

# GoPhysics

FINEST SELECTION

AMPAD  
*Gold Fibre*

## Computation Book

NAME


Wesley Cooke

COURSE

WIL Autonomous Navigation Book 2

Numbered pages to track information  
Fine quality heavyweight paper

11 3/4" x 9 1/4"  
Ruled 4 squares/inch  
76 Numbered Sheets

 **TOPS**™ PRODUCTS

©2022 TOPS Products LLC. 1001 Rialto Road, Covington, TN 38019 USA  
Made in Malaysia. • Ampad, Gold Fibre and Finest Selection are  
trademarks of TOPS Products LLC. • tops-products.com/ampad

22-157



0 74319 22157 9 REV5



# Table of Contents

1

Date	Project Name	Page
Jan 1, 2024	Land Testing	5
01/08/24	Land Testing	7
01/15/24	Land Testing	9
01/20/24	Walking at Lake Olmstead	13
03/08/24	The Better Figure 8	15
04/12/24	Canal Testing	17
05/24/24	MB1005 Park Sonar Sensor	19
	<del>MB1005 Park Sonar Sensor</del>	
05/28/24	Lidar for Object Detection	25
05/30/24	Land Testing with Lidar	29
05/31/24	Land Testing with Lidar	31
06/04/24	Revisiting the BNO055	33
06/04/24	Fixing the negative Heading	39
06/10/24	Revisiting the Sparkfun GPS	41
06/10/24	Logging GPS data and plotting it on My Maps.	49
06/17/24	Adding Timestamps from the Sparkfun GPS	53
06/17/24	Integrating the New BNO and GPS code	55
05/19/25	Sparkfun GNSS with the library. <SparkFun-U-blox-GNSS-V3.h>	59
05/20/25	Design Notes	59
05/20/25	Battery Maintenance	61



Date	Project Name	Page
05/21/25	Basics of SD Card	63
05/21/25	Surface Mount Soldering Notes	67
05/22/25	<del>DOPTC</del> DOPTC Integration with Arduino Giga	69
05/27/25	1-wire Digital Thermometer DS18B20	73
05/28/25	Introduction to Particle Functions and Variables	77
06/04/25	Reading DOPTC Faster	83
06/06/25	DOPTC I2C Bus Integration	85
06/09/25	Reading the Number of Available Bytes ZEDF9P	87
06/09/25	Notes on the VBX Protocol for the ZEDF9P	89
06/09/25	Reading the NAV-PVT on ZEDF9P without a library	91
06/09/25	KICAD workflow	93
06/10/25	Processing the NAV-PVT Message on ZEDF9P	99
06/11/25	Using U-Center to Configure ZEDF9P	105
06/12/25	Loft, Shell, Boolean tools Onshape for Remote control	107
06/16/25	Plotting and Fitting with GNUplot and Matplotlib	111
06/19/25	Eco Test at Lake Olmstead	117
06/25/25	Notes on Flights	119
07/01/25	Serial Radio Basics	121
07/01/25	Serial Radio Advanced	127
07/01/25	CNC Basics: V-Carve	129