

ION African School on Space Science

Integrated GNSS Systems, Consumer Products & Applications

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Broadcom Corporation, and Stanford University

Overview

- We'll look at consumer GNSS receiver designs and trends
 - half for your general knowledge
 - half relevant to your work, studies & teaching
- Consumer products have some (small) overlap with GNSS for space science today ...
 - ... may be quite useful in future years

Outline

- **What's available in consumer GNSS**
including APIs in iOS and Android
- **GNSS systems comparisons (GPS, GLO, ...)**
- **Mini-lab**
- **Consumer GNSS receiver design**
Relevance to Space Science

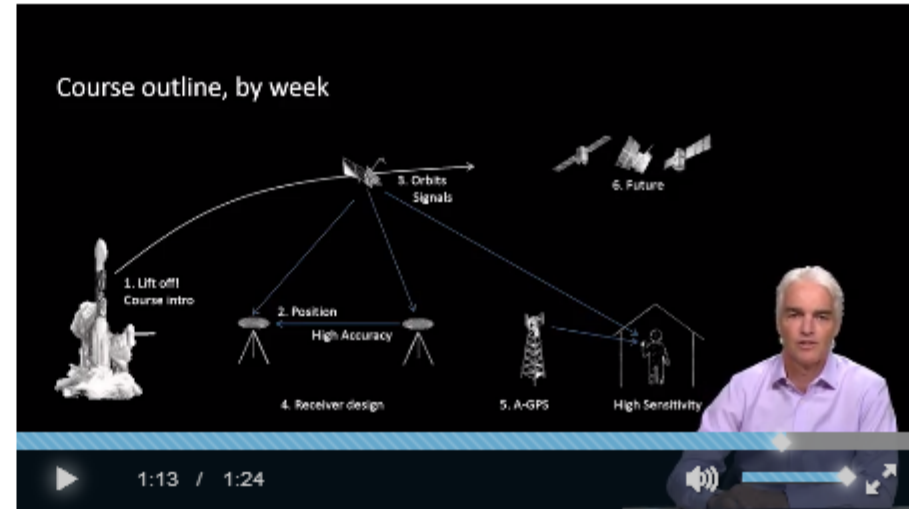
Before we continue ...

**preview of online GPS course available (free)
to you later this year:**

Stanford

GPS: An Introduction to Satellite Navigation, with an interactive Worldwide Laboratory using Smartphones

Explore the fundamentals of the Global Positioning System (GPS) and how it works by conducting "backyard" laboratory experiments on your own mobile device. Learn the basics of satellite navigation and witness the power of a network with planet-wide coverage. Gain a deeper understanding of GPS and its role in our lives, while interacting with a worldwide community of learners and backyard scientists.



About the Course

Today, the Global Positioning System (GPS) is deployed in over three billion devices across the world. This course will teach you the fundamentals of how GPS works and introduce you to the diverse range of uses of satellite navigation—in all aspects of our lives.

Through vivid online lectures and a set of "backyard experiments" enabled by the widespread availability of GPS-enabled smart phones and tablets, students will be able to connect online learning to real-world experience. Even those who do not own laptop or desktop computers can take part; they will be able to view lectures and completing labs via mobile device only.

We hope students will enjoy the interactive nature of the course, while gaining knowledge that benefits their personal and professional lives.

Course Syllabus

Part I. Fundamentals of GPS Introduction

Introduction

- How GPS works and what it does for us
- Course objectives & schedule
- The Joy of GPS

Module 1: How GPS Works

- How GPS works
- Navigation in Our Lives: The Exxon Valdez

Sessions

Oct 13th 2014 - Nov 24th 2014

Join for Free

Eligible for

Statement of Accomplishment

Course at a Glance

- 📅 6 weeks of study
- 🕒 4-6 hours of work / week
- 🌐 English
- 📄 English subtitles

Instructors



Per Enge
Stanford University



Frank van Diggelen
Stanford University

Categories

Physical & Earth Sciences