

# Chemistry extra credit

[Science](#), [Chemistry](#)



Tim Bruce The subject that I will be focusing on through the course of this extra credit paper, is one about the combination of Aerospace Engineering and Chemistry. Chose this particular topic because of my future lifegoals. Which include getting a degree in aerospace engineering. Also became interested while researching for this paper in a particular sub topic of the TV which is called aerodynamicist's.

Aerodynamicist's is the study of gases which takes into account the effect of motion, heat, and chemical changes. Which is important to the field of aerospace engineering in the fact that aerospace engineers design aircraft, spacecraft, satellites, and missiles. In addition, they test prototypes to make sure that they function according to design. So you can see how the two connect. But exactly what kind of chemistry is involved?

Obviously chemistry is deep rooted into Aerospacetechnology.

Aerodynamicist's primarily focuses on molecular interactions at typically high Mach Numbers, such as that seen in a combustion chamber of a rocket or that of a reentry vehicle. So although aerospace engineering is typically design and building oriented you would absolutely need a chemists back round when thinking about these types of things. Anything involving materials and processes also involves chemistry.

Examples include, failureanalysis of microcircuit packaging contaminant analysis, corrosion problems, electroplating and conversion coating problems, paint adhesion problems, thermoses polymer failures, evaluation of urological and thermal properties of prepares, adhesives, laminates and Adair absorbing coatings, soldering problems, firing pin failures, surface

cleaning, alloy analysis, and process tank analysis. All of which are inside the aerospace field.

But these are only a small amount of connections that Aerospace engineering and chemistry have together. But as stated before in the examples we see that included was a lot of rockets and when you think of rockets many will tend to think about NASA- Now NASA has been synonymous with space travel since its creation. But few tend to recognize the men behind the scene, when they see a space shuttle take off into orbit.

The men and women of Aerospace engineering need to take into account not only the rocket but also the astronauts that pilot the space craft. When designing these machines, biological and chemical actions that will take place in the astronauts bodies. For instance what kind of chemical changes might happen to our bodies while piloting this space craft or how to limit the amount of g force put on the pilots as they take off and many many more factors.

This diagram, although very simple to what aerospace engineers use, gives you a look into how many factors such as altitude, angle, speed, and maneuver time effects g force. So as you can see chemistry is deeply involved in the field of aerospace engineering. But not only that chemistry is involved in everything we do. It is everything, and everywhere.