

Oregon State University				Bill of Materials (BOM) Capstone 2022: Robotic Tentacle Arm							ECE.26	
Assembly	Designation	Source/ Manufacturer	Description	Price/unit	Unit	Quantity	Price Total	Mfr. Part #	Amazon Part #	Digikey / Mouser Part # (Electronics)	Purchase Date	Link
Mech. Structure	Prototype parts	XJS	XJS Metal Compression Spring Silver Tone (0.8x11x21mm 40 Pcs)	\$10.99	40 pc / unit	1	\$10.99		B07D75LRMS		11/7/2022	
Mech. Structure	Prototype parts	Pengxiaomei	Clear Fishing Line, 1640 FT/547Yards/500M Monofilament Fishing Wire	\$6.59	500 m / unit	1	\$6.59		B075DYVC3F		11/7/2021	
Mech. Structure	Tentacle parts	NDS	NDS 016005P 1/4" X50' Black Tubing, 1/4-inch x 50-Foot	\$4.48	50 ft / unit	1	\$4.48	016005P	B000LNUYNE		1/13/2022	
Mech. Structure	Tentacle parts	Quickun	Quickun Pneumatic Tubing 1/8" Tube OD PU Polyurethane Tube Air Hose Line	\$12.69	32.8 ft / unit	1	\$12.69		B08PF89JL2		1/31/2022	
Mech. Structure	Tentacle parts	Juvalé	Black Spiral Binding Coils, (12 in, 10mm, 4:1 Pitch, 100 Pack)	\$13.99	100 coils / unit	1	\$13.99	SHBDT	B081DVR79X		1/13/2022	
Mech. Structure	Tentacle parts	Zebco	Omniflex Fishing Line	\$8.44	150 yds / unit	1	\$8.44				1/13/2022	
Motors	Motors	E-S Motor	High Torque DC Worm Gear Motor w/Encoder - 6V, 66RPM	\$9.85	1 pc / unit	10	\$98.50	4632WG-370CA- 90-EN 6V			1/16/2022	
Motors	Motor Drivers	Aideepen	Aideepen 5PCS L298N Dual H Bridge DC Stepper Motor Drive Controller Board Module	\$14.99	5 pc / unit	1	\$14.99		B07L892P54		2/21/2022	
Power Supply	U1	Mouser	MC34063AP	\$0.92	1 pc / unit	2	\$1.84	MC34063AP			2/23/2022	https://www.mouser.com/ProductDetail/595-MC34063AP
Power Supply	D1	Mouser	1N5819 Diode	\$0.50	1 pc / unit	2	\$1.00	1N5819-E3/73			2/23/2022	https://www.mouser.com/ProductDetail/625-1N5819-E3-73
Power Supply	C1	Mouser	390 pF Capacitor	\$0.53	1 pc / unit	2	\$1.06	SA101A391JAR			2/23/2022	https://www.mouser.com/ProductDetail/581-SA101A391JAR
Power Supply	C2	Mouser	12uF Capacitor	\$3.47	1 pc / unit	2	\$6.94	173D126X9020X			2/23/2022	https://www.mouser.com/ProductDetail/74-173D126X9020X
Power Supply	C3, C4	Mouser	100uF Capacitor	\$1.63	1 pc / unit	2	\$3.26	TAP107K006CCS			2/23/2022	https://www.mouser.com/ProductDetail/581-TAP107K006CCS
Power Supply	C4	DigiKey	8200uF Capacitor	\$1.28	2 pc / unit	2	\$2.56				3/4/2022	
Power Supply	SCR	DigiKey	0.273 ohm Resistor	\$0.31	0 pc / unit	4	\$1.24			A138236CT-ND	3/4/2022	
Power Supply	Prototype	Mouser	274 ohm Resistor	\$0.12	1 pc / unit	2	\$0.24	MFR-25FBF52-			2/23/2022	https://www.mouser.com/ProductDetail/603-MFR-25FBF52-274R
Power Supply	R1, R3	Mouser	1k ohm Resistor	\$0.10	1 pc / unit	4	\$0.40	CFS1/4CT52R102		CFS1/4CT52R102	2/23/2022	https://www.mouser.com/ProductDetail/660-CFS1-4CT52R102J
Power Supply	R1, R3	DigiKey	1k ohm Resistor	\$0.12	2 pc / unit	10	\$1.20			A105951CT-ND	3/4/2022	
Power Supply	R1, R3	DigiKey	2k ohm Resistor	\$0.31	3 pc / unit	10	\$3.10			A131620CT-ND	3/4/2022	
Power Supply	R1, R4	DigiKey	6k ohm Resistor	\$0.57	4 pc / unit	4	\$2.28			RN60D6001FB14-	3/4/2022	
Power Supply	R2	Mouser	6k ohm Resistor	\$0.56	1 pc / unit	2	\$1.12	RN60D6001FB1			2/23/2022	https://www.mouser.com/ProductDetail/71-RN60D-F-6K
Power Supply	L1	Mouser	75uH Inductor	\$2.66	1 pc / unit	2	\$5.32	1537R-70J			2/23/2022	https://www.mouser.com/ProductDetail/807-1537R-70JTR
Power Supply	J1	DigiKey	Barrel Jack Header		1 pc / unit		\$0.00			CP-002A-ND	3/4/2022	
Power Supply	JP1, JP2, JP3, JP4	Mouser	Pin Header 2x5	\$0.28	1 pc / unit	5	\$1.40	10129381- 910002BLF			2/23/2022	https://www.mouser.com/ProductDetail/649-1012938191002BLF
Power Supply	JP1, JP2, JP3, JP5	DigiKey	Pin Header 2x5	\$0.15	2 pc / unit	10	\$1.49			2057-PH2-10-UA- ND	3/4/2022	
Power Supply	PCB	Next PCB	PCB Buck Converter DC12-5V	\$1.14	1 pc / unit	5	\$5.71	PE47011ASC1 PO			3/7/2022	
Power Supply	Power Adapter	Amazon	12V 2A 24W Power Supply with 5.5mm X 2.5mm DC Jack	\$11.29	1 pc / unit	1	\$11.29		B09995GSFV		3/4/2022	
Power Supply	Wiring	Amazon	Ginsco 580 pcs 2:1 Heat Shrink Tubing Kit	\$6.99	1 pc / unit	1	\$6.99		B01MFA3OFA		1/13/2022	https://www.amazon.com/gp/product/B01MFA3OFA/ref=ppx_yo_dt_b_asin_title_o00_s01?ie
Microcontroller	System	DTECH	USB to TTL Serial Adapter 3.3V Debug Cable TX RX Signal 4 Pin Female Socket PL2303 Prolific Chip (3ft, Black)	\$12.48	Single Unit	1	\$12.48	DT-6553/1m	B08BLKBK1K			https://www.amazon.com/Serial-Adapter-Signal-Prolific-Windows/dp/B08BLKBK1K?th=1
TOTAL COMPONENT COST:							\$241.59					