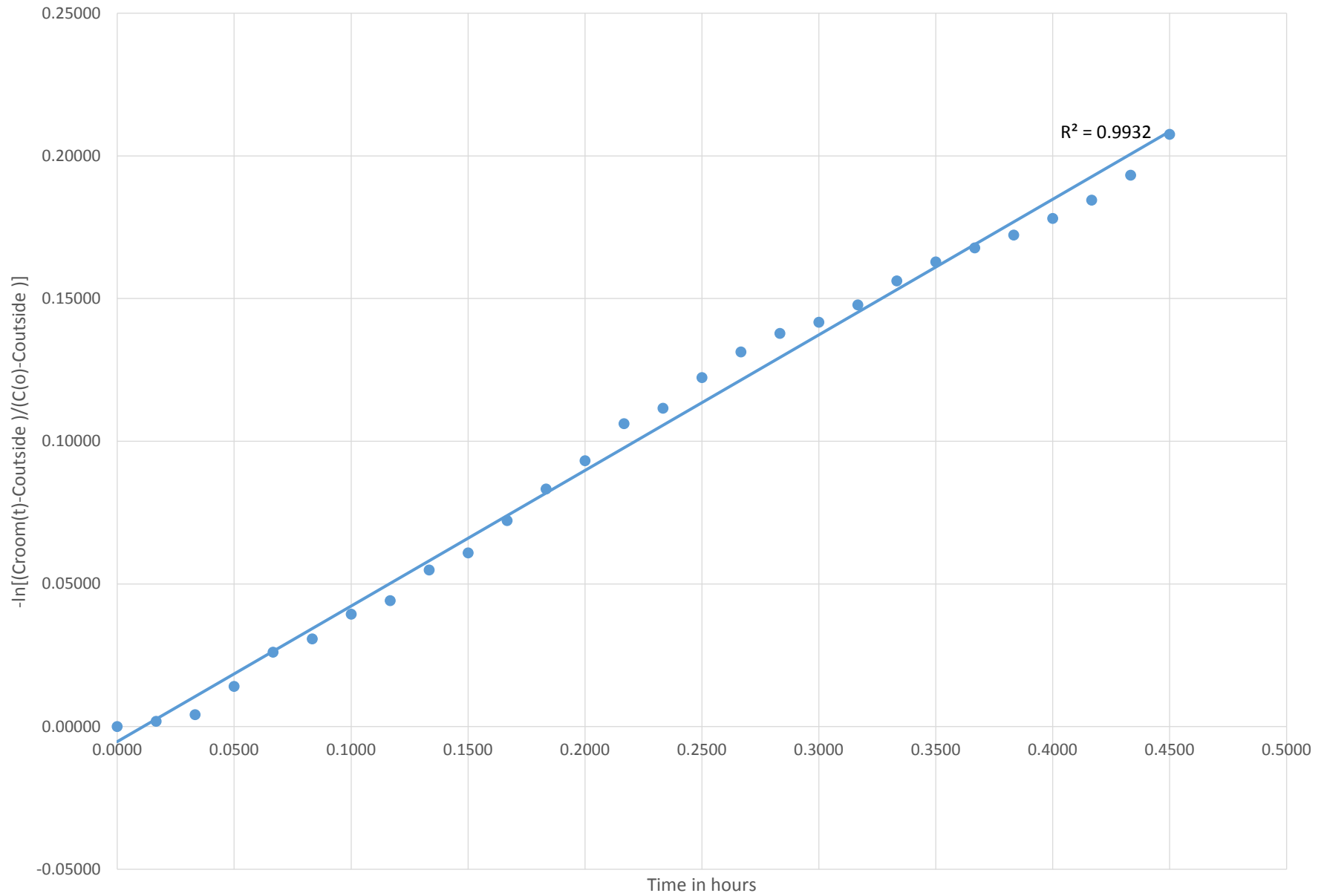


Air exchange rate for dorm room



Romero Perez
ENGR 115
Friday 11:00

8-Apr-16

Input Parameters

Measured out door	445.98
Assumed Outdoor	400
Corrrection Factor	-45.98
Room Volume	933.01
Roomate capacity	5.00
Lambda	0.4579

Calculations

Air Exchange rate (1/hr)	0.4579
Time to remove non-reactive chemical (hr)	6.551648832
Ventilation Rate [ft3/min/person]	1.424089575

measurement	Date Time	CO2 PPM
0	4/1/2016 12:23	2058.6
1	4/1/2016 12:24	2055.6
2	4/1/2016 12:25	2051.9
3	4/1/2016 12:26	2036
4	4/1/2016 12:27	2017.1
5	4/1/2016 12:28	2009.8
6	4/1/2016 12:29	1996.3
7	4/1/2016 12:30	1989
8	4/1/2016 12:31	1972.5
9	4/1/2016 12:32	1963.4
10	4/1/2016 12:33	1946.3
11	4/1/2016 12:34	1929.8
12	4/1/2016 12:35	1915.1
13	4/1/2016 12:36	1896.2
14	4/1/2016 12:37	1888.3
15	4/1/2016 12:38	1873
16	4/1/2016 12:39	1860.2
17	4/1/2016 12:40	1851
18	4/1/2016 12:41	1845.5
19	4/1/2016 12:42	1837
20	4/1/2016 12:43	1825.4
21	4/1/2016 12:44	1816.2
22	4/1/2016 12:45	1809.5
23	4/1/2016 12:46	1803.4

24	4/1/2016 12:47	1795.5
25	4/1/2016 12:48	1786.9
26	4/1/2016 12:49	1775.3
27	4/1/2016 12:50	1756.4

Actual Concetration PPM	Experiment time	$-\ln[(C_{room}(t)-C_{outside})/(C(o)-C_{outside})]$
2012.62	0.0000	0.00000
2009.62	0.0167	0.00186
2005.92	0.0333	0.00416
1990.02	0.0500	0.01411
1971.12	0.0667	0.02607
1963.82	0.0833	0.03073
1950.32	0.1000	0.03940
1943.02	0.1167	0.04412
1926.52	0.1333	0.05487
1917.42	0.1500	0.06085
1900.32	0.1667	0.07218
1883.82	0.1833	0.08324
1869.12	0.2000	0.09320
1850.22	0.2167	0.10614
1842.32	0.2333	0.11161
1827.02	0.2500	0.12227
1814.22	0.2667	0.13128
1805.02	0.2833	0.13781
1799.52	0.3000	0.14173
1791.02	0.3167	0.14782
1779.42	0.3333	0.15620
1770.22	0.3500	0.16289
1763.52	0.3667	0.16779
1757.42	0.3833	0.17227

1749.52	0.4000	0.17811
1740.92	0.4167	0.18450
1729.32	0.4333	0.19319
1710.42	0.4500	0.20751