

FYS Faculty Meeting - October 25, 2019

Overview of my FYS section: Why Are You Here?

Components of Theme: Thinking, Doing, and Being in College; Your Goals and the Roads to Get There; Higher Education: Past, Present, and Future

Sample Key Activities: Multitasking Activity; Analysis of Nitrogen in Tires article; Major Plan of Study Assessment; How Has Marshall Changed?; Final Project

Multitasking Activity:

I am a great multitasker.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Nitrogen in Tires: Do You Need It?

From <https://cars.usnews.com/cars-trucks/best-cars-blog/2016/12/nitrogen-in-tires-do-you-need-it>

- By [JACLYN TROP](#) 01:38PM Dec 06, 2016

You've seen signs outside of auto repair shops boasting that they fill tires with nitrogen rather than regular or compressed air. These businesses, and their customers, say that the nitrogen enhances a vehicle's handling and extends the life of its tires. The claims sound impressive, but do you really need to spring for this special gas?

Of course, air is primarily composed of nitrogen anyway, but the two gases have diverse properties that affect your tires differently. The air we breathe, and tend to fill our tires with, contains roughly 78 percent nitrogen, 21 percent oxygen, and traces of carbon dioxide, water vapor, and noble gases such as neon and argon. Nitrogen is an inert gas that doesn't react to other substances, while oxygen produces water vapor, which corrodes substances and could alter your tires.

Advantages of Nitrogen

The main reason that some repair shops and other automotive professionals choose to fill tires with nitrogen is to reduce a temperature swing's effect on tire pressure.

"Nitrogen isn't as susceptible to temperature changes as oxygen," says Karl Brauer, senior director of content for Kelley Blue Book. "But our air has 78 percent nitrogen in it already, so you're not getting that much of a benefit from pure nitrogen versus regular air."

Nitrogen does offer some advantages over regular compressed air when filling tires. Since the molecules that comprise nitrogen's chemical structure are larger than oxygen's molecules, nitrogen is less likely to seep through rubber, the prime culprit for deflated tires. This keeps the tire pressure more stable over the long term, especially during extreme variations in temperature.

"Nitrogen-filled tires are less susceptible to temperature swings, so the tires are more likely to maintain constant pressure under a wide variety of temperatures and vehicle speeds," says Ed Kim, vice president of industry analysis at automotive research firm AutoPacific. "Part of this is due to the intrinsic qualities of nitrogen over air, but part of this is also because air has water vapor in it (humidity), and humid air is also more susceptible to pressure changes as a result of temperature."

Water vapor can also have a corrosive effect on certain components of the tire, such as the sensors used by tire pressure monitoring systems. The corrosion can cause the sensors to wear out faster. Pure nitrogen has no water vapor, so using it eliminates this potential issue.

What's So Important About Maintaining Tire Pressure?

Therefore, we know that nitrogen helps maintain proper tire pressure better than regular air, but why is it important? Tire pressure is key in maintaining traction between your vehicle and the street. Properly inflated tires keep you safe on the road: under-inflated tires are estimated to cause as many as 10 to 25 percent of blowouts, and studies show that 42 percent of drivers are unable to identify low tire pressure in their vehicles.

Keeping your tires pressurized can help you save money, too. Experts say that American drivers waste millions of gallons of fuel daily due to underinflated tires. Furthermore, underinflated tires are more susceptible to wear and tear, which means you might have to spring for a new set more often.

Unless You're on the Track, Stick With Air

However, some driving professionals say that it's not necessary to fill your tires with nitrogen if you're using only your car for daily driving or situations where you need to tweak your tire pressure within a fraction of psi. Regular air is also cheaper and more accessible than nitrogen, which can cost more than \$5 per tire to inflate and is not available at all service stations.

"It's a performance advantage on the track," says Danny Buxton, drive team leader for McLaren Automotive. "For the average driver, nitrogen provides very little benefit."

Since the increments in pressure change due to temperature fluctuations is relatively small, the "amount of change is worth considering for race cars, which is why race teams will use pure nitrogen," Brauer says. "For people driving street legal cars on public roadways the change between regular air and pure nitrogen isn't enough to make a meaningful difference."

What Nitrogen Can't Do

Though the gas might extend the life of your tires, it's important to note that airing up with nitrogen won't make you a better driver or enhance your car's performance.

"What nitrogen will not do is improve ride, handling, or braking," Kim says. "Really, the benefit here is nitrogen's better ability over air to maintain a constant pressure in the tire under a variety of conditions."

Name _____

Major Plan of Study Assessment

Courses that Sound
Interesting/Enjoyable

Courses that Sound
Boring/Unenjoyable



You have multiple choices to fulfill requirements within the Core Curriculum. Which ones would you most want to take? Why?

Which courses that are on the “unenjoyable” list are ones that you think will be useful? What value do you see in them?

Having looked at this list, do you feel that your degree program is tapping into your Element? Why or why not?

How Has Marshall Changed? - Morrow Library Assignment

To complete this assignment, you will need to visit the second floor of Morrow Library where they have past editions of Marshall course catalogs and the Parthenon. You will choose a single year from the range given to look up the information to answer the following questions.

Part 1 – Catalog Comparison

Obtain a course catalog from one year from the range of

What was tuition?

What was room and board?

Who was the president of Marshall?

What was the total enrollment?

What were the divisions (schools or colleges) of Marshall?

Find the description of a course similar to one you are taking now (English, math, history). How is the course described?

Find a course that is probably no longer offered here. What was the name of the course and what did it cover?

Part 2 – Parthenon

Choose a year that is important to you (the year you were born, the year your parents got married, the year your grandparent was born, etc.), and find an issue of the Parthenon from that year.

What year did you choose?

Find a story from that year about academics. What was the headline? Write a brief summary of what the story was about.

Find a story from that year about student life. What was the headline? Write a brief summary of what the story was about.