

Team Number: \_\_\_\_\_

School: \_\_\_\_\_

## 2016 Software Design and Simulation Score Sheet

Purpose: To document the software design process and practices used for creating and testing the robot program. (25 Points)	Possible Points	Score
<b>SOFTWARE DESIGN PROCESS (180 points))</b>		
<ul style="list-style-type: none"> <li>• Evidence of custom software design versus using the default robot program</li> </ul>	<b>50</b>	
<i>Comments:</i>		
<ul style="list-style-type: none"> <li>• <i>Evidence that a software design process was followed</i> <ul style="list-style-type: none"> <li>○ Identifying the required operations (e.g., locomotion/drive, chassis rotate, arm lift/bend/rotate/extend, claw rotate/open, ...)</li> <li>○ Designing each required operation (e.g., flow charting the steps involved)</li> <li>○ Designing a user-interface (e.g., how the robot will be controlled)</li> <li>○ Test planning (how correct operation of the robot program will be tested)</li> </ul> </li> </ul>	<b>50</b>	
<i>Comments:</i>		
<ul style="list-style-type: none"> <li>• Evidence of advanced testing and debugging techniques utilized to verify the correct operation of the robot program without depending solely on the physical robot (e.g., software simulation via Simulink, virtual world, software-in-the-loop, etc.)</li> </ul>	<b>50</b>	
<i>Comments:</i>		
<ul style="list-style-type: none"> <li>• Evidence that the defined program functionality is applicable to the defined task(s). The program functionality maps clearly to the desired game strategies.</li> </ul>	<b>30</b>	
<i>Comments:</i>		
<b>SOFTWARE DESIGN PRACTICES (55 points)</b>		
<ul style="list-style-type: none"> <li>• Consideration of good software design practices (e.g., commenting, naming conventions, code simplicity, modularity)</li> </ul>	<b>25</b>	
<i>Comments:</i>		
<ul style="list-style-type: none"> <li>• Consideration of error conditions and response actions. (e.g., motor/servo stop limits, out of bounds values, etc.)</li> </ul>	<b>15</b>	
<i>Comments:</i>		
<ul style="list-style-type: none"> <li>• Consideration of code portability and maintainability (e.g., use of variables vs. hardcoding values; use of functions, tasks and subsystems, etc.)</li> </ul>	<b>15</b>	
<i>Comments:</i>		

<b>CLARITY OF DESIGN AND DESCRIPTION (15 points)</b>		
• Clarity of design and description.	<b>15</b>	
<i>Comments:</i>		
<b>Total</b>	<b>250</b>	
	<u>÷10</u>	<u>÷ 10</u>
<b>Final score:</b>	<b>25</b>	

Judge name/number (print): \_\_\_\_\_