

Fall 2020 Mobile Social Networks

- **Instructors:** [Chih-Ya Shen](#) (National Tsing Hua University), [Chih-Wei Huang](#) (National Central University), [Tung-Wei Kuo](#) (National Chengchi University)
- **Coordinator:** [Tung-Wei Kuo](#) (National Chengchi University)
- **Time and Location :** See the syllabus below.
- **Office Hour:** By appointment

Course Description

Mobile Social Networks is an emerging and exciting new research area, and the course will consist of the presentations in the following directions:

1. *Introduction on Mobile Communication and SDN*
2. *Introduction on Mobile Social Networks*
3. *Random Graphs and Small World Properties*
4. *Multimedia in Mobile Social Networks*

In addition to presentations given by the lecturers, students will present papers on mobile social networks.

Textbook:

Slides made by the lecturers.

References:

Related papers that can be found in ACM Digital Library, IEEE Xplore, or other online databases.

Teaching Methods:

- *Presentations done by lecturers*
 - *Student presentations*
 - *Discussion*
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Syllabus:

Tentative detailed topics to cover are:

1. *Wireless communication: Modulation and MAC protocols*
 2. *SDN and Virtualization*
 3. *Random Graphs in Social Networks*
 4. *Small World Properties*
 5. *Socially Aware Computing: Concepts, Technologies, and Practices*
 6. *Ephemeral Social Networks*
 7. *Multimedia in Mobile Social Networks*
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Grading:

1. *Assignment (for wireless communication): 10%*
2. *Midterm (for wireless communication): 25%*
3. *1st Presentation (one for wireless communication, one for social network, and one for multimedia): 3*10%*
4. *Final Presentation (one for wireless communication, one for social network, and one for multimedia): 3*10%*
5. *QA Session Participation: 5%*

Schedule:

Week	Date	Topics	Lecturer	Note
1	2020/09/18	Introduction to Wireless Communication	Tung-Wei Kuo	@ N107, IIS, AS
2	2020/09/25	Physical Layer	Tung-Wei Kuo	On Fridays 0900-1200
3	2020/09/30	Basic Modulation	Tung-Wei Kuo	@ N101, IIS, AS
4	2020/10/07	Fourier Transform	Tung-Wei Kuo	On Wednesdays 1400-1700
5	2020/10/16	OFDM	Tung-Wei Kuo	
6	2020/10/23	Basic Graph Theory (I)	Tung-Wei Kuo	@ N107, IIS, AS
7	2020/10/30	Basic Graph Theory (II)	Tung-Wei Kuo	On Fridays 0900-1200
8	2020/11/06	Midterm Exam	Tung-Wei Kuo	
9	2020/11/20	Socially Aware Computing: Concepts, Technologies, and Practices (I)	Chih-Ya Shen	@ N107, IIS, AS On Fridays 0900-1200
10	2020/11/27	Socially Aware Computing: Concepts, Technologies, and Practices (II)	Chih-Ya Shen	@ R601, Delta Hall, NTHU On Fridays 0900-1200
11	2020/12/02	Introduction to Machine Learning Approaches for Mobile Social Networks (I)	Chih-Ya Shen	@ R601, Delta Hall, NTHU On Wednesdays 0900-1200
12	2020/12/09	Introduction to Machine Learning Approaches for Mobile Social Networks (II)	Chih-Ya Shen	@ N101, IIS, AS On Wednesdays 0900-1200
13	2020/12/11	Introduction to Multimedia Communications for Mobile Social Networks (I)	Chih-Wei Huang	
14	2020/12/18	Introduction to Multimedia Communications for Mobile Social Networks (II)	Chih-Wei Huang	@ N107, IIS, AS
15	2020/12/25	Multimedia Coding Fundamentals	Chih-Wei Huang	On Fridays 0900-1200
16	2021/01/01	New Year		No Class
17	2021/01/08	Optimization for Mobile Networks	Chih-Wei Huang	@ N107, IIS, AS
18	2021/01/15	Student Presentation	Tung-Wei Kuo	On Fridays 0900-1200

*Each student needs to choose three top conference papers (one in wireless communication, one in social network, and one in multimedia), and present each paper twice.