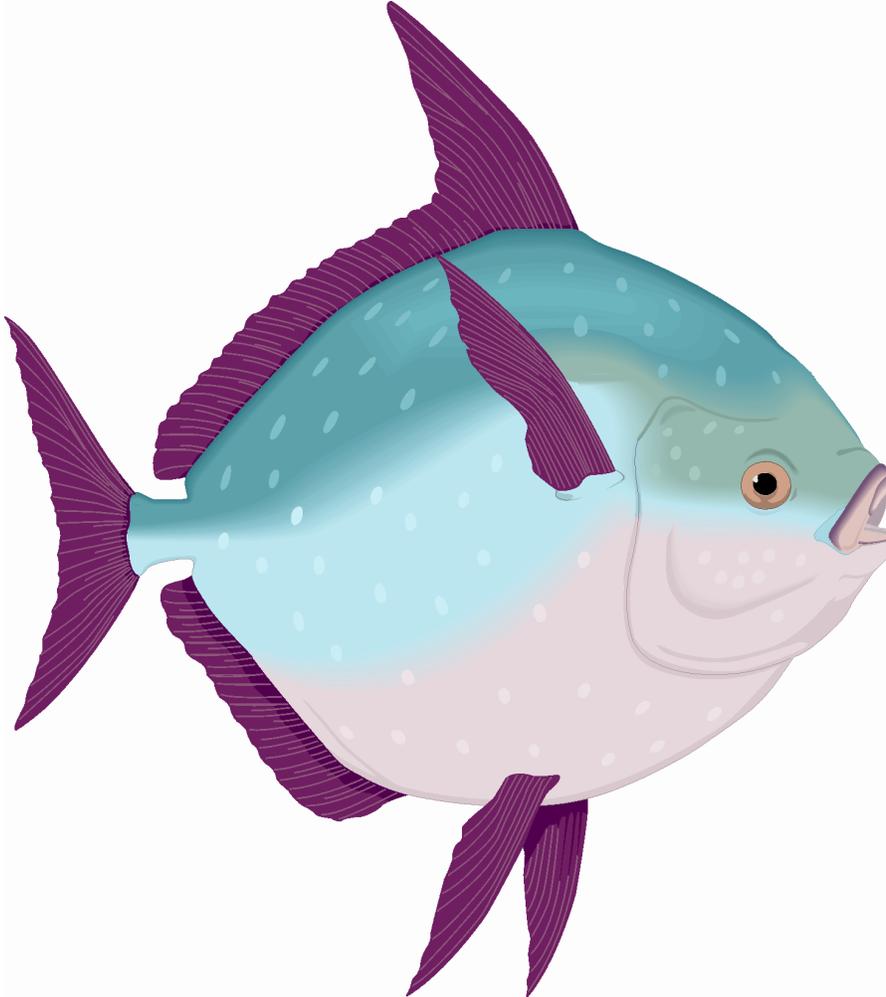


# Virginia Governor's School

## Marine Science Apprenticeship Program



**Virginia Institute of Marine Science  
William & Mary**



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## Introduction and Acknowledgements

The Governor's School Marine Science Apprenticeship experience allows students to explore their interests and abilities in a professional setting, working with faculty sponsors who have chosen to share their knowledge, experience and expertise. Students become more confident and self-sufficient, as well as creatively productive, as they apply their critical thinking skills to authentic research projects.

This handbook provides students with information about the apprenticeship program. It also assists faculty sponsors and supervisors in guiding and directing students as they embark on their research tasks.

The Governor's School extends its deepest gratitude to the faculty, staff, and graduate students of the Virginia Institute of Marine Science for dedicating their time and talent in providing Governor's School students with an authentic marine science opportunity. This summer's experience takes motivated students far beyond the classroom -- into the depths of real life sciences and technology -- and assists in preparing them for the future.



## Program Background and Design

What is the Governor's School?

Since their inception in 1973, The Virginia Governor's Schools have been providing some of the state's most able students with academically challenging and enriching programs that reach far beyond what is offered in their public school. With the support of the General Assembly and the Board of Education, the Governor's Schools include summer residential, summer regional, and academic year programs. Educational opportunities are available in science, mathematics, technology, the arts and humanities.

The Virginia Institute of Marine Science Governor's School is a summer residential school provided in cooperation with Christopher Newport University. Since 1993, this program has been serving high achieving high school students throughout the state of Virginia and providing participants with exceptional, authentic experiences in marine research.

## What is a VIMS Apprenticeship?

The Virginia Institute of Marine Science (VIMS) hosts a four-week summer program for gifted/talented students who have demonstrated interest in and aptitude for marine science. The program is structured as an apprenticeship and is administered concurrently with a similar program sponsored by the National Aeronautics and Space Administration. Up to six students are accepted into the VIMS program to work with faculty sponsors on authentic VIMS research projects. These apprenticeships offer a broad variety of marine research experiences, and specific learner outcomes and achievements vary accordingly. Participants experiences are consistent with Virginia' Standards of Learning as identified by the Virginia Department of Education.

### Objectives

Students will:

- Develop realistic and personally meaningful concepts of the nature and scope of scientific inquiry in general and marine research in particular.
- Gain intellectual and practical experiences which allow them to evaluate some career options in marine science from the perspectives of their aptitudes, skills and interest.
- Assist with VIMS research projects by assuming responsibility for specific research duties as assigned by their VIMS faculty sponsor and prepare reports based on this work.

## What is the Student Selection Process?

In early spring VIMS faculty sponsors personally review applications provided by the Virginia Department of Education's pool of the most highly qualified applicants statewide. Up to six students are selected. Faculty sponsors and selected students meet during an orientation in May and the program begins in late June or July.

# GOVERNOR'S SCHOOL STUDENT EXPECTATIONS

## STUDENT RESPONSIBILITIES

- Attend the pre-program orientation hosted by the Residential Program
- Interview with prospective faculty sponsor, preferably on the same day as the general program orientation meeting
- Participate in orientation to VIMS facilities, work, and procedures
- Participate in other supplementary activities only as mutually agreed upon by the VIMS/NASA Residential Program Director and the VIMS Project Director.
- Participate in all apprenticeship activities planned and supervised by the faculty sponsor.
- Work under the supervision and direction of a faculty sponsor to provide a meaningful contribution to VIMS research
- Be a positive contributor to the overall results of program with his/her educational growth being a primary concern
- Interact with members of the program and all faculty and staff on a positive, professional level
- Abide by all applicable VIMS regulations and policies
- Accept responsibility for duties, assignments, and agreements entered into with VIMS in a mature and professional manner

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## Keys to Success as a Governor's School Student

**Are you a dedicated risk-taker?** Your sponsor may ask you to undertake new projects or move into totally unfamiliar situations. Are you willing to try things without full assurance that you will succeed?

**Are you flexible?** Can you shift gears easily in the middle of a project or situation? Your schedule will be very different from school. Can you adjust to last minute changes without difficulty?

**Are you perseverant when things go wrong?** Adjusting to a new environment takes time on the part of both the student and the sponsor, and you will both make your share of mistakes. However, the apprenticeship is supposed to be a learning experience, so failure can only occur if you give up trying.

**Are you sensitive in dealing with people?** One of the keys to success is the ability to work well with people. Are you genuinely interested in other people? Do you show your interest?

**Are you prompt and regular in attendance?** This one needs little explanation, except to emphasize its importance.

**Are you discreet?** Can you keep information confidential? Can you share sensitive information discreetly when necessary? This includes with your sponsor, staff members, as well as fellow students, friends, family, and sometimes even your coordinator. When you have concerns, it is important to maturely voice them.

**Do you have a mature attitude?** Being in an apprenticeship will required a high level of seriousness, stability, and calm, rational behavior.

**Do you understand the purpose of the VIMS Apprenticeship Program and the Governor's School?** You will find yourself having to explain these numerous times. This is your opportunity to be a goodwill ambassador.

(From New Horizons Governor's School for Science and Technology Mentorship Handbook)

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## IMPORTANT POINTS for Students

- Students are to bring a bag lunch every day. Classroom C is reserved and available as lunchroom space. See the RA for specifics. Students may eat elsewhere on campus if they prefer (not in the labs). Sponsors will provide parameters for lunch times.
- Students must stay on the VIMS campus during the workday unless escorted by a sponsor (or designee) or a Governor's School staff member. No independent beach, bank, or post office trips are permitted. Attendance at occasional special events off campus such as lunch for someone's birthday party or a professional meeting is permitted if the sponsor (or designee) is present and assumes responsibility.
- Students are encouraged to attend applicable VIMS seminars that occur during their work hours with approval of their sponsors.
- If needed, meeting and workspace is usually available in the Library. The VIMS RA will check with the librarian for potential space.

# Program Dates and Student Assignments

## Program schedule

Pre-program Orientation	May 20, 2019
Start Date	July 7, 2019
VIMS Completion Date	Aug. 2, 2019
Work Days	Monday through Friday
Work Hours	8:30 a.m. - 4:30 p.m. (approx.)
Altered hours may be required by individual projects.	
Grade Level	11th-12th
Program Length	Four weeks

## Student Assignments

### Research Contract (see page 18, under Student Project Support)

1. A written contract with the faculty sponsor specifying individual student's responsibilities in support of a specific ongoing VIMS research program. Students will prepare this document to their faculty sponsors' specifications within one week of beginning work.

Final due: Week 1, Friday

### Written Contract Report for Sponsor

2. A final research report to the faculty sponsor and Program Director, reporting on scientific achievements (data or specimens collected, analysis, conclusion, etc.)

Draft due: Week 4, Tuesday

Final due: Week 4, Thursday/Friday

### Oral presentation

3. An oral presentation of the Research Report for faculty sponsors and other Governor's School students, with visual aids (15 minutes)

Oral Presentation: Week 4, Friday

# PROGRAM AND INSTITUTION ADMINISTRATIVE RESPONSIBILITIES

## **VIMS/NASA Governor's School Program Director, Residential Program**

- Set up of orientation meeting
- Lodging and all meals
- Petty cash and transportation
- Direction and supervision of joint VIMS/NASA events
- Counsel students on personal matters
- Coordinate production of a yearbook and/or any other extracurricular projects or supplemental activities
- Coordinate creation of T-shirts and/or other non-academic items and closing ceremonies
- Design, administration, and analysis of evaluation, as may be required by the Virginia Governor's School
- Ensure that student schedules are reasonable with adequate lead time for planning, that schedules for completion of tasks and activities are established and adhered to, and that students are provided with some flexible time outside the work day during which they may work on their research reports.
- All administrative procedures, logistics, and expenses associated with the above.

## **VIMS Student Supervisor (RA)**

**Employed by the State Department of Education**, supervised by the VIMS Project Director:

- Oversee VIMS orientation activities
- Handle logistical arrangements for students including daily transportation as needed (this includes arranging for or providing transportation for field work outside of regular working hours)
- Schedule and supervise in-house supplemental marine science academic experiences
- Monitor students' whereabouts on campus and when off campus for field work
- Carry out any on-site evaluation procedures; supervise production of students' reports and presentations
- Carry out in-house program-related duties as specified in RA Guidelines
- Generally assist students, faculty sponsors, and supervisors in making the apprenticeship a positive experience for all

## **VIMS Institutional Responsibilities**

- Provide use of laboratory facilities and equipment, research vessels, professional library, computers, classrooms, and meeting areas
- Provide interactions with scientists, graduate students, and professional staff, and support services necessary to program administration

## **VIMS Project Director:**

- Represent the Governor's School program
- Arrange for use of VIMS facilities
- Develop and oversee apprenticeship assignments and management procedures
- Schedule students' various learning experiences at VIMS
- Approve communications with sponsors relative to evaluation and administration
- Ensure that the apprenticeship program functions smoothly
- Supervises VIMS Student Supervisor (RA)

## VIMS Faculty/Graduate Student/Staff Sponsor:

- Provide an interesting, meaningful, and intellectually challenging work assignment
- Provide necessary equipment and work space, including computer access
- Maintain productive communication with students, ideally on a daily basis
- Provide necessary supervision, training, and guidance for the student
- Assure that students are adequately supervised at all times
- Oversee participating graduate students' supervisory skills (graduate students and technical staff may cooperate with faculty in working with students, but significant faculty supervision and involvement is expected)
- Maintain regular contact with the VIMS Project Director and RA
- Complete an evaluation of the students and/or program (if required)
- If a faculty sponsor elects to assign a staff member or graduate student to assist with the supervision of the prospective Governor's School student, these expectations are to be determined by that faculty sponsor.

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## IMPORTANT POINTS for VIMS Faculty Sponsors and Assistant Sponsors

- The State Department of Education will employ a student supervisor (RA) who will oversee daily operation of the program and may be reached at his or her cell phone or e-mailed at [gs01@vims.edu](mailto:gs01@vims.edu). This person will assist with students' work-related or personal problems and with logistical arrangements for early arrivals and late departures. Expect periodic visits. Any concerns should be reported to the student supervisor for immediate attention.
- There is a small budget for student supplies and transportation. Call the VIMS Project Director if any orders are needed before the program (Rochelle Seitz at 804-684-7698). *Usual state purchasing procedures must be used. After-the-fact reimbursement for receipts will not be possible.*
- Students are not permitted to attend evening or weekend staff events off campus. For all fieldwork days and lunches off campus a "Field Work and Special Activities Release" Form must be submitted to the RA prior to departure.
- Should you need to arrange for your students to work early, late, or on a weekend, please fill out a Field Work and Special Activities Release Form (see page 16). Students should be able to order bag meals or get petty cash from CNU if they will be away from VIMS at lunchtime, but several days notice may be needed.
- When sponsors have to be away from the Institute, supervisory responsibility should be delegated to a specific individual. Although Governor's School students generally do not need constant close individual supervision, someone needs to be responsible for their whereabouts and activities at all times. We must always be able to locate students.
- VIMS personnel should not be alone with a Governor's School student of the opposite gender in a closed or confined space (e.g., two people of opposite genders alone on a boat).
- Please become familiar with the student assignment deadlines (page 5). Be aware, however that this work is the responsibility of the student, not of the sponsor. Guidance is helpful, but please don't do it for them.
- Students will be issued VIMS computer accounts. Sponsors are asked to make arrangements for students to use a computer for communications, to work on papers, and to prepare presentations. The Governor's School web address is: <http://www.vims.edu/education/internships/governorsschool/index.php>

# GOVERNOR'S SCHOOL SAFETY PROTOCOL

**Students:** To ensure YOUR safety and the safety of others, the following guidelines must be adhered to at all times. Any additional safety requirements specific to certain research projects will be discussed with faculty sponsors as appropriate. Student safety responsibilities are outlined below.

**Parents:** You are required to complete, sign and notarize a "Consent for Emergency Medical Treatment" form. Failure to do so prior to the beginning of the apprenticeship will delay the start of student participation.

**Safety Training:** All Governor's School students are required to attend a safety orientation provided by the Office of Safety and Environmental Programs at VIMS.

**Safety Guidelines:** All safety guidelines are to be read and reviewed with sponsors as appropriate. All students are to complete the safety sign off sheet prior to beginning work in the laboratory. The complete text of VIMS safety policy is found at <http://www.vims.edu/admin/safety/>.

**Failure to comply with all safety guidelines may result in dismissal from the program.**

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## ★ Faculty Sponsor and Assistant Sponsor Safety Responsibilities:

1. Supervise students at all times in laboratories and in the field.
2. Persons under 18 years of age must never be in a laboratory without competent adult supervision.
3. Know the properties and safety hazards associated with each laboratory activity before the students carry out the procedure. Know the location and availability of the OSHA Lab Standard, Chemical Hygiene Plan, chemical safety reference materials, including MSDS sheets and the PELs for OSHA regulated substances.
4. Ensure that all safety equipment is present in the laboratory and is in good working condition. Be sure to review how to use safety equipment with your student(s).
5. Ensure that all chemicals are properly labeled with their contents and hazards.
6. Promptly clean up or direct the clean up of spilled chemicals.
7. Dispose of chemical wastes properly.
8. Provide eye protection and other necessary personal protective equipment for students. Ensure that eye protection and other personal protective equipment is used during all chemical manipulations. Know methods and observations that may be used to detect the presence or release of a hazardous chemical (visible appearance, odor, monitoring equipment). Know the signs and symptoms associated with exposure to hazardous chemicals with which students may work. Students are **NOT** to work with radioisotopes. The radiation safety awareness training course is required for students working in the same lab where radiation experiments are going on.

9. Make sure that all safety rules below are obeyed. Comply with all procedures in the VIMS Chemical Hygiene Plan found on the VIMS website at <http://www.vims.edu/admin/safety/chemhyg.html>.
  10. Report any accidents or unsafe conditions in writing to the VIMS Office of Safety and Environmental Programs and the current Worker's Compensation Representative.
  11. Request information and training when unsure how to handle a hazardous chemical or situation.
  12. **Complete the safety checklist (page 15) and review it with your student(s).** Copies are available from the RA.
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## ★ Student Safety Responsibilities:

### In the laboratory:

1. **Never work in the laboratory without the supervision of a VIMS employee.** Never work in the laboratory unless authorized to do so by your sponsor.
2. **Understand experimental procedures before starting to work in the laboratory. Carry out only the procedures and experiments assigned by your sponsor.** Never perform unauthorized procedures or experiments.
3. **Know the safety equipment.** Know the location of eye wash fountains, safety showers, fire blankets, fire extinguishers, first aid kits, and emergency exits. Never block access to any emergency equipment or exits. Know how to respond in case of an emergency. Know how to use the safety equipment.
4. **Know the hazards of the materials being used.** All chemical containers must be labeled with at least the identity of the contents and hazards associated with the chemical. Label all reagents with the name of the preparer and date of preparation. Read labels carefully to make sure you are using the right chemical. Know how to interpret data from a MSDS. Remember that hot and cold glassware look the same, so allow ample time for cooling.
5. **Never engage in horseplay, games or pranks in the laboratory.** Remember that the laboratory is a place for serious work. Careless behavior can endanger you and others and will not be tolerated.
6. **Demonstrate safe behavior.** Obey all safety instructions given by your sponsor or found in your experimental procedure. Clean up spills immediately if you know how. If you are uncertain how to clean up a spill, or for large spills, notify your sponsor immediately. Before leaving the laboratory, return equipment and chemicals to their proper place. Clean up your work area.
7. **Dispose of all waste materials according to your sponsor's instructions.** Wastes should be segregated into appropriate containers and properly labeled. Never throw solid materials into sinks; use the appropriate waste containers. Do not use chipped, cracked or broken glassware. Place broken glassware and disposable glassware into appropriate labeled containers.

8. **Report any accidents or unsafe conditions to your sponsor immediately.**
9. **Do not eat, drink or apply cosmetics in the laboratory.** By engaging in these activities you can accidentally ingest harmful chemicals.
10. **Never remove chemicals from the laboratory.**
11. **Do not taste any chemicals.**
12. **Do not smell chemicals directly.** Smell a chemical only if your sponsor specifically tells you to do so. Use your hand to fan the vapor to your nose.
13. **Do not pipette solutions by mouth.** Use a rubber suction bulb or other device to fill a pipette.
14. **Wash your hands with soap and water before leaving the laboratory.** This rule applies even if you have been wearing gloves.
15. **Protect your eyes.** Appropriate eye protection must be worn at all times in the laboratory. Goggles provide maximum protection from splashes. Contact lenses should not normally be worn. Unventilated goggles are essential if contact lenses must be worn.
16. **Wear appropriate protective clothing.** Chemicals may cause burns or irritate the skin. Some chemicals are readily absorbed through the skin and can enter your body. Your clothing should cover your legs to the knees. Shorts are not appropriate for the laboratory. Lab coats or aprons can protect good clothing. Remove lab coat/aprons before leaving the lab. Loose clothing should not be worn because it may dip into chemicals or fall into a flame and catch fire.
17. **Wear shoes that cover your feet.** Sandals and open-toed shoes offer no protection to your feet from broken glass that may be found in science laboratories. Also, shoes protect your feet from chemical spills.
18. **Tie back loose hair.** Dangling hair may fall into a Bunsen burner and catch on fire or may fall into a chemical solution. Additionally, pushing hair from your face with a gloved hand can transfer harmful chemicals to your face.
19. **Carefully inspect all protective equipment before using.** Do not use any defective personal protective equipment. Report any defective equipment.
20. **Do not put pipettes or spatulas into reagent bottles.** Do not return unused chemicals or solutions to their original bottles. Contamination can ruin current and future experiments and result in a larger amount of waste for disposal. To weigh solids, transfer the desired amount to glazed weighing paper or the appropriate glassware. Do not weigh solids directly on the pans of a balance.

### In the Field:

1. **Be prepared** for emergencies that may arise.
  2. **Animal bites or scratches:** Notify your sponsor or field supervisor immediately, no matter how insignificant the injury may seem.
  3. **Injuries from fish or reptiles:** Notify your sponsor or field supervisor immediately.
  4. **Ticks:** After being in the field, inspect yourself carefully. Should you be bitten by a tick, remove and save the tick and note exposure in a field log. Watch the area of the bite carefully. If irritation or a bull's-eye rash develop, it would be prudent to see a doctor.
  5. **Raw water exposure:** Persons working in the field are apt to have small cuts and scratches on their hands and arms and therefore are at risk for contracting infections as a result of handling marine organisms or from exposure to raw water. Good personal hygiene, especially frequent and thorough washing is a strong defense.
  6. **Sun:** To protect yourself over long (or short) periods in the sun, use sunscreen, wear solid clothing, and wear a hat and sunglasses. Drink plenty of water and be wary of signs of heat exhaustion.
  7. **Cuts:** For any cuts, see your sponsor for appropriate care. Closed-toed shoes are mandatory for **all** fieldwork. This is especially important for persons wading where there is any potential for material on the bottom that might lacerate unprotected feet.
  8. **Vehicles and Vessels:** Sponsors are required to provide safety instructions and gear, as needed, and to insist that students follow all safety procedures.
    - **Vehicles:** For insurance/liability reasons, students are not allowed to drive state cars, trucks or private vehicles.
    - **Vessels:** Students are not permitted to handle VIMS boats unless they have been trained and approved by Vessel Operations staff. A Personal Flotation Device must be worn by students on vessels at all times. All participants and faculty sponsors should be aware of any non-swimmers. All rules as expressed by the captain of the vessel must be followed.
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## **SAFETY & ADMINISTRATIVE FORMS**

### **To be completed prior to student participation:**

- VIMS Liability Release Form (Student & Parent/Guardian sign)
- Emergency Medical Treatment Consent (Parent/Guardian signs, requires notary)
- Safety Checklist (Faculty Sponsors complete, Parent signs)
- & Safety Sign-Off (Student signs)

### **To be completed as needed during the Program:**

- Off Campus Release for Field Work & Special Activities (Sponsor & Student sign)

## VOLUNTEER/VISITOR LIABILITY RELEASE - FIELDWORK AND LABORATORY

In consideration of my being allowed to participate in programs which may include classes, field trips, laboratory work, or voyages on vessels owned and operated by the School of Marine Science/Virginia Institute of Marine Science (SMS/VIMS) (beginning on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, continuing for a duration of one year from this date, I (“the Participant”) do hereby release the Commonwealth of Virginia, the College of William & Mary (“the College”), its board of visitors, SMS/VIMS, and its officers, employees, and agents (“the Sponsors”) from responsibility for:

- Any and all injuries caused by the negligence, recklessness, or intentional acts of myself and/or any third parties. This waiver does not include injury caused by the negligence, recklessness, or intentional acts by the Sponsors.
- Any and all property damage that may occur while I participate in classes, field trips, laboratory work, or sea voyages on vessels owned and operated by SMS/VIMS. This waiver includes all property damage, including that caused by the negligence, recklessness, or intentional acts of myself, third parties, and/or the Sponsors.

I hereby acknowledge that my (or my child’s) participation is strictly voluntary, and that by signing this document I knowingly assume all risks associated with my (or my child’s) participation in field or laboratory work at SMS/VIMS. I (or my minor child) agree to follow all supervisory instructions while participating in activities of the Sponsors.

**Assumption of Risk:** I fully appreciate the nature and extent of the risks involved in and including participating in classes, field trips, laboratory work, or voyages on vessels owned and operated by SMS/VIMS. Participation in field trips, laboratory work, and sea voyages carry inherent risks that cannot be eliminated regardless of the care taken. These risks include, but are not limited to:

- Minor cuts and abrasions
- Insect-borne illnesses
- Injuries and illnesses resulting from the effects of weather, including high heat or cold temperatures, high winds, humidity, and precipitation
- Drowning
- Chemical and thermal burns
- Absorption and inhalation of chemicals
- Ingestion of chemicals
- Unanticipated failure of laboratory equipment

**Representations Concerning Health:** With full knowledge of the risks inherent to classes, field trips, laboratory work, or sea voyages on vessels owned and operated by SMS/VIMS, I represent that I (or my child) am in good health and do not have any condition which will interfere with my (or my child’s) ability to participate in these activities or endanger my (or my child’s) health in connection with these activities. I acknowledge valid and current insurance to cover any injury or damage I (or my child) may cause or suffer while participating in the classes, field trips, laboratory work, or voyages on vessels owned and operated by SMS/VIMS. I authorize, but do not obligate, a SMS/VIMS representative to seek emergency medical treatment for me (or my child) in the event of an accident or illness that occurs during my (or my child’s) participation in class, a field trip, laboratory work, or a sea voyage on a vessel owned and operated by SMS/VIMS, even in the event that I (or my child) am unconscious or otherwise cannot consent.

I attest that if I (or my child) have recently suffered an illness, injury, or impairment, or have any concerns about my (or my child's) ability to participate in the classes, field trips, laboratory work, or sea voyages on vessels owned and operated by SMS/VIMS, I should have or did consult a physician prior to my participation. I further take full responsibility for consulting a physician if I experience any doubt as to my (or my child's) ability to successfully and safely complete the classes, field trips, laboratory work, or sea voyages on vessels owned and operated by SMS/VIMS once they have begun.

**Acknowledgement of Understanding:** I have read this agreement and fully understand its terms. I understand that I may consult an attorney before signing this document if I so choose. I acknowledge that I am signing the agreement freely and voluntarily, and intend it by my signature to be a release of liability as stated above and as it relates to activities of the Sponsors to the greatest extent allowed by law. I further state that I am of lawful age and legally competent to sign this affirmation and release (or that I am lawfully signing it on behalf of a minor child), and that I have signed this document of my own free will.

I give permission for SMS/VIMS and/or the College to take still photographs and or videos of me (or my minor child) and to use and distribute these images without compensation, on any media platform, including but not limited to the VIMS website, social media, and local news media outlets. I understand that I am not required to give this permission to participate in the program.

Signed at \_\_\_\_\_, Virginia on this \_\_\_\_\_ of \_\_\_\_\_, 2019.

\_\_\_\_\_  
(Participant's Signature) (Participant's Printed Name)

\_\_\_\_\_  
(Signature of Parent or Guardian if Participant is a Minor – **Signature Requires a Notary.**)

JURAT

City/County of \_\_\_\_\_  
Commonwealth of Virginia

The foregoing instrument was subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

By \_\_\_\_\_

\_\_\_\_\_  
Notary Public's signature

Notary Registration number: \_\_\_\_\_

## FACULTY SPONSOR & STUDENT SAFETY CHECKLIST

**Faculty Sponsors:** Review this checklist with your student(s) and be sure the proper way to prevent or handle any potentially hazardous situations is understood.

What potential hazards might your student(s) come in contact with?

**In the field:**

- Handling living and preserved organisms; and contact with natural hazards such as poison ivy, ticks, mushrooms, insects, spiders, snakes and other wildlife
- Field activities in, near, or over bodies of water
- Hazards associated with direct sunlight (sunburn and eye damage)

**In the lab:**

- Handling of glass tubing, sharp objects, glassware, and labware
- Natural gas burners, Bunsen burners, and other sources of flame/heat
- Use of extreme temperatures and cryogenic materials
- Hazardous chemicals including toxins, carcinogens, flammables and explosive materials
- Acid/base neutralization reactions/dilutions
- Production of toxic gases or situations where high pressures are generated
- Biological cultures, their appropriate disposal, and recombinant DNA
- Laser beam, UV, and other radiation.

**Other:**

- Power equipment/motors
- High voltage/exposed wiring

**I am aware** of the VIMS Governor's School Safety Protocol and the potential hazards my child may come in contact with.

**Parent Signature:** \_\_\_\_\_

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### VIMS Governor's School Safety Sign Off Form

**I acknowledge** that I have received, read and understand the VIMS Governor's School Safety Protocol. I have had the opportunity to ask questions and agree to comply with all safety requirements. I understand that failure to abide by these guidelines is grounds for dismissal from the Governor's School program.

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Student Name (please print): \_\_\_\_\_

Faculty Sponsor name: \_\_\_\_\_

## Off-Campus Field Work and Special Activities Release Form

Please use this form to record all arrangements surrounding field trips and any other OFF-CAMPUS events.

Turn completed forms in to RA before the trip or event.

1. **WHO** is going? (students, mentor, driver, etc.)
2. **WHAT** is the event or activity?
3. **WHERE** will you be going?
4. **WHEN** will this happen? Date, departure time, arrival time?
5. **HOW** is this to be done? Please explain any logistical details not obvious from the above. Note meeting places, telephone numbers, etc.
6. Will this require special transportation arrangements? No \_\_\_ Yes\_\_\_.  
If yes, what is the plan?
7. Are any special arrangements necessary for meals? No\_\_\_ Yes \_\_\_.  
If yes, what is needed?
8. Signatures:  
Sponsor or designated representative: \_\_\_\_\_  
Students(s): \_\_\_\_\_  
\_\_\_\_\_
9. Date: \_\_\_\_\_

# STUDENT PROJECT SUPPORT

**See subsequent pages for:**

- Program Schedule & Student Assignments -- See page 5
- Apprentice Contract
- Oral Presentation Suggestions
- Campus Map
- Note pages

**APPRENTICE RESEARCH CONTRACT**  
**Virginia Institute of Marine Science**

**Note to student:**

The purpose of this contract is to define in one page exactly what the student will accomplish at VIMS and the means by which the student will reach this goal. Please be as specific as possible (i.e., number of samples, number of days in the field, process and procedures to be used, final product.)

**Contract Objectives:**

**Title of Project:**

**Deliverables:**

(Please be specific about expected products, including specifications for the final report)

**Student Signature:** \_\_\_\_\_

**Faculty Sponsor Signature:** \_\_\_\_\_

**Assistant Sponsor Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## Oral Presentation Suggestions

The oral presentation during the final week of the VIMS Governor's School is a scientific discussion on the research work you completed/attempted during your apprenticeship. You will be presenting to your peers, faculty sponsors, supervisors and other interested VIMS staff. Your presentation is expected to be well organized and well rehearsed.

1. Each presentation is to be **15 minutes** in length.
2. Your oral presentation should be organized in the following manner:
  - I. Introduction (What do you plan to talk about?)
  - II. Main body of discussion (The "meat" of your talk)
  - III. Summary/concluding statement(s) (What did you find out? What is the significance of your work?)
3. In general, discuss what you accomplished during your apprenticeship. What did you observe? What data did you collect and how did you analyze them? What experiment (if any) did you run? What type of equipment was used? Describe the theory/background of your project.
4. Students are expected to use visual aids. Digital images for Power Point presentations are recommended. For a 15 minute presentation, 10-12 slides are usually plenty. Also consider using prop items, as appropriate.
5. Be sure that you thoroughly understand your topic and presentation content so as to remain in consistent eye contact with your audience. Do not read your outline/notes to your audience.
6. Remember to provide good transition statements throughout your talk to lead the listener from one topic point to another.
7. Be prepared to answer questions from your audience. These questions may pertain to your research and/or your personal feelings/thoughts about the apprenticeship work.

(Adapted from New Horizons Governor's School for Science and Technology Mentorship Handbook)

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Boat Basin	
Aquaculture Pump House	B1
Boat Shed	B8
CBF Virginia Oyster Restoration Center	B2
Dive Locker	B9
Field Support Center	B7
Finfish Greenhouse	B5
Oyster Hatchery	B6
SAV Greenhouse	B3
Teaching Marsh	B10
Turtle Greenhouse	B4

Visitor Parking	
Short-term	P1
CBH Lot*	P2
Clayton Lot*	P3
Triangle Lot*	P4

*\*Please see Receptionist in Watermen's Hall for Guest Pass. (Unless marked Event Parking.)*

Upper Campus	
Abrahamson House	U18
Visitor Lodging	
Andrews Hall	U2
Brown House	U23
Shoreline Studies	
Catlett-Burruss Building	U13
CBNERR Offices	U14
Wilson House	
CBNERR Storage	U24
CBNERR-WQ	U12
CCRM Facility	U25
Chesapeake Bay Hall	U6
Clayton House	U9
Concrete Pier Pumpouse	U5
Customer Service Center	U3
Facilities Management, Shipping & Receiving	
Davis Hall	U11
Facilities Conference Room	U4
Facilities Management Bldg. (Under construction)	U20
Hall House	U21
Multispecies Research Group	
Hoxton Hall	U0
News & Media Services	
Maintenance Complex	U1
Maury Hall	U7
VA Seagrant, Outreach	
Nunnally Hall	U22
Fisheries Science	
Research Storage Building	U19
Safety Office	U10
Seawater Research Laboratory	U15
Sowers House	U17
HR, Payroll, Int. Advisor, Procurement	
Water Treatment Storage Bldg.	U16
Watermen's Hall	U8

ADA Accessibility	
Full	Partial
First Floor	None

Virginia Institute of Marine Science  
 William & Mary  
**Gloucester Point Campus**  
**VIMS** | WILLIAM & MARY  
 VIRGINIA INSTITUTE OF MARINE SCIENCE

April 2018

# NOTES