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*Airway Science  
for Kids*

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[www.airwayscience.org](http://www.airwayscience.org)

formerly Warren Lee Strickland Foundation, Inc. dba  
*Centers for Airway Science*

***FLIGHT PLAN***

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**“Red Tails”**

**Special Film Screening Edition**

**The Official Newsletter of Warren Lee Strickland Foundation, Inc.  
Airway Science for Kids / Centers for Airway Science**

Michael “Chappie” Grice  
Executive Director

## **“Flight Plan”**

The Good News Letter for the Robert Strickland  
***Centers for Airway Science/Airway Science for Kids***  
Special “RED TAILS” Edition, January, 2012

### **Portland, Oregon is home for the Airway Science for Kids/Centers for Airway Science.**

In November, 2011, we celebrated having more than 100 middle school youngsters complete “basic training” in the simulator lab; and nine consecutive tri-semesters at Portland Community College Cascade, since June, 2009.

As fast as we could settle the wonderful vibrations that “good news” creates, we got more good news. The new George Lucas film classic “**Red Tails**” is being screened for our young cadets and is hosted by 20<sup>th</sup> Century Fox Studios in Portland, on January 19<sup>th</sup>. This film, destined to be a classic, chronicles the events and captures the spirit as well as the celebrated aviation skills of these African American pilots who suffered much indignity and executed superior war-time aviation skills before being welcomed into the military. In fact, they were confined to the most menial of aviation jobs among the Army Air Squadrons.

Recently, the TEEN FLIGHT component of the Airway Science for Kids completed the construction of an RV-12 engine aircraft. These students worked for more than one year piecing together parts from an “airplane kit” into a finished product, certified by FAA and flown to the annual airshow in Oshkosh, Wisconsin. Too remarkable for words compared to most out-of-school activities, this component of the program has received acclaim and news coverage. Dick Van Grunsven, owner of Van’s Aircraft, and board member, Aron Faegre, led the sponsors group for this unique and inaugural effort along with members of the Columbia Aviation Association.

Classes are going strong at PCC Cascade Campus, and our partnerships are growing, especially with local schools in the Portland Public Schools. It is well recognized by the community that PCC, and especially Campus President Dr. Algee Gatewood, favor the Airway Science program. Since our first year of revitalizing the program after the death of founder Mr. Robert Strickland, we have had relationships with the famed **Tuskegee Airmen**. On two occasions, Tuskegee Airmen Alex Jefferson from Detroit, Michigan and the late “Wild Bill” Holloman have visited our flight simulator lab.

Don Amon, long-time Hillsboro instructor, has diligently protected the inevitable revival of the flight simulator lab at the Hillsboro Airport classroom. He reported, recently, that after a long drought, his classroom is budding again. We will be working with Hillsboro Public Schools to recruit students and volunteers.

Then, through the good offices of Mr. James Bowles; Cascade Campus President, Dr. Algee Gatewood; and Mr. Cottrell B. White, Jr., Volunteer Instructor Coordinator, we have a new partnership with the Aviation Studies program at the PCC Rock Creek Campus. Mr. Larry Altree, director, and Mrs. Katie Leonard, lead instructor, have offered accelerated credit for aviation studies students to spend support time at our flight simulator labs. Another “win-win” situation: PCC Rock Creek students get invaluable exposure to the teaching learning dynamic; and we get instruction from young aspiring pilots, who by the way, are motivated to acquire the knowledge that is leading to a career in aviation.

## **"Flight Plan"**

The Good News Letter for the Robert Strickland  
*Centers for Airway Science/Airway Science for Kids*  
Special "RED TAILS" Edition, January, 2012

**In 2010**, we were connected to national figure Mr. Robin Petgrave, Founder of the renowned aviation program "**Tomorrow Aeronautical Museum.**" This program is the site where the 15 year old girl flew cross country with a team of the Tuskegee Airmen in summer, 2009. Mr. Alexander Jefferson, Tuskegee Airman, invited us to connect with the ACE aviation program in Detroit. In fact, it was on this occasion at Reflections Bookstore, Wednesday, April 21, 2010 that several of the "cadets" surprised a lot of people when they showed up on their own, amid elders, for the Tuskegee Airmen's book signing.

**In Atlanta**, we are now connected to the ACE program and its director Julius Alexander who numbers some fifteen young men and women who have become commercial pilots with Delta, United, Southwest, and other carriers. Mr. Alexander was named "Atlanta Hero and Leader" by CNN in 2011. Certainly, an award worthy youth development and career education "upgrades."

**The key to our success will be the quality of planning.**

We must "plan our way out" of the current model; optimize what we have learned; and mine the opportunities that individuals, organizations, institutions, foundations, corporations and industry are prepared to offer. The fact that we have significant partnerships with the college system enables us to truthfully inform our parents and families: **"Before your son or daughter ever sets foot on a high school campus, they will already have completed a mathematics course on a college campus, and know how to fly an airplane."**

**Planning is underway for Summer, 2012** to be packed with a variety of very robust learning activities for both ends of the middle school population, as well as those who are matriculating to high school. Summer activity will be a combination of basic flight simulator instruction, tours of the various aviation museums, constructing and operating radio controlled model aircraft, and going on individual outings with pilots who are interested in giving their time to get our young cadets airborne. All students who have completed at least one of the courses will be eligible as well as new students from Portland, Vancouver, and Hillsboro.

The PCC Summer Mentors program, the Jefferson High School Middle College program is also expected to take advantage of the growing field of opportunity. Mr. Grice hopes to take 10 – 12 cadets with him to **Tuskegee University to see Mouton Field** and connect with the Tuskegee Airmen, Inc. national organization and be on the campus of an historic university.

We salute all sponsors, supporters, cadets, parents and family, and our board of directors. Now is the time to bring the vision of Bob Strickland into view; make it more public; and galvanize all our prospective partnerships. And, we shall. Join us.

**Prospective cadets and interested parties can find everything they need at our website...**

## **"Flight Plan"**

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"Questions" that guide our thinking, priorities, and strategic planning:

1. Whom do we serve?
2. Why do we serve these populations?
3. What populations that we are failing to serve?
4. Where should we be in 3 - 5 years in terms of: budget, partnerships, sponsors, scale, breadth of operations, demographics served, etc.; AND, How do we get there?
5. What career pathways could be exploited via CAS?
6. How adequate is the current curriculum?
7. What questions should drive our evaluation design?
8. How can we be a "premier" delivery system for mathematics, science where the need is greatest?
9. What should be our connection to higher education?
10. What percentage of our "cadets" should earn a private pilot's license?
11. How long should a youngster be with the program?
12. To what extent can we serve as a component of the Portland Public Schools "Focus Options" high school design?
13. What would be an ideal status or relationships with BOEING, MICROSOFT, NASA, etc.?
14. What timeline should reflect an active board member development?
15. What key players or organizations, in the business community, have not been invited to be part of our vision?
16. What foundations, corporations, and funding opportunities should be targets in the next 6 months, 12 months, and beyond?
17. Other questions?



# The Tuskegee Airmen

## Overview:

In the 1940's, the United States Military, like so much of the nation, was segregated. The so-called Jim Crow Laws kept blacks from entering public places such as libraries, restaurants and movie theaters. Although African Americans served in the armed forces, they were restricted in the types of jobs and positions they could hold. On April 3, 1939, Public Law 18 was passed which provided for an expansion of the Army Air Corps. One section of the law offered hope for those African Americans who wanted to advance their military careers beyond the kitchen or the motor pool. It called for the creation of training programs to be located at black colleges which would prepare blacks for service in a variety of areas in the Air Corps support services.

On January 16th, 1941, the War Department announced the creation of the 99th Pursuit Squadron. This was to be an all black flying unit trained at the Tuskegee Institute founded in Tuskegee, Alabama, by Booker T. Washington in 1881. Charles A. Anderson, a self-taught African American pilot had established a civilian pilot training program at the Institute in 1939. First Lady Eleanor Roosevelt had visited the Tuskegee Institute and had requested a plane ride from Mr. Anderson. Despite the nervous misgivings of the Secret Service, Mrs. Roosevelt spent over an hour in the skies over Alabama. Precisely what Mrs. Roosevelt said about the flight is uncertain, but reports are she remarked to Mr. Anderson, "I always heard that colored people couldn't fly airplanes," but after her experience "saw no reason why blacks could not fly."

Since there were no black officers, eleven white officers were assigned to train and prepare a total of 429 enlisted men and 47 officers who would become the Tuskegee Airmen, the first black military personnel in the flying school. Mrs. Roosevelt was so impressed with the program that she established and maintained a long-term, long-distance friendship with some of the pilots.

From 1941 to 1946 over 2,000 African Americans completed training at the Tuskegee Institute, nearly three quarters of the qualified as pilots. The rest went on to become navigators or support personnel. Together they were known as the Tuskegee airmen. During the war the 99th Pursuit Squadron which was later renamed the 99th Fighter Squadron flew in the skies over the Mediterranean and Europe. The missions were primarily as bomber escorts. The 99th Fighter Squadron had the distinguished record of never losing a bomber to enemy fighters. In addition to shooting down enemy attack aircraft, they also shot down the belief that African Americans were not suited to responsible military service.

In 1948 President Truman ordered the desegregation of the United States Military.

*Note: This overview was prepared from information contained in *Franklin D. Roosevelt - His Life and Times*, part of the G. K. Hall Presidential Encyclopedia Series, and the *New York Times*.*

## Documents:

This packet of documents includes correspondence between Eleanor Roosevelt and Cecil Peterson, a student at the Tuskegee Air Corps Advanced Flying School. Mrs. Roosevelt initiated the correspondence because she was interested in hearing the firsthand experiences of life at Tuskegee and she and Mr. Peterson continued their letters throughout the war.

Eleanor Roosevelt was also in contact with the president of the Tuskegee Institute, F.D. Patterson. The letters from Mr. Patterson illustrate that Mrs. Roosevelt's support of Tuskegee was instrumental in the success of its programs during that period.

## **High Flying, Adored - 15-Year-Old Girl Pilots a Plane Coast to Coast**

by Sally Worsham Jul 13th 2009 6:00PM

Categories: Teens & tweens, In the news



This LA teen flew a single-engine plane across the country this week. Photo: Tomorrow's Aeronautical Museum

On Saturday, 15-year-old Kimberly Anyadike finished a record-breaking flight across the country, becoming what is believed to be the youngest African-American female to pilot an airplane from coast to coast. The adventurous teenager flew from Compton Woodley Airport in Compton, CA, to Newport News, VA, and back, making thirteen stops along the way. Her flight companions were an adult safety pilot and Levi Thornhill, an 87-year-old World War II veteran who flew with the Tuskegee Airmen, an all African-American combat unit in the U.S. Army Air Corps. Part of the reason for Anyadike's voyage was to honor the Tuskegee Airmen, dozens of whom she met throughout the journey.

Anyadike learned to fly both an airplane and a helicopter at Tomorrow's Aeronautical Museum in Compton in an after-school program that offers aviation lessons to underprivileged and at-risk youth. The museum owns the plane she flew on this historical trip.

It was Anyadike's idea to fly cross-country. She knew it would take tremendous preparation, but she felt strongly that she could do it. The Tuskegee Airmen served as further motivation for the high-flying teen.

"They left such a great legacy," she said. "I had big shoes to fill. All they wanted to do was to be patriots for this country. They were told no, that they were stupid, that they didn't have cognitive development to fly planes. They didn't listen. They just did what they wanted to do."

Robin Petgrave, the aeronautical museum's founder tried to temper Anyadike's enthusiasm. "I told her it was going to be a daunting task but she just said, 'Put it on. I got big shoulders.' "





## *Airway Science for Kids*

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### **SAMPLE 16 SESSION COURSE OUTLINE**

Week One	Definition of Mathematics and Phonetic Alphabet Demonstration of Protocols: Handshake, Q & A, Note-taking How Airplanes Fly: Fundamentals of Aerodynamics Flight Simulator - Introductory Flight
Week Two	Review of the "Four Forces" acting on an airplane Flight Simulator: Introductory Flight and Lessons 1 - 4 Review of Instrument and Gauge Functions
Week Three	Recitation Mastery: "I Stand Tall" Progress Awards: Inventory of Instruments and Gauge Mastery Mastery of Compass and Directions Flight Plan Charting and Map Reading
Week Four	Flight Simulator: Introductory Flight and Lessons 3 - 7 Cognitive Development – Orientation in Space Fundamentals of coordinates Mastery of Instruments, Gauges, Flight Plan Charting
Week Five	Mastery of Terminology, Note-taking, and Dictionary Advanced Flight Simulator: Flight and Lessons 5 - 8 Cognitive Development – Orientation in Space
Week Six	Lexicon Mastery Demonstration Solo Flight Solo Flight with Team Coordination Objectives
Week Seven	Final Exam
Week Eight	Final Exam and Demonstration of Expertise Open House for Parents and Public

## Community News Roundup

# A new set of wings

Airway Science for Kids challenges local students to build their own plane

By DANA TIMS  
THE OREGONIAN

HILLSBORO — Damp fog the color of dirty cotton hangs over Hillsboro Airport. Inside the oldest building on the sprawling property, 15 teenagers are quietly and efficiently going about the serious business of building an airplane.

Adult mentors are available to answer questions, but from the project's start in late September right on through to the RV-12 sport craft's planned inaugural flight in June, this program is driven entirely by kid power.

"This is my passion," said Justin Inman, a 15-year-old who grew up within two blocks of the airport. "I wouldn't want to be doing anything else."

This is the second plane built by the Airway Science for Kids program. Participants in the program — thought to be the first of its kind in the nation — range in age from 12 to 17 and in hometowns from Vancouver to Salem.

Every Saturday for nearly nine months, they will spend six hours doing everything from removing metal burrs from pre-cut pieces of aluminum, to precisely placing thousands of rivets, to learning the mathematics of aeronautical science.

All, seemingly, without a shred of regret for the sports teams, musical involvement and time with friends they are forgoing.

During one recent work session, for instance, Paige Quintana, a 16-year-old Lake Oswego High School junior, clutched a pneumatic rivet squeezer in her right hand. The air-driven tool hissed quietly as she went about the painstaking process of riveting a hinge bracket to the rear spar of the evolving aircraft's right wing.

As the clock ticked toward 1 p.m., she looked up just long enough to note it was about time for kickoff in the state football championship game pitting her Lakers against the Sheldon Irish.

Her sense of sacrifice was



Student Aaron Meyerhofer (front) and program mentor Gerry VanGrunsven (behind) work on the RV-12 plane that the Airway Science for Kids team hopes to have ready for flight by June.

Photos by  
ROSS WILLIAM  
HAMILTON  
THE OREGONIAN

### Airway Science for Kids

**What:** Program in which a team of kids, ages 12-17, meets every Saturday to build and eventually fly an RV-12 airplane. They learn math, science and computer technology — as well as teamwork — along the way.

**Where:** Hillsboro Airport

**Cost:** Free, but rules of conduct and attendance are strictly enforced

**Next group starts:** Planned for September. Application information is available both on the program's website and at a booth at the annual Oregon International Air Show in Hillsboro

**Information:** airway-science.org

doubled, she added, because, as a trumpeter in the school band, she would normally be in the stands surrounded by handmates at this moment.

But any look of longing passed in a flash.

"I really want to be a pilot when I grow up, flying helicopters in the Coast Guard," Quintana said. Training her gaze back to the work at hand, she added, "Where else could I get the chance to do some-

thing like this?"

Bob Strickland, a retired U.S. Air Force veteran, started the program 19 years ago in Portland as a way to keep teens out of trouble. He initially focused on middle-schoolers, ages 10 through 12, considering those years critical in providing positive learning opportunities for kids who otherwise might go astray.

So for nearly two decades, participants have spent hours training on computer-driven flight simulators, learning about the materials and procedures integral to aircraft construction and mastering the mathematics needed to calculate a flight plan.

When Strickland died in 2008, remaining Airway Science for Kids board members elected to carry on and amplify his work by expanding what had been a two-year classroom regimen to a full-blown effort by older teens to build an airplane.

A dozen teenagers applied. Board members, after rounding up sufficient financial sponsors and additional adult mentors, secured hangar space at Aurora State Airport. When Richard VanGrunsven, CEO of Aurora-based Van's Aircraft supplied a new RV-12 kit at cost — saving the program more than \$10,000 — the effort was ready for takeoff.

Since the successful launch of that plane last June, word of

the program has spread.

"As far as we know, we are the first in the nation, and maybe in the world, to be doing this as a program and doing it in an organized form," said Aron Faegre, a Portland architect and engineer who sits on ASK's board.

A group in New Zealand, using ASK as a model, has just formed, he said. The local program is getting interest from around the United States, as well.

"These kids are learning skills that will help them get jobs when they graduate from high school," Faegre said.

Aric Kraus, an 18-year-old Vancouver resident, participated in the first plane-building effort. He's back, serving as a youth mentor.

"One thing you have to come to terms with is that good enough isn't good enough," he tells Johnathon Olson, a 13-year-old from Forest Grove. "If something's not perfect, it needs to be redone."

Olson said aviation has appealed to him since he was little, when he would stare in wonder at the landscape below as his family flew across the country to visit relatives on the East Coast.

"I want to work for a commercial airline some day," he said. "Getting to do something like this is the coolest thing I can imagine."

# SCREENING PASS

Bring this with you to the event.  
Duplicate passes will not be accepted.



## RED TAILS Airway Science For Kids

Thursday, January 19, 2012 - 7:00 PM  
Pioneer Place Stadium 6  
340 SW Morrison, Portland, OR 97204



SCANNING ID: 20699

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Opens in Theaters Friday, January 20, 2012

RATED PG-13: PARENTS STRONGLY CAUTIONED FOR VIOLENCE



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