

OCN 479-001

Dr. Phil Bresnahan



Intro to the class

- ▶ Course goals
- ▶ Paper syllabus
- ▶ Canvas (👉 our map from now on)
- ▶ Introduce myself/my background

Course Goals



Goals

1. Stay healthy and help others stay healthy! Covid-19 is still here. Wear a mask if you want (I will as well).
2. Open (some of) the black boxes of coastal technologies
3. Build new, cool devices (more on this soon)

General Schedule

- ▶ Deadlines will all be on Canvas
- ▶ Homeworks, interactive assignments, and exams all have strict due dates!
- ▶ Presentation and project dates are on paper syllabus and are being added to Canvas

Paper Syllabus



Canvas



What this course is not

- ▶ Follow the textbook/lab instructions/cookbook and replicate what other students have done in other semesters



What this course aspires to provide

- ▶ An opportunity to build something new and innovative
- ▶ Hands-on, applied learning
- ▶ Job/grad school skill training
- ▶ Challenges without known answers

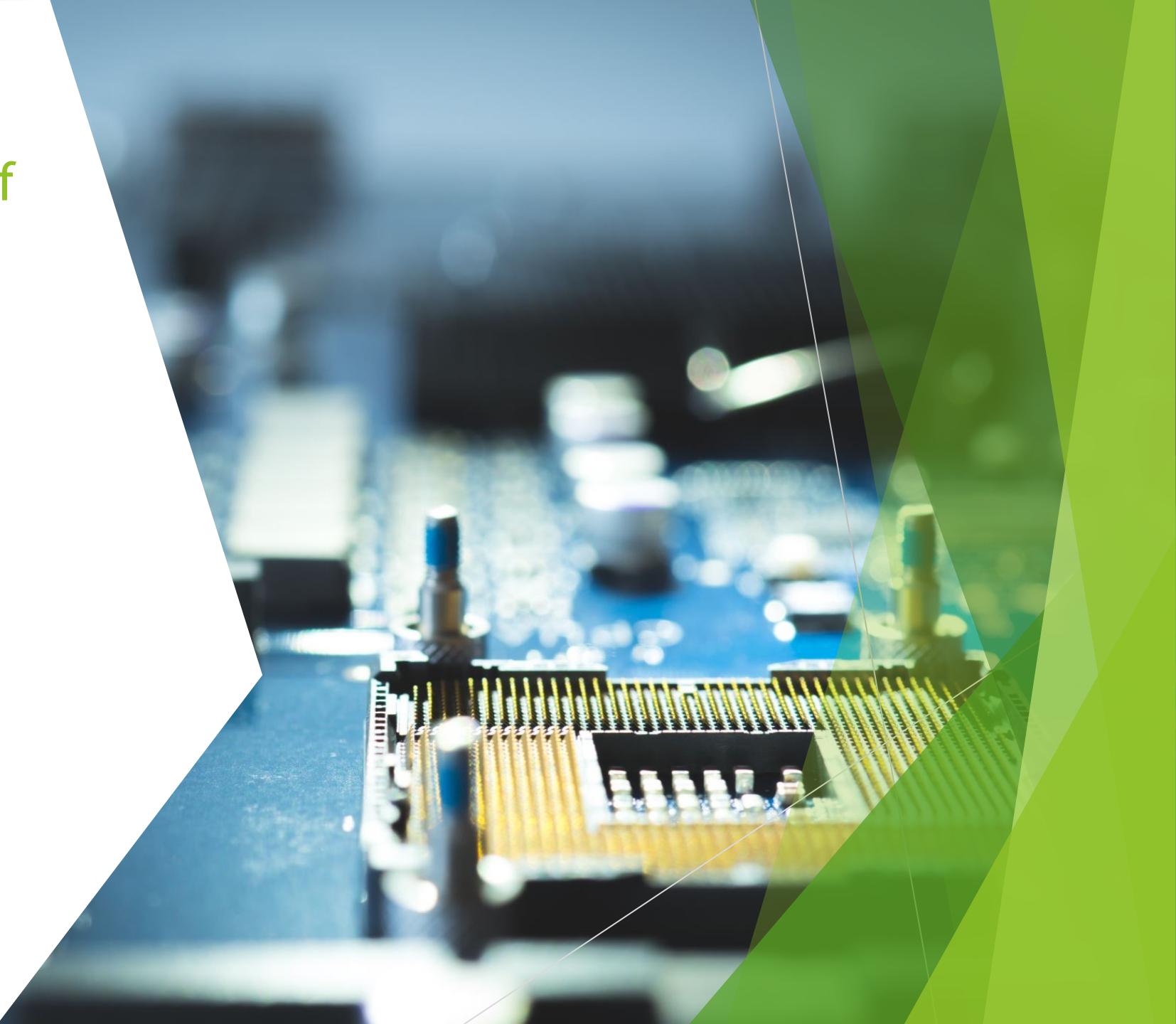


Course motto

Progress, not perfection

Skills and techniques (who has done some of these?)

- ▶ Soldering
- ▶ Breadboarding/wiring
- ▶ Arduino microcontroller coding
- ▶ Python data analysis
- ▶ 3D printing
- ▶ Using way too much glue, duct tape, zip ties
- ▶ Kayaking???





Always looking for students

DIS (directed independent study), honors thesis, graduate school eventually,
some hourly paid opportunities

Next week:

Meet in CMS lobby at 10 am

Tour of Ocean Instrumentation and Undersea Vehicle Labs and
CMS Research Pier with Dave Wells



Lecture questions?

Lab activity next...

Intro Lab

Blink an LED & print “hello, world”

Getting Started

particle blink led X

[All](#) [Shopping](#) [Images](#) [Videos](#) [News](#) [More](#)

About 1,420,000 results (0.57 seconds)

[https://docs.particle.io › hardware-tutorials › hardware-...](https://docs.particle.io/hardware-tutorials/hardware-...) ⋮

Blink an LED hardware examples | Getting Started | Particle

In this **example**, we've created a system where you turn your LED and photo sensor to face each other, making a beam of light that can be broken by the motion of ...

[Logging in](#) · [Blink an LED](#) · [Testing](#) · [Use](#)

[https://docs.particle.io › troubleshooting › led › photon](https://docs.particle.io/troubleshooting/led/photon) ⋮

Status LED and Device Modes - Photon | Troubleshooting

Red **Blink** Basic Errors — When the device is in the process of connecting to the cloud, it will rapidly **blink** cyan. You often see this mode when you first ...

- ▶ Goal: blink an on-board LED & print “hello, world”
- ▶ Get a Particle Argon (we’ll talk more about these devices later)
- ▶ Find Particle.io example instructions
- ▶ DO NOT ENTER CREDIT CARD INFO FOR THESE DEVICES FOR THIS CLASS!

What we're working toward

- ▶ Design and build of low-cost ocean optical sensors
- ▶ Measure water quality, sediment transport
- ▶ Next week:
 - ▶ Tour of Oceanographic Instrumentation Lab (meet in lobby @ 10)
 - ▶ Read Leeuw & Boss paper and Eidam et al. papers (in Canvas)
 - ▶ Think about these things:
 - ▶ why did they do what they did
 - ▶ how did they do what they did
 - ▶ how do they suggest (and do you think) improvements could be made