Intermediate Robotics
Choate Summer Programs 2022
Assignment Sheet

Dates	Assignment	Description	Files or Materials Needed	Due Date
Week 1 6/27-7/3	Introduction Form	Fill out the introduction form on Canvas	Link on Canvas	6/27/22
	NASA Rap Guide Reading & Reflection Questions #1	Read RAP Design Guide Section 2.1-2.38 (pages 10-30), answer reflection questions in PPT and complete machining activities in PPT	NASA RAP Guide Reflection Questions PPT (files on Canvas)	7/4/22
	Onshape Tutorials #1-2	Complete Onshape tutorials #1-2	https://onshape4frc.com/getting-started	7/4/22
	Engineering Notebook Week #1	Log your progress in your engineering notebook for each class day. Submit a digital version of your notebook on Canvas	N/A	
Week 2 7/4-7/10	NASA RAP Guide Reading & Reflection Questions #2	Read RAP Design Guide Section 3 (pages 31-56), answer reflection questions in PPT	NASA RAP Guide Reflection Questions PPT (files on Canvas)	7/11/22
	Engineering Notebook Week #2	Log your progress in your engineering notebook for each class day. Submit a digital version of your notebook on Canvas	N/A	7/11/22
Week 3 7/11-7/17	NASA RAP Guide Reading & Reflection Questions #3	Read RAP Design Guide Section 4 (pages 57-97), answer reflection questions in PPT	NASA RAP Guide Reflection Questions PPT (files on Canvas)	7/18/22
	Engineering Notebook Week #3	Log your progress in your engineering notebook for each class day. Submit a digital version of your notebook on Canvas	N/A	7/18/22
Week 4 7/18-7/24	NASA RAP Guide Reading & Reflection Questions #4	Read RAP Design Guide Section X.Y (pages X-Y), answer reflection questions in PPT	NASA RAP Guide Reflection Questions PPT (files on Canvas)	7/25/22

	Engineering Notebook Week #4	Log your progress in your engineering notebook for each class day. Submit a digital version of your notebook on Canvas	N/A	7/25/22
Week 5 7/25-7/28	Engineering Notebook Week #5	Log your progress in your engineering notebook for each class day. Submit a digital version of your notebook on Canvas	N/A	7/28/22
	Finish final class projects			

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Lesson Schedule

Week	Day	Lessons/Tasks
Week 1 6/27-7/3	**Monday**	Go over course expectations; go over Canvas page; have class introduce selves and pronouns; tour of shop; shop safety rules; make Onshape accounts
	Tuesday	Introduce CAD model; CAM Lesson #1 – Polycarbonate Plate; cut plate on CNC router; 3D Printing Lesson #1 - Markforged
	Wednesday	Get Fusion 360 licenses; CAM battery bracket parts on own & cute (assistance from instructors as needed); 3D Printing Lesson #2 – Airwolf; Horizontal Bandsaw Lesson #1 – Cutting Hex Shaft; Tapping Lesson #1 – Tapping end of ½" hex shaft; continue 3D printing
	Thursday	CAM rest of polycarbonate plates on battery bracket & cut; continue 3D printing
	Friday	CAM polycarbonate arms on dinglebobs & cut; Chopsaw Lesson #1 – Cut tubes for ball tunnel superstructure to length; continue 3D printing
	Saturday	CAM Lesson #2 – Aluminum Tubes; CAM tubes for ball tunnel superstructure and begin cutting; continue 3D printing
Week 2 7/4-7/10	**Monday**	CAM Lesson #3 – Aluminum Plate; CAM 1/8" aluminum plates & cut; continue cutting aluminum tubes on CNC router; continue 3D printing
	Tuesday	Continue CAM'ing & cutting aluminum plates on CNC router; continue 3D printing
	Wednesday	Continue CAM'ing & cutting aluminum plates on CNC router; continue 3D printing
	Thursday	Continue CAM'ing & cutting aluminum plates on CNC router; continue 3D printing; begin assembly as parts
	Friday	Continue CAM'ing & cutting aluminum plates on CNC router; continue 3D printing
	Saturday	Continue CAM'ing & cutting aluminum plates on CNC router; continue 3D printing
Week 3 7/11-7/17	**Monday**	Continue CAM'ing & cutting aluminum plates on CNC router; continue 3D printing; begin assembly; cut and tap shafts
	Tuesday	Continue CAM'ing & cutting aluminum plates on CNC router; continue 3D printing; assembly; cut and tap shafts

	Wednesday	Continue CAM'ing & cutting aluminum plates on CNC router; continue 3D printing; cut and tap shafts
	Thursday	Assembly; continue manufacturing as needed
	Friday	Assembly; continue manufacturing as needed
	Saturday	Assembly; continue manufacturing as needed
Week 4 7/18-7/24	**Monday**	Assembly; continue manufacturing as needed; begin Python unit
	Tuesday	Assembly; continue manufacturing as needed; Python coding
	Wednesday	Assembly; continue manufacturing as needed; Python coding
	Thursday	Assembly; continue manufacturing as needed; Python coding
	Friday	Assembly; continue manufacturing as needed; Python coding
	Saturday	Assembly; continue manufacturing as needed; Python coding
Week 5 7/25-7/28	**Monday**	Assembly; testing; Python coding
	Tuesday	Assembly; testing; Python coding
	Wednesday	Assembly; testing; Python coding
	Thursday	End of class celebration