

**ASEN 6091 / ECEN 5014**  
**Global Navigation Satellite System (GNSS) Receiver Architectures**

**Spring Semester 2021**  
**Scheduled Lecture Times: Mon & Wed: 16:10 – 17:25**

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**Course Overview**

GNSS is a generic term describing the expanding field of satellite-based navigation/timing systems. The most prevalent of these systems currently is GPS which is owned and operated by the US. However, Russia maintains a system known as GLONASS. Both the European Union and China are developing their own GNSS system designated Galileo and Beidou (Compass), respectively. Lastly, there are a number of regional GNSS augmentation systems including but not limited to: WAAS (US), QZSS (Japan), EGNOS (EU), India (GAGAN) each of which provides GNSS corrections and, in some cases, ranging information.

There are a multitude of GPS receivers on the market today. Often times these receivers are embedded for monitoring and control and often, unfortunately, the background in signal processing, particular time/frequency domain transforms, and control theory would be helpful. Lastly, background on GPS or GNSS in general (such as ASEN 5090) is expected, but not required, and will definitely aid in the overall understanding of the technology.

**Textbook (not required)**

A Software-Defined GPS and Galileo Receiver: A Single-Frequency Approach; K. Borre, D. Akos, N. Bertelsen, P. Rinder, S. H. Jensen; 2007;

# SYLLABUS STATEMENTS

## 1) Classroom Behavior

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- maintain 6-foot distancing when pos 1 Tf 0.60 /L68.9 (ea)-11.ing

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