.
7. H.G. Myung and D.J. Goodman, *Single Carrier FDMA: A New Air Interface for Long Term Evolution*, Wiley, 2008.

Assignments: Homework will be assigned throughout the semester. Most assignments will be graded on completeness, not correctness: if an honest attempt was made on an assigned problem, it will be considered complete. Occasionally, part(s) of a selected problem will be graded. Of course, you do not know which problem of which assignment will be selected; so you should work on all of them. The complete solutions to all problems (not just answers) will be posted on the course web site.

In-Class Exercises: In-class exercises will focus on current or recently-discussed topics. An exercise may be given at any time during any class period. Students are expected to work in groups of at most three persons. In-class exercises will be given only to those students who are present. There will be no make-up exercise.

Exams: Exams will be closed book. Some formulas will be provided on the exams.

Students should notify the instructor before missing any exam if at all possible and immediately thereafter when not possible. The instructor (and/or the fact-finding committee) will determine if the absence from an exam is legitimate. Simply not feeling well is not a reason to miss an exam. In the case of legitimate absence, an oral and/or written make-up exam could be arranged.

Expectations: You should expect to spend extra 5-8 hours per week studying outside of class. However, I do expect you to come to class and participate actively in class discussions. If you must miss a class, I expect you to find out and catch up with what happened in lecture, either from me or one of your classmates. You are responsible for all materials that are discussed in class.

Academic Integrity

The work you submit in this class is expected to be the result of your individual effort. You are free to discuss course material, approaches to problems with your colleagues or the instructor but you should never misrepresent someone else's work as your own.

Course Web Site

prapun.com



Asst. Prof. Dr. Prapun Suksompong (ผศ.ดร.ประพันธ์ สุขสมปอง) is currently the Chairperson of [Electronics and Communication Engineering \(EC\) Curriculum](#) at [Sirindhorn International Institute of Technology \(SIIT\)](#), Thammasat University, [Thailand](#). In 1997, he received the [King's Scholarship](#) to study in the [School of Electrical and Computer Engineering \(ECE\)](#) at [Cornell University](#). He topped the [Cornell ECE class of 2002](#), with the highest GPA among all engineering students. He then received the Cornell's fellowship for his graduate study. Prapun joined Prof. [Toby Berger's](#) group in 2003 and got his Ph.D. in 2008.

Right after his graduation, he started his teaching career at SIIT. His research interest is in the areas of [communication theory](#), [information theory](#), [probability theory](#), and [theoretical neuroscience](#). In 2012, he (along with two other faculty members in the Wireless Communication Research Group) received the 2011 SIIT Research Award. In 2014, he received the 2013 Outstanding Young Researcher Award (รางวัลนักวิจัยรุ่นใหม่ดีเด่นระดับคณะ ประเภทอาจารย์) from Thammasat University.

[Ajarn](#) Prapun always highly values the teaching aspect of his career and his life. Many of his notes are available on his personal websites. In 2006, he received the Teaching Assistant of the Year Award from members of the Cornell IEEE Student Branch "for exemplary teaching in ECE". In 2010 and in 2014, he also received the Best Teaching Awards from SIIT.

For more information, [here is his CV](#). (Download [pdf version](#).)

Teaching

Current
version



- For 2/2016, he teaches
 - [ECS452 \(Digital Communication Systems\)](#)
 - [ECS455 \(Mobile Communications\)](#)
- For 1/2016, he taught
 - [ECS315 \(Probability and Random Processes\)](#)
 - [ECS332 \(Principles of Communications\)](#)
- For 3/2015, he taught
 - [ICT Elementary for Embedded Systems](#) (Fourier transform and principles of communications)
- For 2/2015, he taught
 - [ECS203 \(Basic Electrical Engineering\)](#) (For non-major students)
 - [ECS452 \(Digital Communication Systems\)](#)
- For 1/2015, he taught
 - [ECS315 \(Probability and Random Processes\)](#)
 - [ECS332 \(Principles of Communications\)](#)
 - [ECS204 \(Basic Electrical Engineering Laboratory\)](#) (For non-major students)
- For 3/2014, he taught
 - [ICT Elementary for Embedded Systems](#) (Fourier transform and principles of communications)
- For 2/2014, he taught
 - [ECS203 \(Basic Electrical Engineering\)](#) (For non-major students)
 - [ECS455 \(Mobile Communications\)](#)
 - [ECS204 \(Basic Electrical Engineering Laboratory\)](#) (For non-major students)

Earlier
version





Getting Info About This Course

Announcements

- The **syllabus** contains tentative information.
- I will announce **in class** and on the **web site** if there is any change.
- You are **responsible** for making sure that you obtain this information.
- Come to classes **on time** and listen carefully for **announcement(s)**.
- For those who want a preview of the class materials, old slides along with the notes and HWs from earlier years are available on my web site (**prapun.com**).

Course Web Site

- Announcements
- References
- Handouts (Posted before corresponding lectures; also available at the copy center)
- Annotated Notes/Slides (Posted after corresponding lectures)
- Calendar
 - Exams
 - HW due dates



Please check the course website regularly.

www2.siit.tu.ac.th/prapun/ecs455/

ECS455: Mobile Communications

In less than three decades, the status of cellular telephones has moved from laboratory breadboard via curious luxury item to the world's most pervasive consumer electronics product. Even though wired telephony is 100 years older and the beneficiary of "universal service" policies in developed countries, the number of cellular phones has exceeded wired phones for a few years and the difference keeps growing. For hundreds of millions of people in developing countries, cellular communications is the only form of telephony they have experienced.

Synopsis

This course introduces selected topics in mobile communications to undergraduate students. Topics include wireless channel, principles of cellular communications, multiple access methods, digital mobile communication systems: TDMA, GSM, CDMA, WCDMA, multicarrier and OFDM systems.

Announcements

- This site can be accessed via ecs455.prapun.com
- Welcome to ECS455! Feel free to look around this site.

General Information

- **Instructor:** Asst. Prof. Dr. Prapun Suksompong (prapun@siit.tu.ac.th)
 - Office: 820, 8th floor of Srinidhralai Building
 - Office Hours: T 14:20-15:20, W 14:20-15:20, F 9:15-10:15
 - **Additionally, please feel free to ask any question or express any concern after class.**
- **Course Syllabus** (To be distributed in class)
- **Main Textbook:** D. Tse and P. Viswanath, *Fundamentals of Wireless Communication*, Cambridge University Press, 2005.

Handouts and Course Material

- **Slides:** Course Introduction
- **Chapter 1**
 - **Slides:** 1.1 Introduction to wireless and mobile communications
 - **Slides:** 1.2 Wireless Channel (Part 1)
 - **Slides:** 1.4 Spectrum Allocation
- **Remark:** You may take a look at the slides from previous year for a sneak preview of the upcoming class material.

Problem Set

	Due Date	Remarks/Solutions
WS1		

Calendar

January 2017

Mon	Tue	Wed	Thu	Fri	Sat	Sun
						Jan 1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
Classes begin 14:20 Office Hc 10:40 ECS455				09:15 Office Hc		
	14:20 Office Hc			10:40 ECS455		
30	31	Feb 1	2	3	4	5
14:20 Office Hc 10:40 ECS455				09:15 Office Hc		
	14:20 Office Hc			10:40 ECS455		

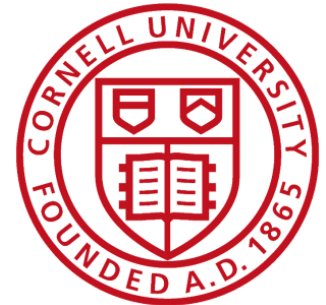
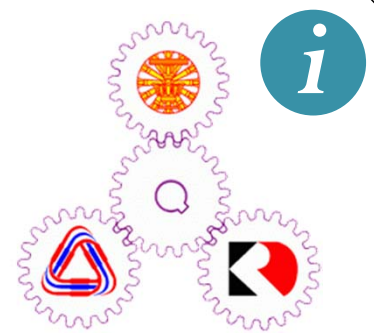
Events shown in time zone: Bangkok

Course Website: Notes & Slides

- Some **PDF notes/slides** will be posted *before* the corresponding lectures.
 - Hard copies can be purchased from the **copy center**.
- In lectures...
 - PDF notes/slides will be highlighted and annotated with examples / comments.
 - These annotated materials will be **posted after** the corresponding lectures.
 - **Put all of your energy into understanding the material.**
- **Remind** me the day after the lecture if the annotated notes/slides from the day before are still not posted on the web.

Me?

- Ph.D. from **Cornell** University, USA
- In Electrical and Computer Engineering
- Minor: Mathematics (Probability Theory)
- Ph.D. Research: Neuro-Information Theory
- Current Research:
Wireless Communications
- 2009 and 2013 SIIT Best Teaching Awards
- 2011 SIIT Research Award
- 2013 TU Outstanding Young Researcher Award



prapun.com



Course Organization

- **Course Web Site:**

<http://www2.siit.tu.ac.th/prapun/ecs455/>

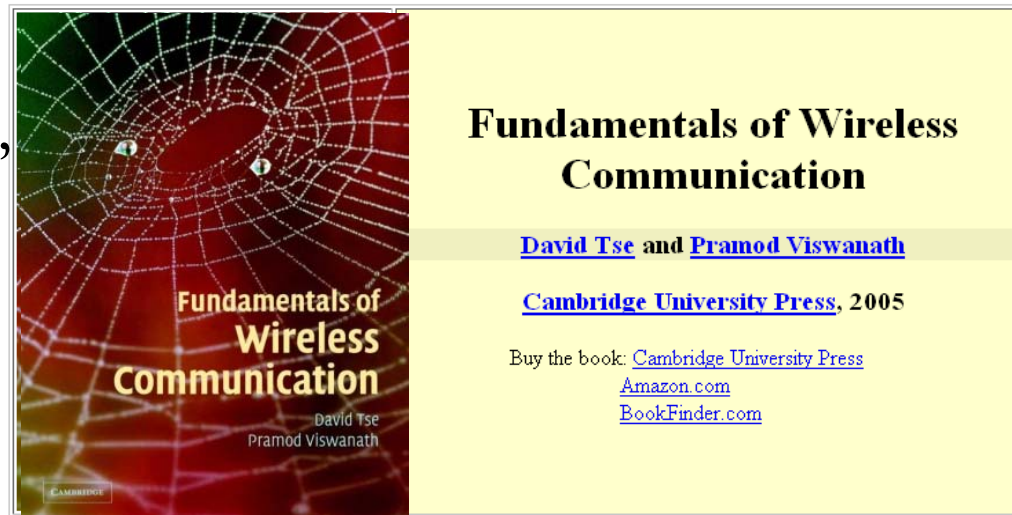
- **Lectures:**

- **Wednesday** **10:40-12:00** **BKD 3511**
- **Friday** **10:40-12:00** **BKD 3511**



Fundamentals of Wireless Comm.

D. Tse and P. Viswanath,
 “*Wireless Communications*,”
 Cambridge Press, 2005.



<http://www.eecs.berkeley.edu/~dtse/book.html>

All chapters of the
 textbook can be
 downloaded.



Now with exercises included!

1. Introduction; [PDF](#)
2. The wireless channel; [PDF](#)
3. Point-to-point communication: detection, diversity and channel uncertainty; [PDF](#)
4. Cellular systems: multiple access and interference management; [PDF](#)
5. Capacity of wireless channels; [PDF](#)
6. Multiuser capacity and opportunistic

Book Description

The past decade has seen many advances in physical-layer wireless communication theory and their implementation in wireless systems. This textbook takes a unified view of the fundamentals of wireless communication and explains the web of concepts underpinning these advances at a level accessible to an audience with a basic background in probability and digital communication. Topics covered include MIMO (multiple input multiple output) communication, space-time coding, opportunistic communication, OFDM and CDMA. The concepts are illustrated using many examples from wireless systems such as GSM, IS-95 (CDMA), IS-856(1xEV-DO), Flash OFDM and ArrayComm SDMA systems. Particular emphasis is placed on the interplay between concepts and their implementation in systems. An abundant supply of exercises and figures reinforce the material in the text. This book is intended for use on graduate courses in electrical and computer engineering and will also be of great interest to practicing engineers.

[Reviews](#)

Wireless Communications

A. Goldsmith,

“*Wireless Communications*,”

Cambridge Press, 2005.

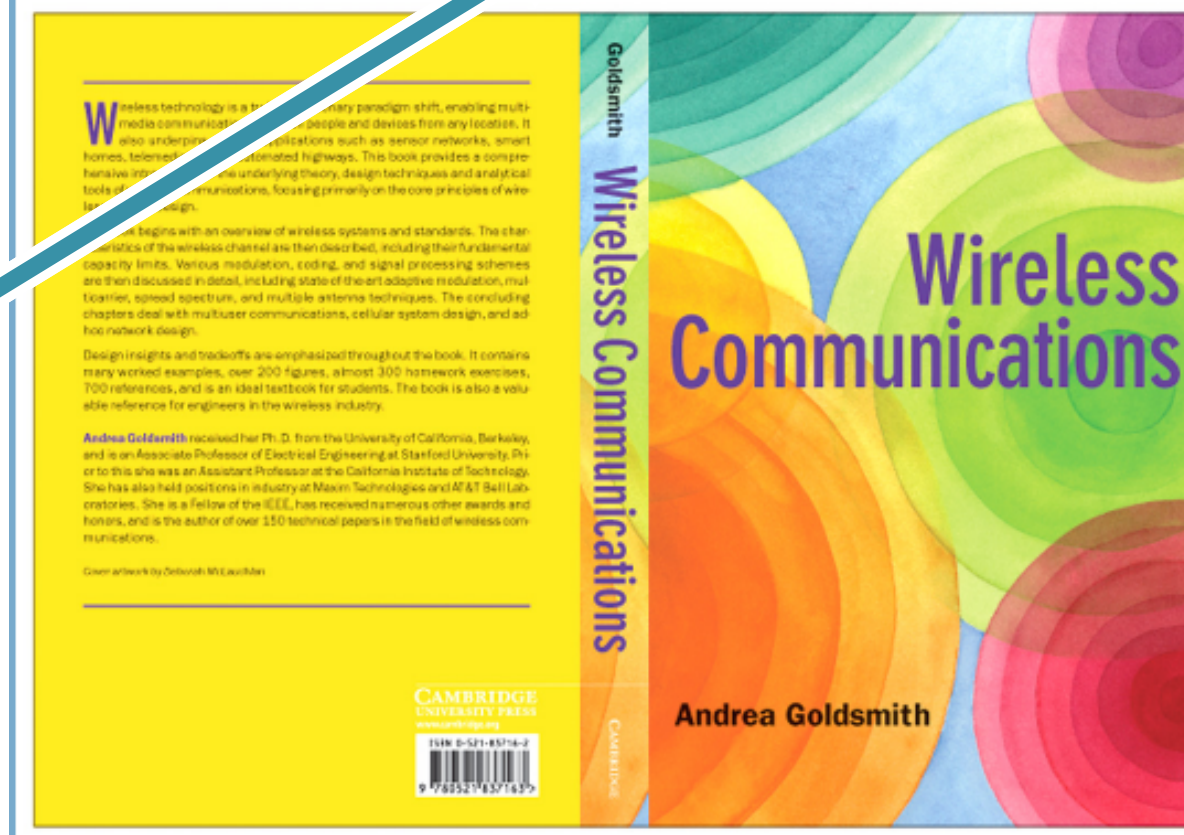


Sample chapters (1, 3, 4, 6, 10, 12, 14, A, B, C, D) of the textbook can be downloaded.

Wireless Communications by Andrea Goldsmith

The book is now available from Cambridge University Press. The publisher's website for the book is <http://www.cambridge.org/uk/catalogue/catalogue.asp?isbn=0521837161>. It is also in stock at [Amazon](#). Book typos uncovered so far are posted [here](#) and to the publisher's website. Please send additional typos to wireless@wsl.stanford.edu. The publisher's website also contains a password-protected solutions manual (in pdf) for all homework problems along with other supporting material such as lecture slides for instructors adopting the book.

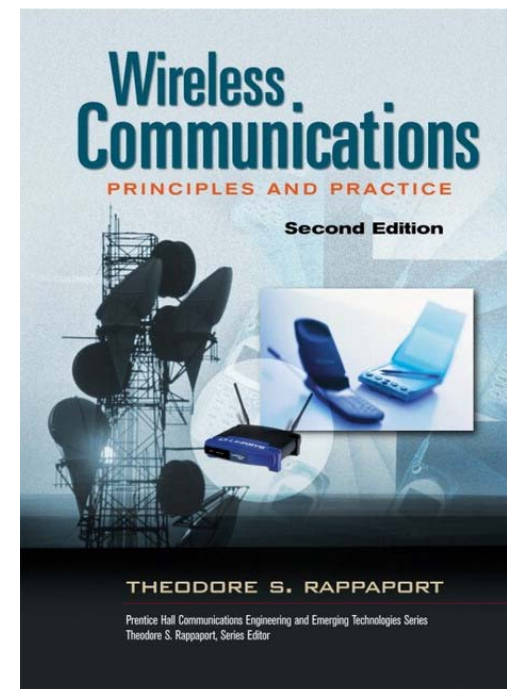
The book's Table of Contents is posted [here](#). Sample chapters can be viewed [here](#). These sample chapters contain many typos, errors, and omissions that were corrected during the production process of the book (all figures were redrawn). Therefore, while email comments on the sample chapters are welcome, please only email typos and corrections based on the published book, not sample chapters. All emails regarding the book should be sent to wireless@wsl.stanford.edu.



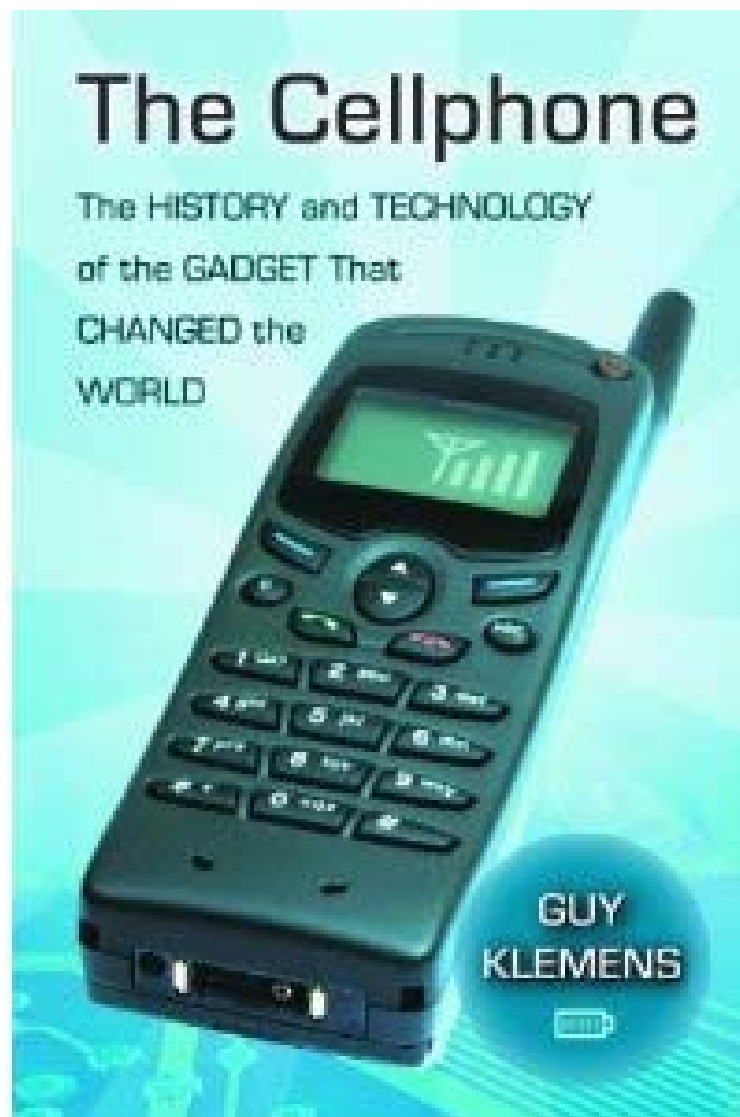
<http://wsl.stanford.edu/~andrea/Wireless/>

Wireless Communications

Theodore (Ted) S. Rappaport,
“*Wireless Communications:
Principles and Practice*,”
2nd Edition, Prentice Hall, 2002.



The Cellphone



Guy Klemens,
“The Cellphone: The History and
Technology of the Gadget That
Changed the World,”
McFarland, September 2010

Easy-to-Read yet Related Book



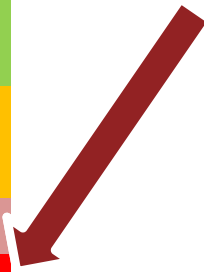
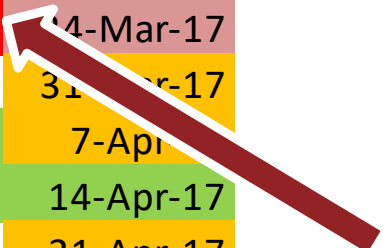
Calendar

M	T	W	R	F
23-Jan-17	24-Jan-17	25-Jan-17	26-Jan-17	27-Jan-17
30-Jan-17	31-Jan-17	1-Feb-17	2-Feb-17	3-Feb-17
6-Feb-17	7-Feb-17	8-Feb-17	9-Feb-17	10-Feb-17
13-Feb-17	14-Feb-17	15-Feb-17	16-Feb-17	17-Feb-17
20-Feb-17	21-Feb-17	22-Feb-17	23-Feb-17	24-Feb-17
27-Feb-17	28-Feb-17	1-Mar-17	2-Mar-17	3-Mar-17
6-Mar-17	7-Mar-17	8-Mar-17	9-Mar-17	10-Mar-17
13-Mar-17	14-Mar-17	15-Mar-17	16-Mar-17	17-Mar-17
20-Mar-17	21-Mar-17	22-Mar-17	23-Mar-17	24-Mar-17
27-Mar-17	28-Mar-17	29-Mar-17	30-Mar-17	31-Mar-17
3-Apr-17	4-Apr-17	5-Apr-17	6-Apr-17	7-Apr-17
10-Apr-17	11-Apr-17	12-Apr-17	13-Apr-17	14-Apr-17
17-Apr-17	18-Apr-17	19-Apr-17	20-Apr-17	21-Apr-17
24-Apr-17	25-Apr-17	26-Apr-17	27-Apr-17	28-Apr-17
1-May-17	2-May-17	3-May-17	4-May-17	5-May-17
8-May-17	9-May-17	10-May-17	11-May-17	12-May-17
15-May-17	16-May-17	17-May-17	18-May-17	19-May-17
22-May-17	23-May-17	24-May-17	25-May-17	26-May-17
29-May-17	30-May-17	31-May-17	1-Jun-17	2-Jun-17
5-Jun-17	6-Jun-17	7-Jun-17	8-Jun-17	9-Jun-17

Lectures



Exams



Please Double-Check Exam Dates!



Calendar (Google)

Today ◀ ▶ February 2017 ▼ Week Month Agenda ▼

Mon	Tue	Wed	Thu	Fri	Sat	Sun
30	31	Feb 1	2	3	4	5
	14:20 Office Hour	10:40 ECS455 Lecture 14:20 Office Hour		09:15 Office Hour 10:40 ECS455 Lecture		
6	7	8	9	10	11	12
Last day to add	14:20 Office Hour	10:40 ECS455 Lecture 14:20 Office Hour		09:15 Office Hour 10:40 ECS455 Lecture	Makha Bucha Day	
13	14	15	16	17	18	19
Makha Bucha Day	14:20 Office Hour	10:40 ECS455 Lecture 14:20 Office Hour		09:15 Office Hour 10:40 ECS455 Lecture		
20	21	22	23	24	25	26
	14:20 Office Hour	The University Sports of Thailand (no class) +2 more			09:15 Office Hour	
27	28	Mar 1	2	3	4	5
The University Sports of Thailand	14:20 Office Hour	10:40 ECS455 Lecture 14:20 Office Hour		09:15 Office Hour 10:40 ECS455 Lecture		

Events shown in time zone: Bangkok

ECS455: Mobile Communications

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Handouts and Course Material

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- Remark: You may take a look at the slides from previous year for a sneak preview of the upcoming class material.

Problem Set

HW#	Due Date	Remarks/Solutions
HW1		

Calendar

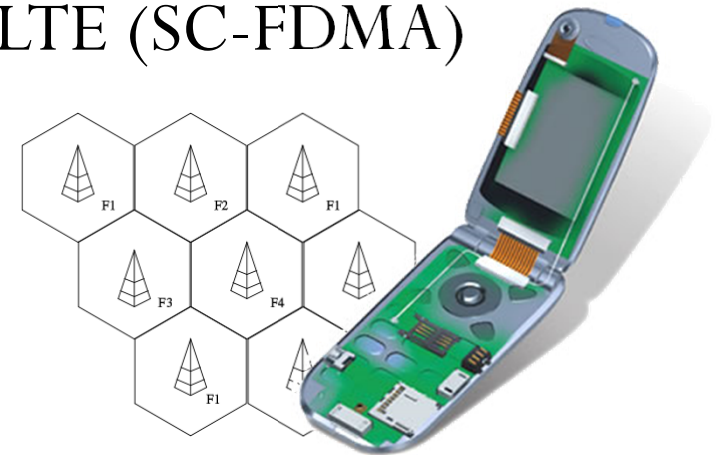
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26	27	28	29	30	31	Jan 1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
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30	31	Feb 1	2	3	4	5
14:20 Office Hour	10:40 ECS455 Lecture	14:20 Office Hour	09:15 Office Hour	10:40 ECS455 Lecture		

Events shown in time zone: Bangkok

ECS455: Topics

1. “Wireless” Communications: Problems and Solutions.
2. “Cellular” Communications: Motivation and Analysis.
3. Multiple Access Schemes: How can many users share communication resources?
4. Spread Spectrum Communications (CDMA)
5. OFDM systems
6. Communication techniques in GSM, GPRS, EDGE, UMTS (W-CDMA), WiMAX (OFDMA), LTE (SC-FDMA)



ECS455: Course Outline

1. Review
2. Capacity of Cellular Systems
3. M/M/m/m Assumption and Derivation of Erlang B Formula
4. Duplexing: TDD vs. FDD
5. Multiple Access Schemes
6. Spread Spectrum Communications
7. Multi-carrier and OFDM systems
8. PHY for GSM, GPRS, EDGE, UMTS (W-CDMA), WiMAX (OFDMA), LTE (SC-FDMA)

Grading System

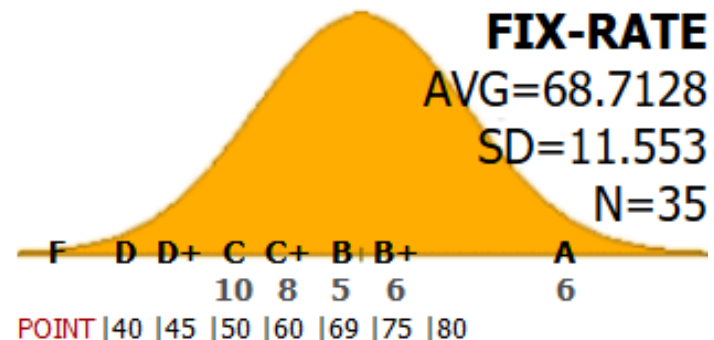
- Coursework will be weighted as follows:

Assignments	5%
In-Class Exercises	5%
Class Discussion/Participation	10%
Midterm Examination	40%
Final Examination (comprehensive)	40%

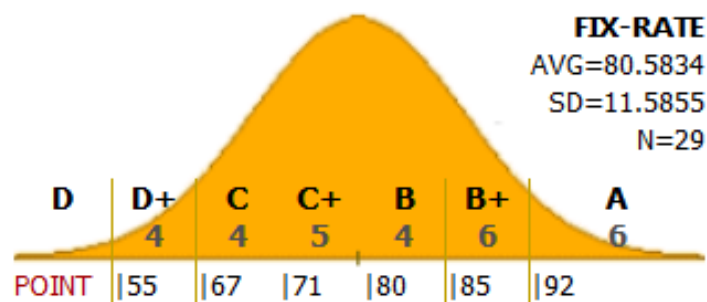
- Mark your calendars now!
- Late HW submission will be rejected.



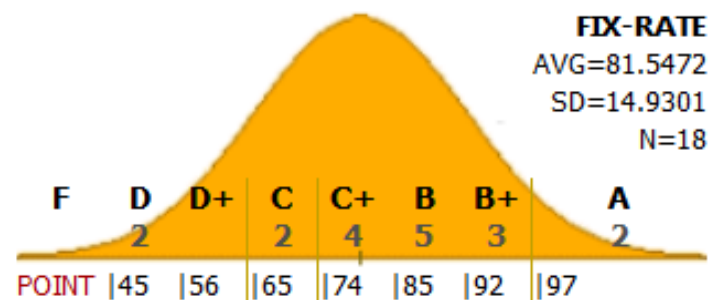
Grading System



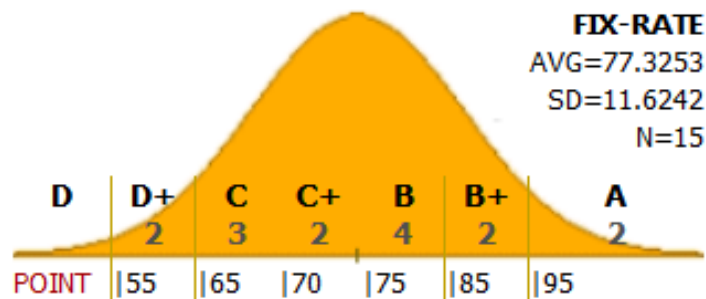
2014: CLASS GPA: 2.86



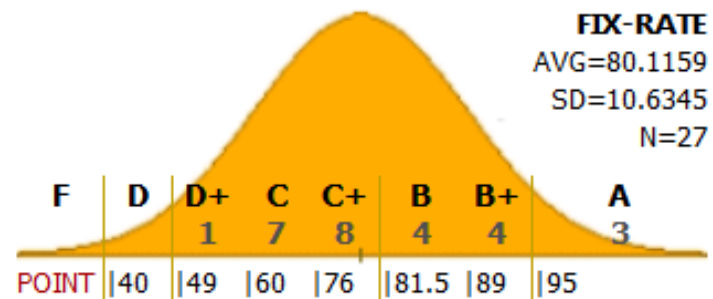
2012: CLASS GPA: 2.88



2011: CLASS GPA: 2.75



2010: CLASS GPA: 2.73



2009: CLASS GPA: 2.72

Class Participation

- NOT the same as class attendance!
- If you come only to **receive**, you will fall **asleep**.
 - Do not simply sit quietly in the class.
- Need **interaction** between lecturer and students.
- **Ask question** when there is something that you don't understand.
 - Don't be shy!
 - It is very likely that your friends don't understand it as well.
- If you already understand what I'm presenting, **SHOW ME!**
 - Point out the errors/typos.
 - I will raise many issues/questions in class. Try to comment on them.



Self-Evaluation Form

- Record what you have done.
 - To be submitted right after the midterm and right after the final.

ECS 455: Self-Evaluation

1. The class participation score for this class is judged by how much you actively participate in the class discussion both inside and outside of the classroom.
2. Please honestly answer the following questions. Please provide as much information as possible.
3. Do not include the activities that you have already stated in the first self-evaluation form.

Name

Student ID

How many times have you participated (provided comments, asked questions, answered questions, etc) in the lectures? Be specific. Provide some short description for each event. Number alone does not count.

How many times have you correctly informed the instructors the typo or mistake on the whiteboard/slides/hw/etc? Provide short description for each of the issues.

How many times have you discussed with the instructor outside of class? (Ask questions, express concerns, etc.) Be specific. Number alone does not count.

In-Class Exercises

- Most in-class exercises will occur without prior warning or announcement.
 - Focus on the current topic under discussion.
- Done in group to reduce pressure and provide opportunity
 - for those who think they understand the course material to explain to their friends and see whether they really know the material under consideration
 - and
 - for those who are falling behind to get an alternative explanation from their peers
- Note that you can't be in exactly the same group every time.
 - Have to change your group members every time.
 - If you are with a friend before, then next time, form a group with someone else.

Self-Evaluation Form (Con't)

- If you have valid reason for missing class on the day that we have exercise, please indicate the date, exercise number, and the reason in the self-evaluation form.
- Make sure that you also submit/email supporting document/evidence to Dr.Prapun.

How many times have you been absent from the class? Are there any specific reason(s)? Please explain. Also,


Note that the lowest scores among your own in-class exercise will be dropped. However, if you have valid reason for missing class on the day that we have in-class exercise(s), please indicate the date, exercise number, and the reason here. (No credit for incomplete information.) Make sure that you also submit/email supporting document/evidence to Dr.Prapun (if you haven't done so).

How many times have you been late (> 30s) for the class? Are there any specific reason(s)? Please explain.



Based on the clock on my computer. (This should be approx. the same as your phone's and computer's clocks if they are synchronized properly.)

Policy

- We will start the class **on time** and will finish **on time**.
 - I recommend arriving at least 3 minutes before the start time.
 - Raise your hand and tell me immediately if I go over the time limit.
 - Does NOT mean that I will leave the room immediately after lecture.
 - I will stay and answer questions.
- Mobile phones *must* be turned off or set in silent mode. 
- Attendance will be taken/given irregularly and randomly.
- Cheating will not be tolerated.
- Feel free to stop me when I talk too fast or too slow.

Policy (con't)

- I will surely make some **mistakes** in lectures / HW / exams.
 - Some amount of class participation scores will be reserved to reward the **first** student who informs me about each of these mistakes.
 - Grammatical errors are best informed/corrected after class.
- Unless instructed otherwise, points on exercises and exams are based on your entire solution, not your final answer.
 - You may get full credit even when you have the wrong final answer.
 - You may get **zero** even when you write down a right answer without justification.

Policy (con't)

- Please stop me if I go over the time limit.
- Please stop me if I talk too fast.
- Please stop me if you have any question.



Help and Office Hours

- Get some help!
 - Do not wait until the final exam time or after the grade is out.
 - Right after lecture is always a good time to ask question.
- Office Hours
 - T 14:20-15:20, W 14:20-15:20, F 9:15-10:15
 - Appointment can be made.
 - Feel free to come to my office and chat!
 - Don't be shy.

Asst.Prof.Dr.Prapun Suksompong - 2/2016					
	9.00-10.20	10.40-12.00	13.00-14.20	14.40-16.00	16:00-17:00
MON			JAE	MEETING	
TUE		ECS452 BKD 3511		Office Hour	
WED		ECS455 BKD 3511		Office Hour	
THU		ECS452 BKD 3511			
FRI	Office Hour	ECS455 BKD 3511	Network Group ICT Meeting	Meeting Room	

Office Hours:

BKD, 6th floor of Sirindhralai building

Tuesday **14:20-15:20**

Wednesday **14:20-15:20**

Friday **9:15-10:15**

Warning

- This class can be **difficult**.
 - Keep up with the lectures.
 - Make sure that you understand the concepts presented in the lecture before you go home.
- I will **evaluate** your understanding of the course **regularly** through
 - In class Q&A/activities
 - Quizzes
 - Exams



Remarks

- Get as much **legitimate** help as you can
- **Participate actively in class** and outside of class
 - Record what you have done.
- If you feel that the class is very easy, you might overlook something.
- If you feel that the class is very difficult, you are probably not the only one who feel that way.
 - Don't give up. Chat with me.
- My notation can be different from the textbook.
 - Every notation has some advantages and disadvantages.