

TFES Lab (ME EN 4650)
Spark Engine Lab: Grade Sheet*

Student Name:

Lab Section:

	Possible	Score
1. Plots:		
1a. Torque [Nm] vs engine speed [RPM]	2	
1b. Brake power [kW] versus engine speed [RPM], comparing data and theory	6	
1c. Efficiencies [%] versus engine speed [RPM], comparing data and theory	6	
1d. Work rate terms [kW] versus engine speed [RPM]	6	
1e. Mean effective pressure [kPa] versus engine speed [RPM]	2	
Figure Captions: 2 pts per figure	10	
2. Short-Answer Questions:		
2a. Percent contribution of terms in energy balance	2	
2b. Compare calculated efficiency to Otto Cycle	2	
2c. Estimate average force on piston head	2	
2d. Solution for reducing greenhouse gases	4	
3. Matlab Code: Must include adequate comments for full credit	8	

Total: 50

* see the posted Handout for details regarding the specific requirements for each part