

forensic science.

how do you *know*?  
what will you *find*?



January  
2020



### Hello Parents and Students!

Welcome to **Forensic Science** with Mr. Edwards. I am excited for the start of a new semester, and I hope you are feeling positive and encouraged to learn!

A little about me: A Raleigh native and a WCPSS graduate, I recently moved back to North Carolina after three years teaching at an international school in São Paulo, Brazil. This is my first year as a teacher at Heritage, but it is my 10<sup>th</sup> year teaching High School Science. I graduated in 2010 from NC State (Go Pack!) studying Chemistry and Science Education and again in 2014 with a Masters Degree in “Global Literacies.”

Travelling is my favorite hobby, along with exercise, reading, watching movies, and being outside when it’s sunny. In my classroom, I enjoy helping students connect important science concepts we are learning with their daily experiences beyond the school walls, but especially how we can use Science to respond to important global issues such as climate change, sustainability and conservation, inequality, and technological development. I also teach Earth and Environmental Science here at HHS.

Since Science is a subject where some students like to have a little extra help, **I will be offering weekly “help sessions” each Tuesday after school in my classroom (Room 2516)**, and other times by appointment. Students can also contact me directly by **email** with any questions:

[jaedwards@wcpss.net](mailto:jaedwards@wcpss.net)

**Mr. Josh Edwards**



### Supplies you’ll need for this class:



☐ **Daily materials** such as notebook paper, pencils, pens, erasers, highlighters, colors, and a personal calendar are very important for organization and preparation. (Students are encouraged to take notes by hand and not by typing.)

☐ USB flash drive to use during research projects and digital assignments.  
☐ Personal “**BYOD**” device for in-class research and digital projects (if able)

☐ Head phones for your personal “**BYOD**” electronic device **AND** for *conventional* audio jacks



☐ 1 box (~100) **disposable “examination” gloves** (non-latex)





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## What is Forensic Science?

“Forensics” refers to the use of evidence and scientific ideas - Earth and Environmental Sciences, Biology, Chemistry and Physics, Mathematics, Psychology and Sociology - to investigate and inform unknown circumstances. While we often think of this in terms of violent crimes, there are actually many other situations where Forensic investigation and analysis is useful. In this course, students will be asked to use each of those branches of Science and the Humanities to answer questions about crimes and unknown events and scenarios.

From TV shows, movies, books, and what they’ve seen on the News, many people think that Forensics is all about proving how crimes happen and who is guilty. This idea assumes, though, that all evidence is reliable and that investigators always interpret that evidence correctly and fairly. How do we really *prove* it? How do we *know* something happened *how* it happened *when* it happened involving *who* it involved? And can we really *prove* anything? How do we *know*? What will we *find*?

## What am I expected to learn?

**Forensic Science** is an interdisciplinary course that provides students the unique opportunity to look at how Science works in the professional, “real world” setting in combination with branches of Social Studies such as History, Psychology, Sociology, Ethics, Politics, and Economics. Students will consider the “big picture” impacts of scientific procedures and how they are applied to other fields, and combine what they have learned and are learning in all different subject areas, along with their personal experiences and perspectives, to draw conclusions and make evaluations of how Science is used and whether or not it is reliable. This course will give students the chance to not only learn about the specific scientific techniques and theories used as evidence in legal cases, but also to critique how these techniques are interpreted and applied. Some of our core concepts will include:

- the history and origins of “Forensic Science” as a field of study, its reliability and limitations, and it’s place within the Sciences, Social Studies, and the American criminal justice system;
- the impacts of popular media in the public’s awareness and preconceived notions about “Forensics,” and how this has influenced the field and its use in legal cases;
- the importance of reliable, scientific evidence and the role it plays in being able to draw reasonable, reliable conclusions about unknown events or scenarios;
- the ways in which human actions and preconceived notions can change how evidence is analyzed, evaluated, understood, and interpreted;
- the many categories and types of evidence – such as blood and DNA, fingerprints, documents and digital traces, and other biological remains – that can be collected and how these can then be examined and analyzed in order to draw conclusions about what likely did or did not happen during an unknown event or scenario;
- the developing, new technologies, theories, and social understandings that are currently changing the field of Forensics, its scientific techniques, and how it is used outside of the laboratory;

**Parents and Guardians – Help your student!** This is your student’s *first* assignment of the school year:

Mr. Edwards would like to start off this school year will open communication! Please send an email on behalf of your student before the morning of **Monday, February 3<sup>rd</sup>**. Mr. Edwards will use this contact information to keep in touch with the important adults in students’ lives throughout the year. Please include the following information:

- The student’s name and class name and period** (like “3<sup>rd</sup> Period Forensic Science”)
- The adult’s name, occupation, and relationship with the student**
- A phone number and/or email address where the adult can be easily reached, and a good time to call**
- Safety information that your students’ teachers should know, especially allergies**
- Any important information Mr. Edwards should know about your student and their learning**

This email will also confirm that students have shared the information in this newsletter with their parents or guardians. Feel free to include any questions you have for Mr. Edwards about the course or these expectations.







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## Classroom expectations for Mr. Edwards' Science classes:

Heritage High School sets high expectations for all students' academic and personal achievement, and this includes their choices and actions – the way they set goals for themselves and strive to meet those goals, the way they interaction and treat others around them, and the way they take care of our school community's resources. HHS encourages all of our students to take a **R.I.S.K.** in every choice they make: **Respect, Integrity, Self-Discipline, and Kindness** are expected of all students at all times, and students will be held accountable to these expectations throughout the school.

In Mr. Edwards' Science classroom, students show **R.I.S.K.** by meeting each of the following classroom expectations every day:

- I am in my **seat**, materials **ready, working** on today's *Warm Up* when it is *time* for class to start. I am ready to learn when I walk into the classroom.
- I follow directions the **first** time they are given.
- I am consistently on **task, focused** in the best way that *I* can. I use electronic devices appropriately – when directed by my teacher and for a specific, class-related purpose.
- I follow all **safety procedures**, at all times.
- We take care of **each other** and our **classroom**. We **support** and **learn** from one another, and we **value** one another's **differences**.



Students are expected to follow school policies in Mr. Edwards' classroom, including HHS' "**Bring Your Own Device**" (BYOD) guidelines. Students are welcome to bring their own electronic device from home – laptop, Chromebook, tablet, smartphone – to use in their classes for educational purposes as directed by their teachers. We are also privileged to have a small set of laptops provided for our classroom. These devices provide great access for our class to use many online resources and digital tools, but they can often serve as a distraction that interferes with learning. **All devices are to be turned off and completely put away unless Mr. Edwards has invited students to use these for a specific, class-related purpose.** If students struggle to follow this expectation, the device will be held by Mr. Edwards.

## An important comment from Mr. Edwards about the content of this course:

"High School Forensic Science courses often include content – images, video, discussions, types of evidence and scientific techniques – that can be difficult for some students, especially those who are sensitive to certain topics. The purpose of these concepts is never to make anyone feel uncomfortable or targeted, but is instead to provide authentic experiences and examples from the Forensic field for students to engage with. **Each student is accountable for approaching this class and its content with maturity and responsibility.** For this reason, Forensic Science is limited to only upper classmen at HHS. However, this does not mean that every student is personally ready to deal with these complex issues or images.

I will never introduce intentionally gruesome images or content in our class, and I will always make students aware if I believe there is a chance some might be uncomfortable with an idea that is likely to be mentioned. My goal is to engage all of my students in meaningful conversations about Science and its connections to the broader Global context, and to challenge students to step outside of their comfort zone and examine complicated issues and ideas in ways that might be different than they had previously thought.

If at any point, a student or their parent or guardian has any concerns about these topics or their personal readiness to tackle them in an educational environment, please contact me via email: [jaedwards@wcpss.net](mailto:jaedwards@wcpss.net)"

- **Mr. Edwards**



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**GRADE**

**Where does my grade come from?  
How will I show my learning?**

The professional field of Forensics sets a rigorous level of expectation for its investigators and technicians. In this **Honors-level** course, students will also be held to high standards, with grading based on meeting daily and ongoing expectations of professionalism, scientific understanding, ethical practices, and reliability. **Students' grades will be based on a "total points" calculation of scores earned on tests, quizzes, projects, laboratory and other hands-on activities, homework, classwork, and other on-going assessments.** At the end of the semester, a **teacher-made final exam** will count as the final 20% of each student's overall, final course grade. Assessments and assigned work will be strategically designed to prepare students to show their learning of important Science concepts, aligned to the standards and expectations for this course, and to be successful on this final test.

Since different students learn and succeed in different ways, our class will always include a wide range of different assignments for students to show their learning. The following list shows broad categories of assignments and their typical point values that will be used to calculate in-progress and Quarter grades, based on each student's individual work and demonstrated understanding:

<b>Tests and projects</b>	~100 points	<b>Classwork</b>	~30 points
<b>Quizzes</b>	~50 points	<b>Homework</b>	~30 points
<b>Labs and other activities</b>	~50 points		

**This course also has a large project-based component, wherein students will be regularly expected to work collaboratively and independently to conduct research, investigations and scientific procedures, and share their learning with the class in at least three different formal presentations.** These assignments will take place throughout the semester, emphasizing students' understanding and ability to use the content rather than superficial aspects such as "looking pretty." Often, time will be offered to students to complete major assignments during class. **Every student is expected to use their time in class wisely and appropriately. Every student is expected to put their best efforts forward, contributing to their small groups or the class as a whole.** In line with the expectations of professional Forensic Scientists, how effectively students use their in-class work time, how constructively they work in teams, and how they utilize independent research and high-quality, reliable resources will be considered an important part of major assignment grades. Students will consistently be asked to show their growing understanding in different aspects of the Sciences, including their knowledge and understanding of Science concepts, their ability to effectively communicate scientific information and use scientific resources, and their application of scientific inquiry to answer meaningful questions. Students will regularly be asked to show how these scientific concepts fit into the broader context of Forensics in the Criminal Justice system and societal inequities.

Your teacher will clearly communicate all deadlines and due dates during classes; it is very important that students keep track of and follow these expectations. Assignments that are submitted after the time and date they are due are subject to the HHS "late work" policy, including a reduction in score and the possibility of a "0%" grade.

Students who struggle on tests or other major projects will be offered an opportunity to recover their grade via our class' reassessment plan. **When a student is concerned about their grade, they are encouraged to schedule time with their teacher to discuss the assessment, struggles, and a plan for moving forward.**

Our class website: [jedwardschem.weebly.com](http://jedwardschem.weebly.com)



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HHS Science is always thankful for families who are able and willing to support our classes with extra supplies. If you would like to contribute, consider the following requests from Mr. Edwards:

- **Paper towels**
- **Tissues**
- **Hand soap**
- ***Distilled water***

