

2013 TTUISD SUMMER CAMP – COURSE OPTIONS

OPÇÕES DE CURSOS NO CAMPUS DA TTU EM LUBBOCK

Cada aluno deverá indicar duas preferências de cursos (em ordem de preferência) para fazer pela manhã (*morning courses*) e duas para fazer na parte da tarde (*afternoon courses*). Como o aluno só poderá fazer 1 curso de manhã e 1 curso de tarde, a ordem de preferência indicada servirá para guiar o preenchimento das vagas de acordo com os interesses e a demanda. Dependendo do número de inscritos, mais de uma turma poderá ser formada. Da mesma forma, se um curso não tiver número suficiente de inscritos, o mesmo não será oferecido. A TTU tentará atender à primeira preferência de curso indicada pelo aluno, porém, caso isso não seja possível, por qualquer razão, a segunda preferência indicada será considerada. A lista abaixo é divulgada somente em inglês e poder sofrer pequenas alterações internas, devidamente comunicadas aos participantes.

SHAKE HANDS WITH YOUR FUTURE (SHWYF)

MORNING COURSES NO CAMPUS DA TTU EM LUBBOCK

- **Architecture:** In this class you will become acquainted with architecture and its diverse elements and opportunities. You will experience architecture through hands-on design projects. This course stresses creativity and abstract thought and is designed to prepare you for the many aspects of architectural education.
- **Environmental Engineering:** In this class, you will learn how engineers solve problems while implementing planet friendly technologies. You will learn about cutting edge research, environmental challenges and the scope of the discipline. Through hands on experiments, you will gain insight about the inter-disciplinary nature of the field and learn about the academic skills necessary to succeed.
- **Clinical Lab Science:** Are you interested in becoming a medical detective? Learn how disease is investigated in the medical laboratory. You will have to learn and perform some clinical laboratory techniques in hematology, immunology, clinical microbiology, clinical chemistry, and transfusion services (blood bank). This class is conducted at the Texas Tech Health Sciences Center.
- **Robotics:** You are invited to discover the precise world of engineering design! In this project oriented class, you will work in teams to focus on a specific design problem, develop creative solutions to that problem, select the best solution, and then build a scale model. This course uses LEGO products.
- **Business and Markets (to be confirmed):** AWAITING DESCRIPTION
- **Forensics (to be confirmed in the morning):** Roll your sleeves up and prepare for a hands-on

introduction to forensics. You will participate in fingerprint detection and identification. You will learn about hair and fiber examination, document examination, and the critical role of DNA.

■ **Wind Science ("Run on The Wind" - to be confirmed either in the morning or in the afternoon):** In the near future, clean renewable energy sources will provide much of the electricity for the world's population. Wind power production is rapidly expanding, dotting the landscape with spinning turbines that promise the delivery of clean energy. "Run on The Wind" will provide young scholars an introduction to the field of wind science and an opportunity to consider wind science as a future academic pursuit.

SHAKE HANDS WITH YOUR FUTURE (SHWYF)

AFTERNOON COURSES NO CAMPUS DA TTU EM LUBBOCK

■ **Law:** Why do we need lawyers and judges? What careers in law are available outside the courtroom? Discover what law is, why we have it, and what lawyers and judges really do. You will visit a courtroom, do research and participate in a mock trial.

■ **Theater Arts:** Do you want to become an actor or just become more confident? By exploring basic techniques (voice, movement, diction, and steps to conquer stage fright), you will be on the road to becoming a true master of the art of acting.

■ **Forensics:** Roll your sleeves up and prepare for a hands-on introduction to forensics. You will participate in fingerprint detection and identification. You will learn about hair and fiber examination, document examination, and the critical role of DNA.

■ **Science in the Lab ("In the Lab"):** The pursuit of science is an interdisciplinary endeavor. Through hands-on experiments, you will explore a number of fields like medicine, biology, chemistry and physics. If you are interested in gaining information to focus your academic path, or just want to learn more about several scientific disciplines, this class is for you.

■ **Electrical Circuits ("Electrify Your Life with Circuits!"):** Do you wonder how a cell phone works? How about a hair dryer or a television? Build an understanding through hands-on activities and learn to construct circuits with switches, light bulbs and more. Design your own final project with real-life applications.

■ **Medical Science (to be confirmed):** Are you interested in becoming a medical doctor? This class is conducted at the Texas Tech Health Sciences Center.

■ **Engineering (to be confirmed):** Are you interested in becoming an Engineer? Then this class is for you.

OPÇÕES DE CURSOS NO CAMPUS DA TTU EM JUNCTION

Cada aluno deverá indicar duas preferências de cursos (em ordem de preferência) para fazer durante o dia (daytime courses) e duas para fazer à noite (evening courses).

A ordem de preferência indicada servirá para guiar o preenchimento das vagas de acordo com os interesses e a demanda. Dependendo do número de inscritos, mais de uma turma poderá ser formada. Da mesma forma, se um curso não tiver número suficiente de inscritos, o mesmo não

será oferecido. A TTU tentará atender à primeira preferência de curso indicada pelo aluno, porém, caso isso não seja possível, por qualquer razão, a segunda preferência indicada será considerada. A lista abaixo é divulgada somente em inglês e poder sofrer pequenas alterações internas, devidamente comunicadas aos participantes.

DAYTIME COURSES NO CAMPUS DA TTU EM JUNCTION

■ **Aquatic Biology:** A hands-on experience in the South Llano River. This unit involves instruction in metamorphosis, and collection and assessment of macro-invertebrates from the river. Students will gain an understanding of the interconnected nature of water health and water life. Each student has access to a multitude of tools that help them learn to evaluate and draw conclusions about water quality and how to protect our watershed. The new Watershed unit is a great complement to Aquatic Biology.

■ **Energy Studies ("Circuits"):** Students apply learned concepts about electricity and energy to build a variety of closed circuits using renewable and nonrenewable resources. Hands-on manipulation of tools is key in this unit. The conservation aspect of this unit explores small- and large-scale uses of alternative energy sources.

■ **Geology:** A field adventure that takes the students to an off campus site where they can experience the skill involved with being a geologist. Students will use safety tools and rock picks to collect and test rock samples in order to discover the type of rock in an area. Instruction includes learning about minerals, sedimentary, igneous, and metamorphic rock and their characteristics.

■ **Flora and Fauna Hiking:** As the students travel down picturesque hiking trails, they are engaged in learning about various plants and their adaptations to the environment. Students use a field guide to identify flora and fauna native to the area.

■ **Hot Air Ballons (Buoyancy Unit):** Students learn about density and buoyancy before building their very own hot air balloons. Pairs of students build and fly their creation measuring each flight to determine an average length of flight.

■ **Orienteering:** A scavenger hunt designed to apply learned compass and map skills, as well as enhance problem solving and teambuilding skills. Compasses and instruction are provided prior to beginning the course.

■ **Soil Science (Pedology):** Manipulation of various types of soil. Students discover how to compare the texture and permeability of soil samples, learn how soil properties affect organisms and plant growth through soil sampling, and perform soil tests such as pH and organism collection.

■ **Quail CSI:** Students will be hiking in a natural quail habitat in order to investigate crime scenes. They will work together to draw inferences based on observations and will analyze clues to identify perpetrators of nest depredation. Students will gain an understanding of how the predator-prey relationship affects populations of quail. Finally, students will identify various adaptations of predators and prey.

■ **Teambuilding:** Teambuilding activities focus on the 3 C's – Communication, Cooperation, and Commitment. Students learn to function together as a group and make new friends during these engaging activities.

■ **Understanding Watersheds:** This is a brand new curriculum choice that meshes well with Aquatic Biology. Students will learn that they are always in a watershed, what makes a watershed healthy, and the importance of plant life in a watershed. This unit includes the popular rain water simulator as well as the water cycle.

EVENING COURSES NO CAMPUS DA TTU EM JUNCTION

■ **Astronomy:** Students work inside on a hands-on moon phase activity, then head outside to view our beautiful night sky and learn some constellation myths. With a variety of equipment (telescopes, binoculars, iPads, etc) available for student use, this is an evening favorite of students as well as teachers.

■ **Challenge Course:** Students are placed in small groups and work together to strategize an order for visiting flags placed around our TTU Junction campus. Each group receives $\frac{1}{2}$ of the available points for finding the flag and the other $\frac{1}{2}$ for answering a question about the week correctly. This activity is a great review of the week's units and activities and also allows for map reading practice, teamwork and some friendly competition.

■ **Ornithology:** Students spend time in the classroom learning about the Great Horned Owl's unique adaptations that place this predator at the top of the food chain. Excitement grows as students dissect an owl pellet to determine what the owl ate. Proper safety techniques are embedded in this lesson. After reading a story that relays to students important information to aid in calling an owl, we head outside to see if we can be successful at owl calling.