

TLEN 5830-AWL
HW-05
Due 02/21/2017

Answer the below review questions concisely from the material covered in the Lecture slides.

5-1: Briefly define OFDM and OFDMA.

5-2: What is the fundamental requirement of OFDM?

5-3: What are the main strengths of OFDM?

5-4: How does orthogonality allow for increased capacity?

5-5: For an 18 Mbps data stream with a symbol time of $66.67 \mu\text{s}$, how many subcarriers are created?

5-6: LTE assigns subcarriers in *resource blocks* of 180 kHz. Given the information in Problem 5-5 (directly above), how many subcarriers are in a resource block?