

APPLICATION FOR ADMISSION

2012 HIGH SCHOOL

ASPIRNAUT PROGRAM SUMMER RESEARCH INTERNSHIP



May 28 – July 6, 2012 (6 weeks)

Application Deadline February 15, 2012

Program Description

The Aspirnaut Program Summer Research Internship is a hands-on and mentored laboratory experience for high school students interested in a career in the fields of science, technology, engineering, or mathematics (STEM). Participants reside for six weeks on the campus of Vanderbilt University and conduct research activities at the Vanderbilt University Medical Center under the direction of Billy Hudson, PhD, Director of the Vanderbilt Center for Matrix Biology. Vanderbilt is an internationally recognized center of excellence in scientific research and is home to one of the best-rated hospitals and medical centers in the country. Program participants are exposed not only to the inner workings of high-level scientific research, but also to the culture of one of the country's premiere institutions. Located in the heart of Nashville, known affectionately as Music City USA, participants will be exposed to a broad spectrum of excellence, both academically and culturally.

The goal of this program is to provide for high school students a laboratory experience in which they can play an active role in ongoing biomedical research. Students are fully engaged in their research project —conducting experiments, collecting data, analyzing results, and keeping their lab notebook and research portfolio. Students shall meet regularly to discuss their projects and listen to guest speakers. At the end of the program, students prepare written reports and give oral and poster presentations to their peers and mentors. Activities and assignments will vary within a standard nine-to-five timeframe in laboratory atmospheres, with evenings and weekends available to the participants to complete homework assignments, as well as having plenty of free time to explore the university and its resources, as well as the city of Nashville and its surroundings during supervised field trips.

For 2012, participants will reside in the student residences on campus, which will include kitchen facilities. Male and female participants will be housed on separate floors, with males on one floor and females on another. Students will have roommates. There will be a female and male resident assistant for the entire six weeks. Students will be chaperoned 24 hours a day by the resident assistant, lab personnel, or a junior mentor. Participants will be provided with ID badges that are loaded with funds to be used for meals on and off campus (at specially designated restaurants). Stipends may not be immediately available, so participants should arrive with enough spending money for at least two weeks.

All underage participants will be required to be in the presence of a mentor or resident advisor at all times. Plenty of opportunities to visit various locations will be possible with the accompaniment of an advisor.

Eligibility

Students considered for this program will be those who have achieved superior grades and test scores in math and science and who have demonstrated a commitment to pursuing a career in a STEM field (science, technology, engineering or mathematics). Students must be at least 15 years of age upon registration for the program and have health insurance.

Dates / Costs of Program / Stipend

Accepted applicants will be provided with full room and board on the Vanderbilt University campus at no charge. In addition, each participant shall receive a stipend of \$1,700 for the six-week session, which shall be prorated depending on the actual length of participation. The program is scheduled for a period of six weeks. The internship has a value of approximately \$5,000 per student for the 6-week program.

Application and Selection

Applications should be accompanied by an official copy of the student's transcripts and test scores (standardized tests, ACT, etc), along with a teacher recommendation. Selections will be made based on data and interviews with the student and parents.

Personal Information

Name: _____ Social Security Number: _____

Date of Birth: ____/____/____ Gender: Male Female Citizenship: _____

High School: _____

Mailing address at Home: _____

City: _____ State: _____ Zip Code: _____

Telephone: Home: _____ Student mobile: _____

Student email Address: _____

Parent Name(s)/Emergency Contact: _____

Parent email: _____

Parent mobile: _____

School: _____ Grade level in 2011-2012: _____

Current Grade Point Average _____

Latest ACT score _____ How many times have you taken the ACT? _____

____ I am including an official copy of the applicants standardized test scores (such as ACTAAP, TCAP, NECAP) and grades for the past two years (REQUIRED).

To which colleges/universities would you like to apply (or have been accepted to)?

Availability

Dates of unavailability and reason:

Questions

Please provide concise responses to the following questions.

1. Describe your qualifications for participation in this program. Please include any examples of experiments or experiences that fostered your interest in research.

2. Why do you want to attend this program? What about science interests and challenges you?

3. Describe your extracurricular interests, activities, and pastimes.

4. Describe your education and career goals and reasons for pursuing them.

Signatures

This certifies that the information I have entered on this application form is complete and accurate.

Applicant _____

Date _____

Parent signature (and printed name) _____

PLEASE FAX TO Sara Carter at 615-343-7286 (or scan and send as PDF to email below)

Sara Carter, Program Coordinator
The Aspirnaut Program
Vanderbilt University,
CCC3322 MCN
1161 21st Avenue S.
Nashville, TN 37232-2104
sara.carter@vanderbilt.edu



Request for applications to Aspirnaut Program Summer Research Internship

A 6-week scientific laboratory research experience at Vanderbilt University

May 28 – July 6, 2012

Eligible applicants meet the following criteria

- Live in a rural area
- Excel in math and science classes
- Are highly motivated to succeed in a STEM career
- Are 15 years or older as of June 2012

THE ASPIRNAUT PROGRAM OFFERS HIGH SCHOOL STUDENTS WITH HIGH APTITUDE IN MATH AND/OR SCIENCE TO WORK AT VANDERBILT UNIVERSITY FOR SIX WEEKS THIS SUMMER AND EARN \$1,700.

The Aspirnaut Program Summer Research Internship is a hands-on and mentored laboratory experience for high school students interested in a career in the fields of science, technology, engineering, or mathematics (STEM). Participants reside for six weeks on the campus of Vanderbilt University and conduct research activities at the Vanderbilt University Medical Center under the direction of Billy Hudson, PhD, Director of the Vanderbilt Center for Matrix Biology. Vanderbilt is an internationally recognized center of excellence in scientific research and is home to one of the best-rated hospitals and medical centers in the country.

On the beautiful and historic Vanderbilt campus near downtown Nashville, students will be involved in hands-on research into autoimmune diseases, diabetes, cancer, blood coagulation, and other topics.

Applicants should be highly motivated. This experience will expose students not only to a world-class research facility but also to people and professionals that can help create a foundation for a successful future in the sciences.

Science and math teachers in rural school districts are asked to make recommendations. Applicants would then need to submit their courses/grades for the past two years including the most recent semester's grades (transcript), ACT scores, and a brief statement describing career goals, as well as an explanation of why they wish to participate in the program. Eligible students will have completed their sophomore year in high school, be at least 15 years old **and** must have health insurance.

The Aspirnaut Program

Julie K. Hudson, MD, MA, Program Director and Assistant Vice Chancellor for Health Affairs
Vanderbilt University, D-3300 MCN, Nashville, TN 37232-2104
julie.hudson@vanderbilt.edu 615-322-5191



2012 Aspirnaut Program Summer Research Internship

Teacher Recommendation

Applications to the 2011 Aspirnaut Program Summer Research Internships will only be accepted by students who have been recommended by a science or math teacher.

Teacher name: _____

Subjects taught: _____

School name: _____

School address: _____

Teacher contact info (email, phone): _____

Student name: _____ Grade: _____

Student Address: _____

Student email address: _____

Parent name(s): _____

Please briefly explain why you recommend this student for an six-week internship in a research laboratory on the campus of a major university. (You may also use a separate sheet of paper or email to sara.carter@vanderbilt.edu). FAX to 615-343-7286, to the attention of Sara Carter.

Principal name, signature, date: _____

The Aspirnaut Program

Julie K. Hudson, MD, MA, Program Director and Assistant Vice Chancellor for Health Affairs
Vanderbilt University, D-3300 MCN, Nashville, TN 37232-2104

julie.hudson@vanderbilt.edu 615-322-5191



Participation Agreement and Release

Student Name: _____

The above-named student has requested the opportunity to **voluntarily** participate in the **Aspirnaut Program Summer Research Internship**. I expressly and voluntarily assume all risks of this activity on behalf of my child. I recognize that this activity may expose my child to some level of risk of injury. Notwithstanding these risks, I assume them by allowing my child to voluntarily participate in this program.

Further, I hereby:

- agree that students will be participating in a residential program on the campus of Vanderbilt University. As a participant, the student will be supervised by Vanderbilt staff and reside on the Vanderbilt campus. Students will also have access to on-campus recreational facilities and activities;
- understand that the activities for the sessions vary but may include the following: classroom instruction, organized recreational and athletic games, cookouts, and swimming. These activities are assumed upon enrollment and participation in program is at the risk and request of the student;
- agree that students are charged with knowing and abiding by Aspirnaut and Vanderbilt University policies as described in Aspirnaut publications or as articulated by staff. Students who fail to follow program policies may be asked to leave the program. If a student is asked to leave, his or her parent or legal guardian will be contacted. The parent or legal guardian must make immediate arrangements to remove the student from campus at the parent or legal guardian's expense. Students who are asked to leave will not receive a refund of tuition or other fees;
- understand that during the program, students may participate in off-campus field trips. Students who are transported off-campus for activities will travel in vehicles driven by Aspirnaut staff, other Vanderbilt staff, or hired designees. Students who are off-campus will conduct themselves at all times in accordance with program policies;
- agree that Vanderbilt is not liable for lost, stolen or damaged personal articles. Vanderbilt is also not liable for any consequences of the student's actions including injury to persons and property, arising during on or off-campus periods, and I accept responsibility for reimbursement either to the injured party or to Vanderbilt for any damages sustained by them due to my child's actions;
- agree that, to the best of my knowledge, the information furnished by or on behalf of the student in connection with the student's participation in the Aspirnaut Program is correct and complete;
- give permission for the student to view movies that are rated PG-13 while participating. I recognize that a staff member will approve of these movies before they are shown in the residence hall, auditorium, or other setting;
- agree that the Aspirnaut Program has the right to alter arrangements concerning location and/or content

- agree that if the student should suffer an injury or illness while participating in the program or any other activity associated with this travel, I authorize the employees of Vanderbilt University to use their discretion to have my child treated at or transported to the nearest medical facility and I take full responsibility for that action;
- agree to be responsible for any losses (including reasonable attorneys fees and court costs) resulting from the student's damage, vandalism, littering, or theft of Vanderbilt University property, property of a University community member or campus visitor, or any other property used during the program. Furthermore, I agree to indemnify Vanderbilt for any loss or damage to the premises, facilities, or equipment during the program.
- agree, in consideration of Vanderbilt allowing my child to participate in this program, to hold harmless and indemnify Vanderbilt and its trustees, agents, officers, servants, and employees against loss from any and all claims of ordinary negligence, demands, rights, or causes of action of any kind or nature that may hereafter at any time be made or brought by my child, by me or anyone on my behalf, or by any other person having a legal interest therein arising from or by reason of any and all known or unknown, foreseen and unforeseen bodily or personal injuries, damages to property and consequences thereof which may be sustained by my child, in consequence of any accident or injuries on the premises of Vanderbilt or in connection with the activity, except such liability or claim of liability as may result from gross or intentional negligence on the part of Vanderbilt. Said indemnification shall include, but not be limited to, court costs and attorneys' fees.

We (the undersigned student and parent/legal guardian) understand and agree to the preceding terms regarding the student's participation in the Summer Research Internship. I certify that the student is capable of participating and I grant permission for the student to participate in all planned activities.

READ BEFORE SIGNING:

By signing below, I acknowledge that I am 18 years of age or older and understand that I am entitled to have an attorney of my own choosing to review the Release prior to signing. I have read the foregoing Release in its entirety and understand that I am signing a complete and perpetual release and bar to any and all claims of ordinary negligence as defined above resulting from the participation in this activity by me or my child. If the participant is not 18 years of age or older, this release must be signed by a parent or legal guardian.

Student's Signature _____ Date: _____

Printed Name _____

Parent or Guardian's Signature _____ Date: _____

Printed Name _____



Authorization To Consent To Treatment of a Minor

I/We, parent(s) and/or legal guardian(s) of:

(Student's Name)

(Student's Date of Birth)

an unemancipated minor, who is a participant in the Aspirnaut Program's Summer Research Internship, do hereby consent to an X-ray examination, anesthetic, medical or surgical diagnosis or treatment and medical care which is deemed advisable by and is to be rendered under the general supervision of any physician or surgeon on the medical staff of the Vanderbilt University Student Health Center, Vanderbilt University Children's Hospital or other licensed medical care providers. It is understood that this authorization is given in advance of any specific diagnosis, treatment, or medical care being required and is to serve as specific consent to any and all such diagnoses, treatment, or hospital care which may be deemed advisable.

In addition, I consent to allow the physicians and staff involved in any such treatment to share medical findings regarding this student with Aspirnaut program coordinators and staff. I further authorize all Aspirnaut program coordinators, staff, and proctors to dispense non-prescription analgesics for minor medical problems such as headaches, etc.

By signing below, I acknowledge that I am 18 years of age or older and understand that I am entitled to have an attorney of my own choosing to review the Release prior to signing. I have read the foregoing Release in its entirety and understand that I am signing a complete and perpetual release and bar to any and all claims of ordinary negligence as defined above resulting from the participation in this activity by my child. If the participant is not 18 years of age or older, this release must be signed by a parent or legal guardian.

Parent or Guardian's Signature

Date: _____

Parent or Guardian's Printed Name



Aspirnaut Program Summer Research Internship

Health History

(please pay close attention to the many requests for details on this form)

Student's Name: _____ Date of Birth: _____
Custodial Parent/Guardian: _____
Preferred Phone Numbers: _____
Street Address: _____
City: _____ State: _____ Zip Code: _____

Allergies:

- This student has no known allergies.
- This student is allergic to the following food(s): _____
Causes anaphylaxis? Yes No Describe the reaction if this food is eaten and what is done to manage it:
- This student is allergic to these medications: _____
Causes anaphylaxis? Yes No Describe the reaction and how it is managed:
- The student is allergic to the following: _____
Causes anaphylaxis? Yes No Describe the reaction and what is done to manage it:

General History: (Circle "Yes" or "No" for each statement)

- Yes No This student has had chicken pox or has received the varicella immunization
- Yes No This student has had mononucleosis during the past school year
- Yes No This student's hearing is within normal ranges or is corrected by hearing aids
- Yes No This student's sight is within normal ranges or is corrected by glasses or contacts
- Yes No This student typically sleeps without snoring or sleep talking
- Yes No For girls, this student knows about menstruation or has a normal menstrual history
- Yes No This student has been advised of the availability/advisability of a meningitis vaccine

Student's Physician: _____ Office Phone: _____ Student's Orthodontist: _____
Office Phone: _____ Student's Dentist: _____
Office Phone: _____
Other: _____ Office Phone: _____

Insurance Information:

Parents/ Guardians are financially responsible for healthcare costs. All students must have health insurance during their term here.
Insurance carrier or plan name: _____ Group #: _____ Carrier Street Address: _____
City: _____ State: _____ Zip: _____
Carrier Phone Number: _____
Name of Insured: _____ Relationship to Student: _____
Policy Holder's Insurance ID Number: _____

NOTE: Please make sure the participant has an original insurance card to carry. Also, please photocopy the front and back of your health insurance card and mail along with this health form.

Nutrition:

Yes No This student eats a wide variety of foods, including meats and vegetables

Yes No This student has the following dietary restrictions (include vegetarian, vegan, kosher, as well as medical dietary restrictions here):

Chronic Health Concerns:

Yes No This student has no chronic health concerns and is capable of full participation in the program.

Yes No This student has the following chronic health concerns (please circle all that apply): Asthma
 Menstrual cramps Major Surgery Headaches Frequent Ear Infections Addictions Sleepwalking Fainting Eating Disorder Diabetes Encopresis Other: Bedwetting Seizure Disorder/Epilepsy

PLEASE INCLUDE A COPY OF THE OFFICIAL IMMUNIZATION RECORDS FOR PROOF

Vaccine	Mo/Yr	Mo/Yr	Mo/Yr	Mo/Yr	Mo/Yr	Mo/Yr
DPT*						
Influenza						
Tetanus Booster* (within the past 10 years)						
Polio*						
MMR*						
Pertussis Booster						
Meningitis						
HIB						
Hepatitis B						
Varicella (chicken pox)						
Pneumococcal						
Hepatitis A						

PLEASE NOTE: If a student is offered the opportunity to shadow a doctor in the operating room, proof of immunizations will be absolutely necessary. For those without a TB skin test it is possible to obtain one for around \$30. A chickenpox varicella titer is also necessary and costs around \$73 unless you are able to organize this with your insurance company.

Alternative Contact Information:

We will certainly call parents/guardians in an emergency, but we'll also call if we have questions about a student's health. If we cannot reach a parent or guardian, we ask that you provide contact information for someone who knows the student and with whom we can consult. We assume you have spoken to these alternative contacts and they are willing to assist should the need arise.

Contact name/number: _____

Relationship to student: _____

Medication:

Yes No This student **will not** take any medications while attending the program,.

Yes No This student **will** take the following medications while attending the program:

Name of Medication	Reasons for Taking It	Side Effects	Dose Given and When
			Breakfast dose: Lunch dose: Dinner dose: Bedtime dose: Other:
			Breakfast dose: Lunch dose: Dinner dose: Bedtime dose: Other:
			Breakfast dose: Lunch dose: Dinner dose: Bedtime dose: Other:

Medication Guidelines:

- Bring enough of each medication to last the entire session.
- Students taking medications for psychiatric reasons should be on a stable medication regime, ideally having been on the same medications(s) at the same dose for the three months prior to a student's arrival to the program.
- All medications must arrive in appropriately labeled pharmacy containers.
- **Students are not allowed to keep any medications (including over-the-counter medications) in their room.**
- Program administrators will hold and safeguard all prescription medications in a designated office. It is the responsibility of the student to come to the office to receive his or her medications.
- **The Aspiernaut Initiative is not responsible for missed doses.**

Mental, Emotional and Social Health: (Circle "Yes" or "No" for each statement):

Yes No This student has been diagnosed with ADD or AD/HD (specify): _____

Yes No This student has a psychiatric diagnosis such as depression, OCD, panic/anxiety disorder (specify): _____

Yes No This student has an emotional health concern (specify): _____

Yes No During the past academic year, this student has seen or is currently seeing a professional to address mental/emotional concerns (specify): _____

If "Yes" was the answer to any of the four statements above, attach a statement from your student's professional (psychiatrist, physician, counselor) that address the following three things:

1. Describes the concern and the student's management plan (including medication) while in our program.
2. Describes the behaviors that will indicate to our staff that the student needs a professional referral.
3. Provides a recommendation for the student's participation in the program.

Has the student had a significant life event that continues to impact the student's life?

If so, please provide written information about the event – death of a loved one, divorce, new sibling, family change – its impact on the student's life and care tips for program staff.

Special Equipment Needs: Please provide any additional information about special needs such as elevator/ramp/wheelchair access, equipment to aid sleeping, hearing aids, crutches, etc. that the staff needs to be made aware of:

Note: If students are accustomed to using special equipment (e.g., hearing aids) during the school year, it is highly recommended that they use the same equipment during their stay in the program.

Vanderbilt University Student Health Reminders:

Vanderbilt University Student Health Center, in the heart of the Vanderbilt Campus, will be open from 8:30 AM until 4:30 PM, Monday through Friday. Clinic visits for minor or acute medical problems and/or injuries will be provided as needed for a **clinic fee**, with the invoice for this *or any other fees* to be paid in full upon student checkout from the program.

Sample Student Health services that require a charge beyond the clinic fee:

- Prescriptions filled at local or VU Medical Center pharmacies
- Medications sold at the Student Health Center
- Laboratory tests
- Medical and orthopedic supplies
- Referrals to VU Medical Center hospital or clinics (services outside Student Health)
- Allergy or other injections at Student Health

Sample Services not provided for students:

- Health insurance
- Routine Mental Health Care (except for crisis management)
- Management of chronic health problems

Note: *Students must be independent in their daily health care.* Students in the program should not have medical conditions requiring daily ongoing monitoring or day-by-day management by someone other than the student.



2012 Aspirnaut Summer Research Internship

Answers to Frequently Asked Questions

Stipend payment – Spending money

All stipends will be made payable to the student (in his/her name) in the form of a payroll check from Vanderbilt University. Generally, two payments will be made (one after four weeks and one at the end of the session). All checks will be mailed to the student's home address. Parents should make arrangements so that students have adequate spending money for incidental expenses. The program **STRONGLY RECOMMENDS** allocating \$30 per week minimum to cover the cost of snacks and movie tickets, fees for bowling or skating, etc. Parents may write checks to staff members that can be cashed for the students.

Student Independence - Chaperones

All participants under the age of 18 are required to be in the presence of an adult **AT ALL TIMES**. Whether going to lunch or walking to the library, all minors require accompaniment at all time. Resident assistants and junior mentors (undergraduate students over the age of 18) will coordinate so that minor students can conveniently go where they need to go.

Room/Board Considerations

Laundry is available – bring quarters!

TVs – are allowed in student rooms, but we strongly discourage this. A common TV will be available.

Internet / computer – no public computer is available in the dorm. Students may find it necessary to bring their own computers, though labs will have computers and libraries will also have computers.

Sheets – Students should bring their own sheets. Should be **extra-long twin** sheets.

Food preparation – A meal stipend is provided, but students may want to prepare some meals such as breakfast in the kitchen in the dorm. Basic utensils are provided.

Cars / Parking

Students under the age of 18 are **NOT** allowed to use private cars during their stay. If a student needs to drive to Vanderbilt in his/her own car, it will need to remain parked for the duration of the program.

Weekend activities

Students will need to coordinate weekend activities with resident assistants. See sample calendar for past options. Students are not required to participate in all activities, but must be in the presence of an adult at all times.

Aspirnaut Summer Research Internship 2012

SAMPLE CALENDAR OF EVENTS

May 28, Monday Move in
Received at Vanderbilt dorms by Aspirnaut Staff & Resident Assistants

May 29, Tuesday Meet for orientation
Card office for ID badges and VU Net IDs
Visits to laboratories, meet and greet scientists/researchers
Campus tour

TYPICAL WEEKDAY

8:00 a.m. – 9:00 a.m. Students arrive at labs escorted by resident assistant
9:00 a.m. - 11:30 a.m. Working in Lab
11:30 a.m. – 12:30 p.m. Lunch (chaperoned by scheduled undergrad or other adult)
1:00 p.m. – 5:00 p.m. Working in Lab
5:00 p.m. – 6:00 p.m. Meet with Aspirnaut Staff
6:00 p.m. – 8:00 p.m. Dinner, recreation center or scheduled activities
8:00 p.m. – 10:00 p.m. Tuesday/Thursday ACT Prep Class

TYPICAL WEEKEND

Saturday
11:30 a.m. – 1:00 p.m. Lunch
2:00 p.m. – 6:00 p.m. Scheduled activity
8:00 p.m. - 9:30 p.m. Dinner

Sunday
9:00 a.m. - 11:30 a.m. Optional Church with resident assistant or mentor
12:00 p.m. – 2:00 p.m. Lunch
2:00 p.m. – 5:00 p.m. Scheduled activity
8:00 p.m. - 9:30 p.m. Dinner

July 5, Thursday Final individual presentations
Farewell Dinner

July 6, Friday Move out