**IB Physics**

Fluid Mechanics and Gas Laws Syllabus

Chapters 10 and 13

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| A/B | Class  | Due on this class: | If you miss this class: |
| 1**Sept** **6/7** | -Research Project proposals-Density-Pressure/Conversions/Gauge Pressure |   | **Read:** 10.1-4**Watch:** Videos 10: A, B, D (?) |
| 2**Sept** **8/11** | -Hydrostatic Pressure -Pascal's Principle-Demos | **Check:** P10.1: 1,2,4,5,17,18,19, 20,21,27,29,31 | **Read:** 10.5-6**Watch:** Videos 10: C, F, G (?) |
| 3**Sept 12/13** | -More Pascal-Buoyant Forces -Demos | **Check:** P10.1: 32,33,37,38,40, 41,42 | **Read:** 10.6-7**Watch:** Videos 10: G, H (?) |
| 4**Sept 14/15** | -Continuity -Bernoulli's equation | **Check:** P10.1: 45,46,48,49,50, 51,52,53**Turn in:** P10.1: (1,2,4,5,17,18,19, 20,21,27,29,31,32,33,37,38,40, 41,42,45,46,48,49, 50,51,52,53) | **Read:** 10.8-10**Watch:** Videos 10: I,J (?) |
| 5Sept 18/19 | -More Bernoulli-Viscosity-Stokes' law-Research ideas | **Check:** P10.2:1,2,3,6,7,8,16,17 | **Read:** 10.9-11**Watch:** Videos 10: I,J,K,L,M (?) |
| 6**Sept 20/21** | -Reynolds numbers and turbulence -Surface tension-More Demos -Work on Temperature, pressure, pressure conversions, and basic Ideal Gas Law problems.-Work on W13: 1-9 | **Check:** P10.2: 11,12,13,18,19, 21,22,23,26,27,28**Turn in:** P10.2:(1,2,3,6,7,8,16,17,11,12,13,18,19, 21,22,23,26,27,28)**Video Flip: 13: A, B, D,F (≈20 minutes)** | **Read:** 10.13, 13.1-3,5,6-8**Watch:** Videos 13: A, B, D,F  |
| 7**Sept 22/26** | -Work on FAs-Finish Ideal Gas, work on Combined Gas Law problems-**Absolute zero practical lab.** -Work on W13: 10-19 | **Video Flip: 13: G (≈7 minutes)****Check:** P13.1 1-9 | **Read:** 13.1-3,5,6-8**Watch:** Videos 13: G |
| 8**Sept** **27/28** | -Research Proposals discussion-Work on FA 10.1, 10.2, 13.1, 13.2 | **Video Flip: 13: C (≈10 minutes)****Check:** W13.1 10-19**Turn in:** Absolute Zero Lab | **Watch:** Videos 13: C |
| 9**Sept 29/****Oct 2** | **Summative Assessments on:****10.1 - Fluid Statics****10.2 - Fluid Dynamics****13.1 - Ideal Gas Law** | **Turn in:** FA 10.1, 10.2, 13.1, 13.2**Turn in:** P13.1: 1-19Turn in **all** formative work you want credit for from 10.1, 10.2, and 13.1 | **Make up your tests** |
| **Oct** **3/4** | **Thermodynamics!!** | **Turn in:** Research Proposals |  |

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| Four Formative/ Three Summative Assessments: (10 pts)* 10.1 - Fluid Statics
* 10.2 - Fluid Dynamics
* 13.1 - Ideal Gas Law
* 13.2 - Kinetics (no summative)

Three Formative Homework set:* P10.1: 1,2,4,5,17,18,19, 20,21,27,29,31,32,33,37,38,40, 41,42,45,46,48,49, 50,51,52,53 /54 pts
* P10.2:1,2,3,6,7,8,16,17,11,12,13,18,19, 21,22,23,26,27,28 /38 pts
* P13.1:1-19 /38 pts

One Lab:* Absolute Zero (20 pts)
 | Handouts:* Worksheet-13.1-PressureTemperatureIdealGasLaw
* Worksheet-10.2-FluidDynamics
* Worksheet-10.1-FluidStatics
* FA10.1
* FA10.2
* FA13.1
* FA13.2
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