

Capstone Project Parts List				
Mechanical Components				
Part Description	Hyperlink	Units Used	Price per Unit	Price per Set
Flanged Bearing	MSC Direct 3/8" ID Flanged Ball Bearing	8	\$ 8.23	\$ 65.84
V-Groove Bearing	RM2-2RS 3/8" Rubber Sealed V-Groove Roller Ball Bearings	7	\$ 9.87	\$ 69.09
3/8" Steel Shaft	MSC Direct Thompson Industries 3/8" Diam, 20" Long, Steel Standard Round Linear Shafting	2	\$ 18.30	\$ 36.60
Metric Steel Shaft	MSC Direct Thomson Industries 8mm Diam, 18" Long, Steel Standard Round Linear Shafting	2	\$ 14.12	\$ 28.24
80-20 Aluminum Extrusion	Provided	NA	NA	NA
Plexiglass (clear)	Provided	NA	NA	NA
1/2" Hard Plastic (white)	Provided	NA	NA	NA
1/2" TyDuct Includes Covering	Provided	NA	NA	NA
Set of Springs (multiple types)	NEIKO 50456A Spring Assortment Set	1	\$ 11.99	\$ 11.99
V-Shaped Cutter	Machine Blades B-905 and B-907	1	\$ 65.00	\$ 65.00
Fastener (nuts, t-nuts, and bolts)	Provided	NA	NA	NA
3/8" Rigid Coupling	MSC Direct Climax Metal Products 3/8" ID Rigid Coupling	2	\$ 17.79	\$ 35.58
Small Metal Conduit	Provided	1	NA	NA
NEMA 23 Stepper Motor Mount	Stepper Online NEMA 23 Stepper Motor Mounts	2	\$ 7.87	\$ 15.74
Ball Screw Assembly	Provided	1	NA	NA
Total		27		\$ 328.08

Electrical Components				
Part Description	Hyperlink	Units Used	Price per Unit	Price per Parts
NEMA 23 Stepper Motor	STEPPERONLINE High Torque Nema 23 CNC Stepper Motor 114mm 425oz.in/3Nm CNC Mill Lathe Router	2	\$ 39.99	\$ 79.98
NEMA 17 Stepper Motor	STEPPERONLINE Nema 17 Stepper Motor Bipolar 2A 59Ncm(84oz.in) 48mm Body 4-lead W/ 1m Cable and Connector compatible with 3D Printer/CNC	1	\$ 13.99	\$ 13.99
Siemens KTP-400 Basic Simatic HMI	Provided	1	NA	NA
Siemens S7-1200 DC/DC/DC PLC	Provided	1	NA	NA
Siemens CSM 1277 Net Switch	Provided	1	NA	NA
15 amp 24 vdc Power Supply	ALITOVE DC 24V 15A 360W Power Supply Universal	1	\$ 23.99	\$ 23.99
4-Wire Stepper Motor Driver	STEPPERONLINE CNC Stepper Motor Driver 1.0-4.2A 20-50VDC 1/128 Micro-Step Resolutions for Nema 17 and 23 Stepper	3	\$ 28.99	\$ 86.97
Euro 2.5 Terminal Blocks:				
Red	Provided	6	NA	NA
Grey	Provided	6	NA	NA
Blue	Provided	3	NA	NA
White	Provided	3	NA	NA
Green	Provided	3	NA	NA
Ethernet Cable	Provided	3	NA	NA
Sticky Base	Provided	1	NA	NA
Wire:				
18 awg Black	Provided	NA	NA	NA

18 awg Yellow	Provided	NA	NA	NA
14 awg Black		1	\$ 105.97	\$ 105.97
Total		36		\$ 310.90
3D Parts				
Part Description	Hyperlink	Units Used	Price per Unit	Price per Parts
Wire Straightener Assembly				
Male	NA	1	NA	NA
Female	NA	1	NA	NA
Puller/Ejector Wheel Assembly				
Wheel	NA	4	NA	NA
Holding Spacers	NA	8	NA	NA
Wire Guides				
Inlet	NA	1	NA	NA
Outlet	NA	1	NA	NA
Motor Mount Assembly				
Bearing Motor Mount	NA	8	NA	NA
Gearing	NA	4	NA	NA
Total		28		0

