

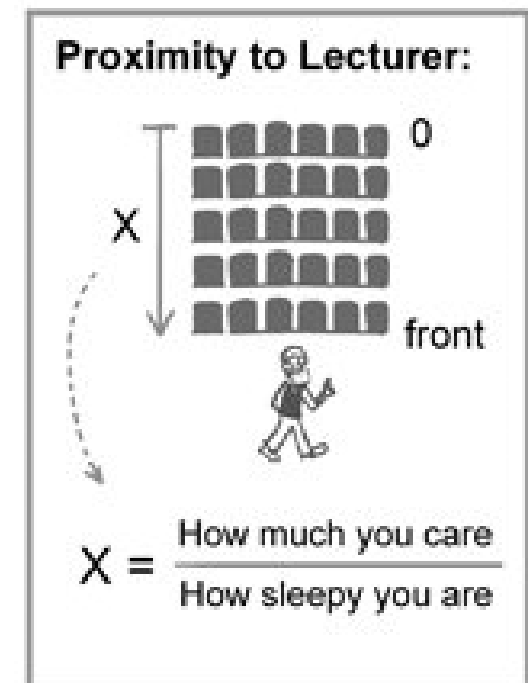
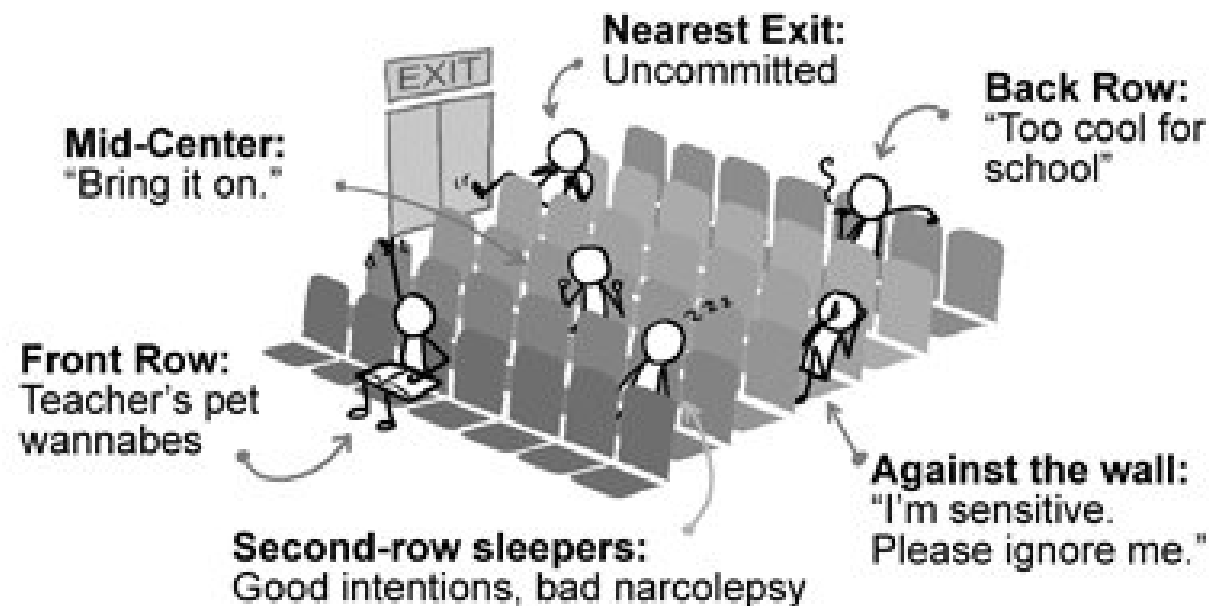
# Eye Examination



- Are you sitting too far away?
- You should be able to read this line,
  - and this line,
    - and this line.

## WHERE YOU SIT IN CLASS/SEMINAR

And what it says about you:



# Principles of Communications

## ECS 332

**Asst. Prof. Dr. Prapun Suksompong**

(ผศ.ดร.ประพันธ์ สุขสมปอง)

[prapun@siit.tu.ac.th](mailto:prapun@siit.tu.ac.th)

**Introduction**



### **Office Hours:**

BKD, 4th floor of Sirindhralai building

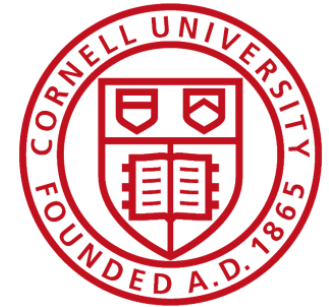
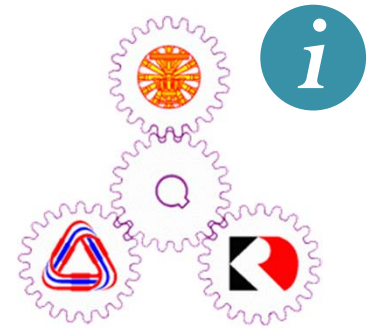
**Monday**                      **9:30-10:30**

**Monday**                      **14:00-16:00**

**Thursday**                      **16:00-17:00**

# 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](http://prapun.com)



# Course Syllabus



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

## ECS 332: Course Syllabus

**Semester/Year:** 1/2015

**Course Title:** Principles of Communications  
**Instructor:** Asst. Prof. Dr.Prapun Suksompong ([prapun@siit.tu.ac.th](mailto:prapun@siit.tu.ac.th))  
**Course Web Site:** <http://www2.siiit.tu.ac.th/prapun/ecs332/>

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

### Lectures

Time and Place:

- Tuesday 10:40-12:00 BKD 2601
- **Wednesday 09:20-10:20 BKD 2601 (Tutorial/Quiz/Make-up; Shared with ECS315)**
- Thursday 13:00-14:20 BKD 2506

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

**Undergraduate Student Dress Code:** Thammasat University uniform OR polite dress.

- Plain white shirt with collar, properly tucked in.
- Plain trouser/skirt in dark color.
- Sandals are not allowed (during official hours on campus)

Remark: When taking examinations, all SIIT students are required to wear TU student uniforms and dress/sport shoes in plain (white, black, brown, or navy blue) color.

**Prerequisite:** ECS281 Signals and Systems

**Corequisite:** ECS 315 (Probability and Random Processes)  
or IES 302 (Engineering Statistics)

**Course Description:** This course introduces the fundamental elements of analog and digital communication systems. The focus will be on the mathematical analysis of the signals and basic building blocks of communication systems. Performance of digital communication systems in the presence of noise will be discussed towards the end. The skills and knowledge gained from this class are essential for other advanced communication courses such as, data communications, computer network, digital communication systems, and mobile communications.

**Textbook:** [C&C] A. Bruce Carlson and Paul B. Crilly, Communication Systems: An Introduction to Signals and Noise in Electrical Communication, McGraw-Hill, 2010, 5th International edition. Call No. TK5102.5 C3 2010. ISBN: 978-007-126332-0.

### References:

1. [Z&T] Rodger E. Ziemer and William H. Tranter, Principles of Communications, 6th International student edition, John Wiley & Sons Ltd, 2010. Call No. TK5105 Z54 2010.
2. [L&D] B.P. Lathi and Zhi Ding, Modern Digital and Analog Communication Systems, 4th Edition, Oxford: Oxford University Press, 2009. Call No. TK5101 L333 2009
3. J. G. Proakis and M. Salehi, Communication Systems Engineering, 2nd Edition, Prentice Hall, 2002. ISBN: 0-13-095007-6
4. S.S. Haykin, Communication Systems, 4th Edition, John Wiley & Sons, 2001. Call Number: TK5101 H38 2001.

**Grading Policy:** Coursework will be weighted as follows:

Assignments	5%
Quiz	5%
<b>Class Discussion/Participation</b>	<b>10%</b>
Midterm Examination	40%
Final Examination (comprehensive)	40%

- Late assignments will be heavily penalized or rejected.
- Cheating will not be tolerated
- Copying homework/quiz/exam = cheating
  - First time cheater receives zero on that assignment
  - Second time cheater receives zero on all quizzes and/or HWs

**Assignments:** Homework will be assigned throughout the semester. For each assignment, only part(s) of a selected problem will be graded. Of course, you do not know which problem will be selected; so you should work on all of them. The complete solutions to all problems will be posted on the course web site.

### Quizzes and Exams:

Exams will be closed book.

Quizzes will test current and previous topics. A quiz may be given at any time during any class period – at the beginning or end of a class, etc. There will be no make-up quizzes. Quizzes will be given only to those students who are present when the quizzes are distributed. Tutorial slot(s) can also be used for pre-announced quizzes.

**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.



# 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

prapun.com



Asst. Prof. Dr. Prapun Suksompong (ผศ.ดร.ประพัทธ์ สุขสมปอง) is currently a faculty member 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 ปรเภทอาจารย์) from Thammasat University.

Ajam 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

- For 1/2015, he teaches
  - ECS315 (Probability and Random Processes)
  - ECS332 (Principles of Communications)
  - ECS204 (Basic Electrical Engineering Laboratory) (For non-major students)
- 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)
  - ICT Elementary for Embedded Systems (Fourier transform and principles of communications)
- For 1/2014, he taught
  - ECS315 (Probability and Random Processes)
  - ECS452 (Digital Communication Systems)
- In 2014, Dr. Prapun received the 2013 Best Teaching Award from SIIT.
- Slides for EC Talk: Introducing ECS 452, ECS 455, and tentative senior project topics
- For 2/2013, he taught
  - ECS204 (Basic Electrical Engineering Laboratory) (For non-major students)
  - ET601 (Computer Applications for Engineers) (For PEA students)
- In 2014, he received the 2013 Outstanding Young Researcher Award (รางวัลนักวิจัยรุ่นใหม่ดีเด่นระดับคณะ ปรเภทอาจารย์) Thammasat University
- For 1/2013, he taught

## Teaching

- For 1/2015, he teaches
  - ECS315 (Probability and Random Processes)
  - ECS332 (Principles of Communications)
  - ECS204 (Basic Electrical Engineering Laboratory) (For non-major students)
- For 2/2014, he taught
  - ECS203 (Basic Electrical Engineering) (For non-major students)



Scroll Down

- For 1/2012, he taught
  - ECS315 (Probability and Random Processes)
  - ECS332 (Principles of Communications)
  - 3.2 Wireless Communication Engineering (as a co-lecture)
- For 2/2011, he taught
  - ECS204 (Basic Electrical Engineering Laboratory) (For non-major students)
  - ECS455 (Mobile Communications)
  - IES302 (Engineering Statistics)
- For 1/2011, he taught
  - ECS315 (Probability and Random Processes)
  - ECS332 (Principles of Communications)
  - 3.2 Wireless Communication Engineering (as a co-lecture)
  - TU130: A lecture on "Next-Generation Wireless Communication Systems"


# 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.siiit.tu.ac.th/prapun/ecs332/](http://www2.siiit.tu.ac.th/prapun/ecs332/)



ECS 332: Principles of Communications 

**Synopsis**  
This course introduces the fundamental elements of analog and digital communication systems. The focus will be on the mathematical analysis of the signals and basic building blocks of communication systems. Performance of digital communication systems in the presence of noise will be discussed towards the end. The skills and knowledge gained from this class are essential for other advanced communication courses such as, data communications, computer network, digital communication systems, and mobile communication.

**Announcements**

- This site can be accessed via [prapun.com.ecs332](http://prapun.com.ecs332)
- A basic RSS feed is created to track and inform updates
- Welcome to ECS332! Feel free to look around this site.

**General Information**

- **Instructor:** Dr. Prapun Suktampong ([prapun@siit.tu.ac.th](mailto:prapun@siit.tu.ac.th))
  - Office:
- **Course Syllabus**
- **Textbook:** [C&C] A. Bruce Carlson and Paul E. Crilly, Communication Systems: An Introduction to Signals and Noise in Electrical Communication, McGraw-Hill, 2010, 3th international edition.
  - Call No. TK3102.S C3 2010. ISBN: 978-007-126622-0.
- **Companion Site**
- **References**

- [Z&T] Rodger E. Ziemer and William H. Tranter, Principles of Communications, 5th International student edition, John Wiley & Sons Ltd, 2010
  - Call No. QA272 Y24 2005. ISBN: 978-0-471-27214-4
  - Student Companion Site
- [L&D] S.P. Lathi and Zhi Ding, Modern Digital and Analog Communication Systems, 4th Edition, Oxford: Oxford University Press, 2009. Call No. TK3101 L422 2009
- J. C. Proakis and M. Salehi, Communication Systems Engineering, 2nd Edition, Prentice Hall, 2002. ISBN: 0-13-085007-8
- S.S. Haykin, Communication Systems, 4th Edition, John Wiley & Sons, 2001. Call Number: TK3101 H42 2001.
- [DS] C. R. J. Jr, W. A. Sethares, and A. C. Klein, Software Receiver Design: Build Your Own Digital Communication System in Five Easy Steps, 1st ed. Cambridge University Press, 2011.
  - [DS] C.R. Johnson and W.A. Sethares, Telecommunications Breakdown: Concepts of Communication Transmitted via Software-Defined Radio, Prentice Hall, 2002.
- [CT] Thomas M. Cover, Joy A. Thomas, Elements of Information Theory, Second Edition, Wiley-Interscience, 2006
- MATLAB Primer, 3th edition T. A. Davis. CRC Press, 2010.
- MIT RSS #007 Signals and Systems (1987) on Youtube

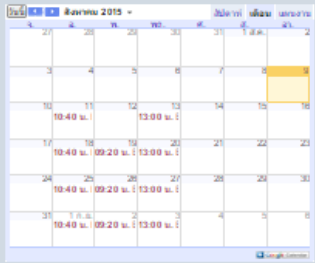
**Handouts and Course Material**

- **Slides:** Course Introduction
- **Part I:**
  - Section 1 (Intro. to Commu. Systems)
  - Section 2 (Frequency-Domain Analysis)
- ..

**Problem Set**

- HW 1 (Due)
  - Solution
- ..

**Calendar**



**Reading Assignment**

# 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.



# RSS Feed



<http://page2rss.com/page?url=www2.siiit.tu.ac.th/prapun/ecs332/index.html>

## [ECS 332: Principles of Communications](http://www2.siiit.tu.ac.th/prapun/ecs332/index.html)



<http://www2.siiit.tu.ac.th/prapun/ecs332/index.html> - Last Checked: 08/08/15 20:07:10 - Added: 06/08/11 07:39:07

09 Aug 2015 04:17

- Note that we also share the tutorial session (Wednesday, 09:20-10:20, BKD2601) with ECS315. Do not register for this class if you are not available during that time slot.
- [Asst. Prof. Dr.Prapun Suksompong](#)
  - [BKD, 4th floor of Sirindhralai building](#)
  - Office Hour: M 9:30-10:30, M 14:00-16:00, R 16:00-17:00
- 
- : [Course Introduction](#) [Posted @ 4PM on Aug 9]
- : [Section 1](#) (Intro. to Commu. Systems) [Posted @ 4PM on Aug 9]
- : [Section 2](#) (Frequency-Domain Analysis) [Posted @ 4PM on Aug 9]

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# Course Organization

- **Course Website:**

<http://www2.siit.tu.ac.th/prapun/ecs332/>

- **Lectures:**

- **Tuesday 10:40-12:00 BKD 2601**

- **Thursday 13:00-14:20 BKD 2506**

- **Tutorial/Quiz/Make-up sessions:**

- **Wednesday 09:20-10:20 BKD 2601 (Shared with ECS315)**

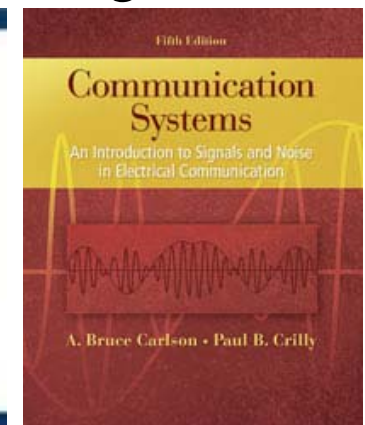
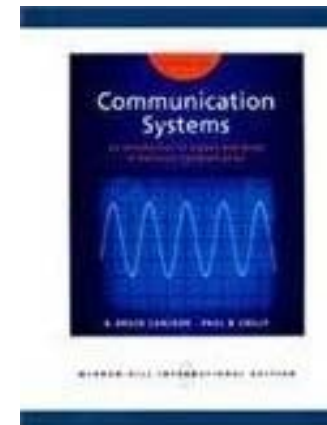
- **Textbook:** Communication Systems: An Introduction to Signals and Noise in Electrical Communication

- By A. Bruce Carlson and Paul B. Crilly

- 5th International edition

- Call No. TK5102.5 C3 2010

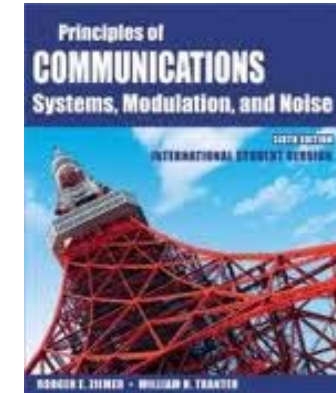
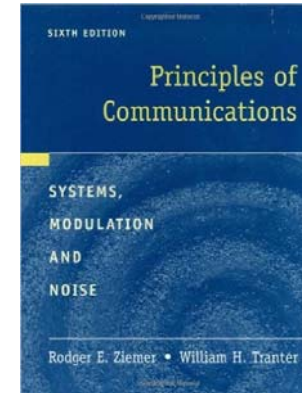
- ISBN: 978-007-126332-0



# More references

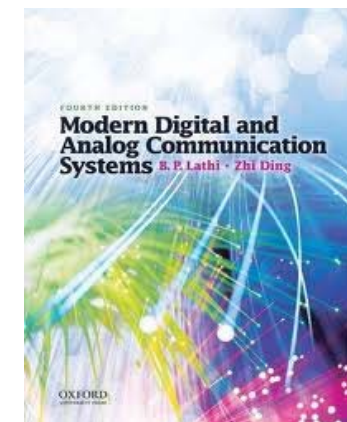
- Principles of Communications

- By Rodger E. **Ziener** and William H. **Tranter**
- 6th International student edition
- ISBN 978-0-470-39878-4
- Library Call No. TK5105 Z54 2010
- Student Companion Site: <http://bit.ly/mN18kQ>



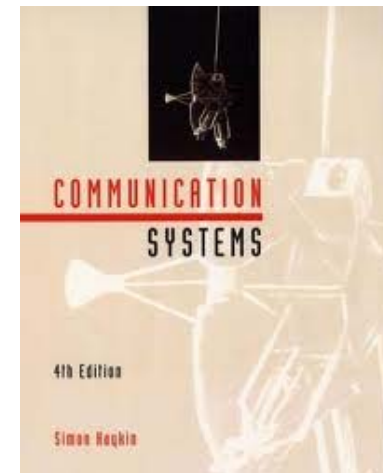
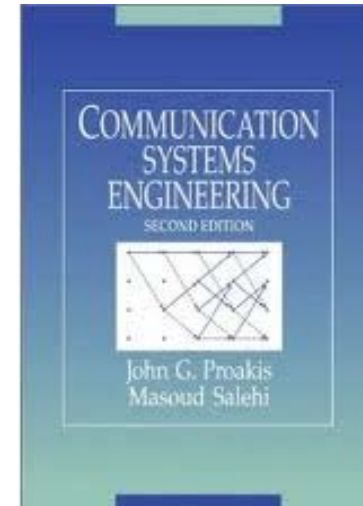
- Modern Digital and Analog Communication Systems

- By B.P. **Lathi** and Zhi **Ding**
- 4th Edition
- Library Call No. TK5101 L333 2009



# More references

- J. G. **Proakis** and M. **Salehi**,  
Communication Systems Engineering,  
2nd Edition, Prentice Hall, 2002. ISBN:  
0-13-095007-6
- S.S. **Haykin**, Communication Systems,  
4th Edition, John Wiley & Sons, 2001.  
Call Number: TK5101 H38 2001.



# Another Reference (in Thai)



- รศ. ดร. ลัญญกร วุฒิสัทติกุลกิจ และคณะ, หลักการไฟฟ้าสื่อสาร, พิมพ์ครั้งที่ 2, สำนักพิมพ์แห่งจุฬาลงกรณ์ มหาวิทยาลัย, 2554. ISBN: 978-974-03-2770-7
- หนังสือ หลักการไฟฟ้าสื่อสาร เล่มนี้กล่าวถึง ทฤษฎีการแปลงฟูเรียร์ (Fourier transform) ระบบเชิงเส้น สหสัมพันธ์ (Correlation) ความหนาแน่นสเปกตรัม (Spectral density) การมอดูเลตเชิงแอมพลิจูด (amplitude modulation) การมอดูเลตเชิงมุม (angle modulation) กระบวนการสุ่ม (random process) สัญญาณรบกวน (noise) ทฤษฎีการซีกตัวอย่าง (sampling theory) การมอดูเลตโดยใช้พัลส์ (pulse modulation) การส่งผ่านพัลส์เบสแบนด์ (baseband pulse transmission) การมอดูเลตแบนด์พาส (digital passband transmission) และทฤษฎีข่าวสาร (information)
- หนังสือเล่มนี้เป็นผลจากความร่วมมือทางวิชาการของคณาจารย์จากหลายสถาบันการศึกษาที่มีชื่อเสียงของประเทศหลายแห่ง

# ECS 332: Course Outline

1. Introduction to communication systems
2. Frequency domain analysis (Fourier transform and its property)
3. Frequency-shifting (translation) and channel characteristics
4. Modulation, multiplexing, DSB-SC
5. Fourier series and its applications in analyzing modulator and demodulator
6. Quadrature Amplitude Modulation (QAM), Amplitude Modulation (AM), and envelope detector
7. Angle modulation, instantaneous frequency
8. **MIDTERM: 5 Oct 2015 TIME 09:00 - 12:00**
9. Sampling and aliasing
10. Analog pulse modulation and pulse shaping
11. Introduction to digital communications and digitization
12. Review of theory of probability and random processes
13. Source coding and entropy
14. Digital communication in the presence of noise, binary symmetric channel, detectors
15. Error probability and optimal detectors
16. Channel coding
17. **FINAL: 11 Dec 2015 TIME 09:00 - 12:00**



# Grading System

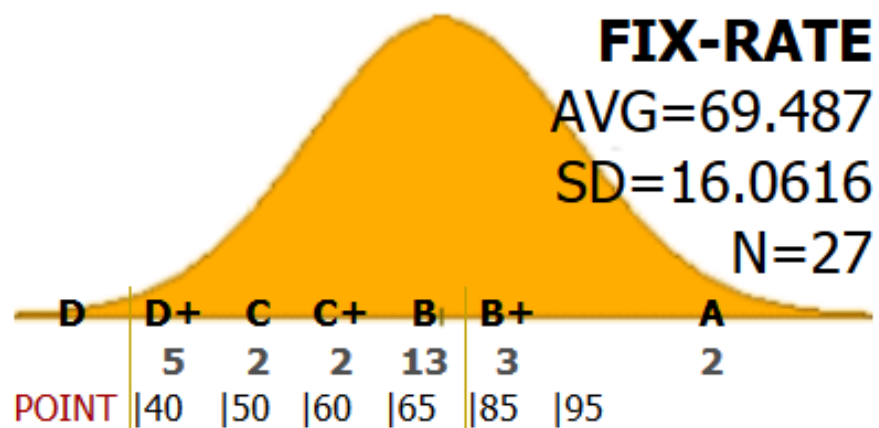
- Coursework will be weighted as follows:

Assignments	5%
Class Participation and Quizzes	15%
Midterm Examination • 5 Oct 2015 TIME 09:00 - 12:00	40%
Final Examination (comprehensive) • 11 Dec 2015 TIME 09:00 - 12:00	40%

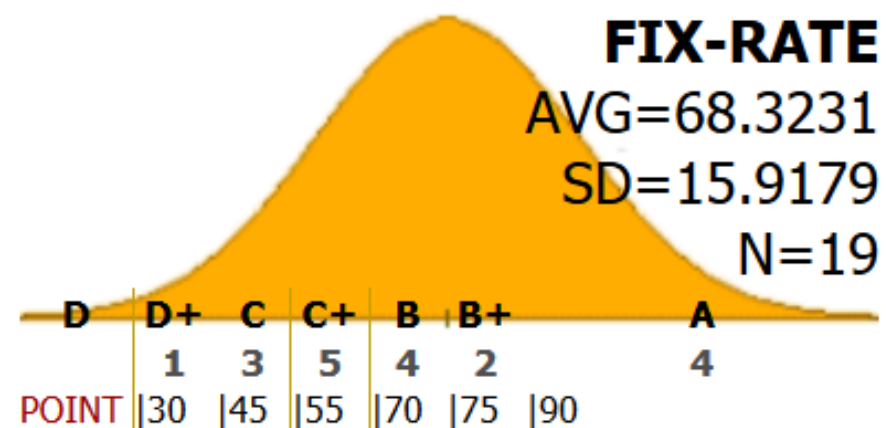
- Mark your calendars now!
- Late HW submission will be rejected.



# Grading System



2011: CLASS GPA: 2.74



2012: CLASS GPA: 2.89





# Calendar (Google)

Available on the course web site.

จ.	อ.	พ.	พ.ศ.	ศ.	ส.	อา.
27	28	29	30	31	1 ส.ค.	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
Classes begin	10:40 น. ECS332	H.M. The Que	13:00 น. ECS332			
17	18	19	20	21	22	23
	10:40 น. ECS332	09:20 น. ECS332	13:00 น. ECS332			
24	25	26	27	28	29	30
Last day for lab	10:40 น. ECS332	09:20 น. ECS332	13:00 น. ECS332			
Last day to ad						
31	1 ก.ย.	2	3	4	5	6
	10:40 น. ECS332	09:20 น. ECS332	13:00 น. ECS332			

ECS 332: Principles of Communications

Synopsis  
This course introduces the fundamental elements of analog and digital communication systems. The focus will be on the mathematical analysis of the signals and basic building blocks of communication systems. Performance of digital communication systems in the presence of noise will be discussed towards the end. The skills and knowledge gained from this class are essential for other advanced communication courses such as, data communications, computer network, digital communication systems, and mobile communication.

Announcements  

- This site can be accessed via [prapun.com/ecs332](http://prapun.com/ecs332)
- A basic RSS feed is created to track and inform updates
- Welcome to ECS332! Feel free to look around this site.

General Information  

- Instructor: Dr. Prapun Sukoosompong ([prapun@it.tu.ac.th](mailto:prapun@it.tu.ac.th))
- Office:
- Course Syllabus
- Textbook: [C&C] A. Bruce Carlson and Paul E. Crilly, Communication Systems: An Introduction to Signals and Noise in Electrical Communication, McGraw-Hill, 2010, 5th International edition. Call No. TK3102.5 C3 2010. ISBN: 978-0-07-126622-0.
- Companion Site
- References
  - [Z&T] Roger E. Ziemer and William H. Tranter, Principles of Communications, 5th International student edition, John Wiley & Sons Ltd, 2010. Call No. QA476 Y284 2005. ISBN: 978-0-471-27214-4. Student Companion Site
  - [L&D] Z.P. Leht and Zhi Ding, Modern Digital and Analog Communication Systems, 4th Edition, Oxford: Oxford University Press, 2009. Call No. TK3101 L63 2009
  - C. Proakis and M. Salehi, Communication Systems Engineering, 2nd Edition, Prentice Hall, 2002. ISBN: 0-13-092007-8
  - S.S. Haykin, Communication Systems, 4th Edition, John Wiley & Sons, 2001. Call Number: TK3101 H63 2001.
  - [S&S] C. R. Jr, W. A. Sethares, and A. G. Klein, Software Receiver Design: Build Your Own Digital Communication System in Five Easy Steps, 1st ed. Cambridge University Press, 2011
  - [S&S] C.R. Johnson and W.A. Sethares, Telecommunications Breakdown: Concepts of Communication Transmitted via Software-Defined Radio, Prentice Hall, 2008.
  - [C&T] Thomas M. Cover and Joy A. Thomas, Elements of Information Theory, Second Edition, Wiley-Interscience, 2006
  - MATLAB Primer, 5th edition, T. A. Davis. CRC Press, 2010.
  - MIT RES.8.007 Signals and Systems (1987) on Youtube

Handouts and Course Material  

- Slides: Course Introduction
- Part I:
  - Section 1 (Intro. to Commu. Systems)
  - Section 2 (Frequency-Domain Analysis)

Problem Set  

- HW 1 (Que.)
  - Solution
- ...

Calendar

Reading Assignments  

- ...

Misc. Links  

- ...

# Calendar

	M	T	W	R	F
	10-Aug-15	11-Aug-15	12-Aug-15	13-Aug-15	14-Aug-15
	17-Aug-15	18-Aug-15	19-Aug-15	20-Aug-15	21-Aug-15
	24-Aug-15	25-Aug-15	26-Aug-15	27-Aug-15	28-Aug-15
Tutorial	31-Aug-15	1-Sep-15	2-Sep-15	3-Sep-15	4-Sep-15
	7-Sep-15	8-Sep-15	9-Sep-15	10-Sep-15	11-Sep-15
Lectures		15-Sep-15	16-Sep-15	17-Sep-15	18-Sep-15
	21-Sep-15	22-Sep-15	23-Sep-15	24-Sep-15	25-Sep-15
	28-Sep-15	29-Sep-15	30-Sep-15	1-Oct-15	2-Oct-15
	5-Oct-15	6-Oct-15	7-Oct-15	8-Oct-15	9-Oct-15
	12-Oct-15	13-Oct-15	14-Oct-15	15-Oct-15	16-Oct-15
	19-Oct-15	20-Oct-15	21-Oct-15	22-Oct-15	23-Oct-15
	26-Oct-15	27-Oct-15	28-Oct-15	29-Oct-15	30-Oct-15
	2-Nov-15	3-Nov-15	4-Nov-15	5-Nov-15	6-Nov-15
	9-Nov-15	10-Nov-15	11-Nov-15	12-Nov-15	13-Nov-15
	16-Nov-15	17-Nov-15	18-Nov-15	19-Nov-15	20-Nov-15
	23-Nov-15	24-Nov-15	25-Nov-15	26-Nov-15	27-Nov-15
	30-Nov-15	1-Dec-15	2-Dec-15	3-Dec-15	4-Dec-15
Exams	7-Dec-15	8-Dec-15	9-Dec-15	10-Dec-15	11-Dec-15
	14-Dec-15	15-Dec-15	16-Dec-15	17-Dec-15	18-Dec-15

# 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.



# Class Participation (2)

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

## ECS 332: Self-Evaluation 2015

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. Do not include the activities that you have already stated in the first self-evaluation form.

Name

Student ID

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

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


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? Please provide some short description about each of the issues.

How many times have you discussed with the instructor outside of class? (Ask questions, express concerns, etc.) Be specific.

# Policy

Which clock?

- 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. 
- We may have some **pop quizzes** (without prior warning or announcement) and in-class activities.
- Attendance and pop quizzes will be taken/given irregularly and randomly.
- Cheating will not be tolerated.

# Policy (con't)

- Feel free to stop me when I talk too fast or too slow.
- I will surely make some **mistakes** in lectures / HWs / exams.
  - Some amount of class participation scores will be reserved to reward the **first** student who inform me about each of these mistakes.
    - Grammatical errors are best informed/corrected after class.
- Points on quizzes/ exercises/ exams are generally based on your entire solution, not your final answer.
  - You can 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
  - Time: M 9:30-10:30, M 14:00-16:00, R 16:00-17:00
  - Appointment can be made.
  - Feel free to come to my office and chat!
  - Don't be shy.

## **Office Hours:**

BKD, 4th floor of Sirindhralai building

**Monday**                      **9:30-10:30**

**Monday**                      **14:00-16:00**

**Thursday**                    **16:00-17:00**



# 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 problems/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.
  - It takes me a long time to feel comfortable with these materials; yet, I still make mistakes.
- My notation can be different from the textbook.
  - Every notation has some advantages and disadvantages.