



# Biology/Environmental Science Dual Degree Program Guide 2024-25

(UPDATED 05/03/24)

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## **ORIENTATION**

Welcome to the Dual-degree program between Salisbury University (SU) and University of Maryland Eastern Shore (UMES). Environmental science is a multi-disciplinary field of study that brings together life and earth sciences with strong foundational support in quantitative and other allied sciences such as chemistry and physics. The dual-degree program at SU/UMES is aimed at students interested in further academic pursuits or careers in environmental science fields; throughout your coursework, you will gain skills and knowledge that will elevate your education and experiences both in the field and lab. Students who leave with the dual degrees from SU and UMES enter graduate programs and/or find careers in government and non-governmental organizations directly working in their field of study.

Students enrolled in the dual-degree program will apply and be matriculated students at both institutions. Being a student enrolled at both campuses means access to resources from both, such as the entire body of courses available, facilities for research and studying at both locations, and a range of instructors, mentors, and peers. The expectations within the program are that students manage coursework at both SU and UMES, requiring additional efforts in registering, scheduling, and travel. This program guide will help orient you to those expectations, and should be a useful reference during your time at SU/UMES to stay on top of the deadlines and requirements.

## **STUDENT COMMUNITY**

There will be several opportunities during your time in the dual-degree program to connect with students and faculty on both campuses. In addition to the courses you will take, there will be two program meetings and several informal gatherings each year.

### **Program meetings**

In the fall semester, a small assembly is hosted at SU to welcome new students in the program and connect with current students who can offer helpful advice throughout your academic career. Representatives from the academic advising office will also be in attendance to discuss planning your course loads and answer other questions.

An official orientation to UMES is normally scheduled for late in the spring semester where students travel on a bus to UMES to tour the campus, meet the faculty, and learn the “ropes” there. Stay tuned for emails just after Program Planning in the Spring.

## **APPLYING FOR ADMISSION TO UMES**

As mentioned above, all students in the dual-degree program are officially matriculated students at both campuses. This means that dual-degree students need to apply for admission to UMES. This application is due before you are enrolled in courses at UMES, but it is still possible to take courses at UMES while the application is pending. In other words, if you are late to this step, it will **not** necessarily prevent you from moving forward in the program. However, for ease of registration for classes, course-transfer, correspondences with course instructors, and program directors, completing this step early is vital.

As a first-year student in the dual-degree program (first-year in college, not including any dual-enrollment programs in high school), you will meet with a faculty academic advisor during the spring semester of your first year. Students who transfer to SU will have met with this faculty advisor during the fall planning period as well. During this Program Planning appointment, you

will be advised to begin taking classes at UMES, provided satisfactory progress within the program. At this point, you will apply for admission; the fee is waived for dual-degree students, but there may be a cost associated with acquiring your transcripts.

## Application Walk-Through

Dual Degree students should apply through the on-line portal -<https://www.umes.edu/apply/>

1. Choose Undergraduate admissions
2. Complete “Create an Account”
  - a. You will create a username (first initial, middle initial, last name is good) and a password (use UMES criteria) that will allow you access to HawkWeb, Blackboard etc. (see “Grades for UMES courses...”)
3. You should apply as a “Transfer student” and will need to send a transcript from SU as a component of your application.
  - a. Your SU transcript will be sent to UMES for you (no request necessary).
  - b. If you have taken any coursework at another institution besides SU (i.e., transfer credits), **You must provide both SU and UMES** with an official transcript of this work. SU cannot forward transcripts for courses taken at other campuses.
  - c. You must send your transcripts directly to the UMES Registrar’s Office.
  - d. You must also send any/all AP credit test scores that you sent to SU to UMES.
4. When you get to the application fee part, SU Dual Degree students should choose “Payment by Check”.
  - a. This will allow you to complete the application form. SU will then provide a list of the applicants to admissions and have their application fees waived.

If you run into any problems with this, please let me know and I will find a solution!

***We recommend that you create a folder (paper or on your computer) and save copies of all paperwork concerning records sent to UMES in case something gets lost!***

## **REGISTERING FOR COURSES**

Registration for classes is done after you have been advised by your SU Advisor during the Program Planning weeks. You register for your SU classes on Gullnet, **but not your UMES classes**. Instead, you will fill out an Application for Inter-institutional Enrollment form, available [here](#); it is the first link under “Registration Forms”. There are FAQs (frequently asked questions) and a copy of the form in Appendix A1 of this guide.

Please make sure you and your advisor **sign it electronically** (you can do this with Acrobat Reader DC, a free download here: <https://get.adobe.com/reader/>). Keep a copy for yourself, send one to your advisor, and then you must deliver the completed form to the program coordinator by email ([CJBradley@salisbury.edu](mailto:CJBradley@salisbury.edu)). The coordinator will sign it, make a record of it, and make sure it gets sent the SU and UMES Registrars.

Once you are registered, the course will show up as a GENL 499 on your GullNet schedule, and then it will convert to the transferred course name (with the grade) after the grades are sent to SU.

## Tuition

There is **no tuition charge for UMES courses**, but a \$25 lab fee will be billed to you for each lab

class. If you receive ANY other bills besides the lab fees and the diploma fee (see below), please notify me. Also, forms such as a health assessment, etc., do not apply to you and can be ignored. When in doubt, ask the program coordinator or your advisor.

If you wish to take courses at UMES in winter or summer, you must register as a transfer student. You will be billed for tuition, and you will not receive a grade (just a T or T1).

## **STUDENT INFORMATION AT UMES**

### **On-line access**

Once you have set up your account, username and password, you will get a UMES student ID number. Your UMES computer account gives you access to the login page <http://my.umes.edu/> and this is the portal for many, many apps, including the UMES Blackboard system and to Hawkweb for information on grades, classes etc.

### **Identification and Parking**

You can also get a UMES Student ID card, the “HawkCard.” The HawkCard office is located in Student Service Center, Room 1135 on the UMES campus. Students are expected to have this ID card while on campus at UMES.

If you are not taking the bus (see below) between SU and UMES, you will need to obtain a parking pass to park on campus. If you have a parking tag for SU campus, it will be acceptable in the student parking areas there. If you do not have a parking tag for SU, there is an [online form](#) to fill out prior to getting your UMES parking pass from the Parking Permit office, located in Student Services Center, Room 2150.

### **Grades and course transfer**

You will be able to view your grades before they are sent to SU (which usually takes several weeks). Please note that your GullNet account will show only the designation GENL 449-001 or similar and the appropriate total of credit hours to hold the place for the UMES courses. Once grades are posted, the appropriate designation and grade will transfer into your GullNet account. (There is a time-lag for this step so be patient). Textbook information is usually available in the syllabi (=syllabuses) for each course. You may order your books (and also search for them) on the UMES bookstore website: [www.umes.bkstr.com](http://www.umes.bkstr.com).

## **DUAL DEGREE COURSE REQUIREMENTS AND REGISTRATION**

Your checklist (Appendix A2 in this guide) will be your roadmap to the program. Please use it to track the courses you have taken, and to understand the requirements. There is also a course guide (Appendix A3 in this guide) that gives you an example of how to organize each semester. This is not necessarily how you will arrange your classes, but it gives you some ideas for how to schedule every class. Always confer with your advisor to get professional advice. Make a tentative 4.5 year plan with your Advisor; this will make registration much easier for you in future semesters.

When registering, check your schedule carefully for conflicts between UMES and SU courses. GullNet screens for conflicts among SU courses, but it **cannot** check for conflicts between the 2 campuses. It is incumbent on you to plan carefully and not be caught at the end needing an additional course to graduate. You must also allow time for the commute between the two

campuses when planning your schedule.

Because you are enrolling at two campuses and Gullnet cannot monitor time conflicts, you will be given priority registration, so be sure to sign up for the first week of advising.

### UMES Schedule

The program coordinator will send out the UMES course schedule by e-mail to dual-degree students before or during advising (UMES is typically a week behind SU in registration). To begin courses at UMES you must have a C or better in BIOL 201 & 202, and CHEM 121 & 122.

**Please note:** most of the UMES courses have the lecture and lab as separate courses; you will register for them separately and each is assigned a separate grade. So, for example, if you received a D in the lab but a B in the lecture, you would only have to re-take the lab.

You may wish to take gen. ed. courses at UMES as a freshman, but please check with your Advisor to make sure that a course you take at UMES will transfer in as an equivalent course at SU. The number of credits is determined by UMES: if the UMES class is 3 credits, you will receive 3 credits. Therefore, if the SU requirement is for a 4-credit course, taking a 3-credit course will not satisfy the requirement. You will not need to apply for admission if you are just taking a gen. ed. course there.

Remember, if you register yourself at UMES and take the course as a transfer student, you will pay extra for the credits and you will receive a T or T1 instead of a grade. If you register as a co-op student by submitting the IIR (Inter-Institutional Registration) Form in the spring or fall semester, there is no tuition fee and you will receive a grade. Students cannot take co-op courses during the winter or summer semester.

Briefly, you will begin in your first year by taking the two introductory biology courses, two general chemistry courses, and an introductory geology course, along with other general education requirements. In your sophomore year, you continue with your 200 level biology courses at SU and begin with UMES courses, taking Oceanography and Marine Biology in the fall, and Principles of Environmental Science in the spring.

A few important notes: Dual Degree students must take BIOL 211, but can choose between BIOL 212 or 213. If you take BOTH 212 AND 213, one will be counted as an elective. You must have a C or better in CHEM 121, 122, AND 221 before moving to the next CHEM course. Organic Chemistry I (CHEM 221 at SU or CHEM 211+213 at UMES) is a prerequisite for Marine Ecotoxicology, which you will take in your senior year. Finally, a C or better is required for all BIOL core and all ENV5 courses to graduate in the program. Follow the guidelines in the Course Catalog and work with your Advisor to plan of the remaining requirements.

### **TRANSPORTATION - UMES / SU Shuttle Bus**

Shuttle service between SU and UMES is provided by Shore Transit. Students must show their ID card each time they ride the shuttle bus between the two universities.

To find schedules:

- Go to [www.shoretransit.org](http://www.shoretransit.org) and select “Schedules” from the “Stops & Schedules” pull-down menu.
- Select “253 Salisbury-Princess Anne-Pocomoke” from the “Choose a Route” pull-down menu. There you can find a complete list of time of pick-ups and returns for transportation

between SU and UMES.

- A direct link to the schedule is found here: [http://www.shoretransit.org/StopsSchedules/ScheduleChart.aspx?route\\_refid=253a](http://www.shoretransit.org/StopsSchedules/ScheduleChart.aspx?route_refid=253a) and a PDF of the schedule is found in Appendix B1.

The bus stop location from SU to UMES will be at the Shore Transit bus stop located on Rt. 13 in front of Maggs Gym. Drop-offs at SU will be at the Shore Transit bus stop located on Rt. 13 in front of Pat's Pizzeria across the street from Maggs Gym. Students should use the underpass to get to campus. Departure and drop-off locations at UMES will be at the Student Services Center. Students can expect an approximate 20-30 minute bus ride between the two universities. Shore Transit can be reached at 443-260-2300 or by email at [www.shoretransit.org](http://www.shoretransit.org).

## **GRADUATION**

It is your responsibility to meet all SU and Biology Dept. graduation requirements, and the UMES Natural Sciences Dept. graduation requirements, including:

- Taking 30 credits of 300-400 level courses with a C or better;
- Completing 44 hours of biology with a minimum GPA of 2.0
  - 24 of those credits must be 300/400 level.
- Completing 30 credit hours of coursework at UMES; 17 of these credits are required courses offered by UMES: Marine Biology lecture and lab (4); Oceanography lecture and lab (4); Principles of Environmental Science lecture and lab (4); Marine Ecotoxicology lecture and lab (4); and the Senior Proficiency Exam (1). The remaining 13 UMES credits can be satisfied by taking any of the following:
  - BIOL/ENVS electives: BIOL 400, Marine and Estuarine Ecology (4); ENVS 498, Independent Study (3); or ENVS 499, or Undergraduate Research (4);
  - General Education courses (on-line or face to face classes).

As with SU, you will need to complete an online UMES Application for Graduation. This is done for UMES during the semester in which you will graduate. You will receive a notice from UMES after they review whether or not your courses and grades (and pending grades) satisfy the requirements for graduation. If all is satisfied up to that point, you will be invited to apply for your UMES diploma

To make sure this process goes smoothly, double-check and triple-check that all external transcripts and AP credits have been sent to UMES.

You will be required to obtain signatures on a UMES clearance form ONLY from Student Accounts, University Police, and the Library at the end of the semester in which you graduate. If you do not plan on attending the UMES ceremony, you must submit an Absentia Form to the UMES Registrar's office. These are available on the Registrar's website.

By mid-May or mid-December (depending on semester of graduation), you must submit a \$35 commencement fee to the UMES Office of Student Accounts. Because of delays in grade postings, etc., it may be a few months before you receive the UMES diploma in the mail.

## Appendices for SU/UMES Dual-Degree Program

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## A1. Inter-institutional Registration (IIR) FAQs and Form

- ❑ Inter-Institutional Registration (IIR) with other USM institutions will be accepted as credit earned at SU.
- ❑ Interested students must have a combined semester course load enrollment at both institutions of at least 12 credits, and at least six of the credits must be taken at Salisbury University.
- ❑ SU students pay full-time tuition and fees to Salisbury University and may be assessed additional fees by the host institution.
- ❑ Grades and credits earned in applicable courses taken through inter-institutional registration will be considered as resident credit and, therefore, will be included in the calculation of semester and cumulative totals on SU records.
- ❑ Students should complete the online USM IIR form located on the SU Registrar's Office forms webpage.
- ❑ Approval must be obtained from Advisor (signature in "Academic Approval" section) and from the Advising Services Coordinator (signature under "Other institution approval as appropriate").

## Frequently Asked Questions

### 1. Where do I access the Inter-Institutional Registration (IIR) form?

⇒ The UMS IIR form can be found on the [SU Office of the Registrar - Resources - Forms](#) webpage.

### 2. What is the difference between Home and Host Institutions?

⇒ The Home Institution is where you are currently enrolled as a full-time student. The Host Institution is where you want to enroll in the course(s).

### 3. What signatures do I need on the Inter-Institutional Registration form?

⇒ Your Advisor and Advising Services Coordinator should approve the home equivalency course and sign under the academic approval section.

### 4. How can I find my Advising Services Coordinator?

⇒ Find your Advising Services Coordinator on the [SU Academic Advising Center Staff webpage](#).

### 5. How soon can I expect to be enrolled in the class/classes I requested?

⇒ Please allow up to 10 business days due to the process involves multiple institutions and departments.

### 6. If I turn my form in prior to registration opening, am I guaranteed to get the class I requested?

⇒ Inter-Institutional students are not given priority registration, depending on processing time, a class you requested may have closed. In that case you will receive an email and given instructions on how to proceed.

### 7. Where do I submit my completed form?

⇒ Completed forms should be turned into the Registrar's Office of your Home Institution.

### 8. How will I know that I have been enrolled in a class?

⇒ The Host Institution will send an email to you with your schedule attached.





UNIVERSITY SYSTEM OF MARYLAND
Application for Inter-Institutional Registration

(View Procedures on Page 3.)

STUDENT INFORMATION:

Legal Name: Last Name First Name Middle Name

Preferred Name (if different from above): Last Name First Name Middle Name

Student ID number at Home Institution:

Permanent Address: City State ZIP

School Email: Cell phone:

Date of Birth (MM/DD/YYYY): Gender: Male Female Non-binary

A. Hispanic Ethnicity: (Choose only one) Items A and B are set up with drop-down menus

B. Race: (Choose one or press "ctrl" to select more than one)

Student Classification at the home institution:

Sophomore Junior Senior ROTC Freshman Graduate Student First Professional

For Graduate Students only, please indicate program at Home Institution:

For tuition purposes at your home institution, please indicate residency status: In-State Out-of-State

REGISTRATION INFORMATION:

Have you ever before applied to or registered for a credit-bearing class at the Host Institution? YES NO

If yes, Student ID Number at Host Institution:

If yes, Student Name at Host Institution:

Check appropriate Home Institution (current enrollment) and Host Institution (desired enrollment).

Home	Host		Home	Host	
		Bowie State University			University of Maryland, Baltimore
		Coppin State University			University of Maryland, Baltimore County
		Frostburg State University			University of Maryland, College Park
		Salisbury University			University of Maryland Eastern Shore
		Towson University			University of Maryland Global Campus*
		University of Baltimore			

\*Graduate programs only; all self-supporting programs are excluded.

Semester and Year of Desired Enrollment:  Fall  Spring  Summer\*\* Year: \_\_\_\_\_

\*\*Summer Session - self-supporting programs may be excluded

Student signature: \_\_\_\_\_ Date: \_\_\_\_\_

Students must have permission from the host institution and home institution to participate. Please complete the table below.

Host Institution Course Prefix "ex. ENG"	Host Institution Course Number "ex. 101"	Section Number "ex. 0101"	Grading Option	Credit Hours	Home Institution Evaluation (course or requirement)	Home Institution Academic Approval (provide name and title)
Total Credits Requested:						

Other Home Institution Academic Approval (as needed)\* \_\_\_\_\_  
 Name Title Date

**FOR OFFICIAL USE ONLY- HOME INSTITUTION REGISTRATION APPROVAL**

To be completed by the Coordinator or Registrar. Check one according to institutional policies:

Inter-Institutional Registration  Collaborative/Cooperative Program  Other (specify): \_\_\_\_\_

If needed, please complete the following:

Agency Code: \_\_\_\_\_ Program: \_\_\_\_\_ Fund: \_\_\_\_\_ Object Source: \_\_\_\_\_ Transaction Code: \_\_\_\_\_

Printed Name and Title: \_\_\_\_\_ Date: \_\_\_\_\_

Signature of Registrar or Designee (IIR Coordinator)\* \_\_\_\_\_

\*Signature certifies that student is degree-seeking, in good academic standing, and has met the prerequisites or other criteria set for screened or restricted programs of study. Undergraduate students enrolling through Inter-Institutional registration must be full-time students (when host and home institution credits are combined) according to the home institution. Approval does not ensure availability of placement in the course at the host institution.

**Procedural notes: If this application is sent by email, it shall be sent with encryption, via a secure share process, or through use of an FTP site or by other secure means to protect student information.**

Student ID: \_\_\_\_\_  
Student Name: \_\_\_\_\_  
Advisor Name: \_\_\_\_\_

## Biology, B.S. and Environmental Science Dual Degree

Advisement for the major is available from the Biological Sciences Department.

### Biology, B.S. and Environmental Science Dual Degree Curriculum Guide (Suggested 5-Year Plan of Study)

To graduate with a degree in biology, students must:

- Complete the 27 credits in the biology dual degree core and at least 17 additional credits in BIOL or ENVS (UMES) with an overall GPA of 2.0 or higher.
- At least 24 of these 44 credits must be at the 300-400 level.
- May receive credit within the major for up to six credits of BIOL 415 , BIOL 416 , BIOL 417 , and BIOL 420 . A maximum of 3 credits of BIOL 420 may count toward the major.

### Dual Degree Students

SU and UMES offer a four and a half year, dual-degree program in biology and environmental science. Students from SU who complete the program receive a Bachelor of Science in biology from SU and a Bachelor of Science in environmental science with the marine ecology option from UMES.

Students in this program:

- Complete a minimum of 30 semester credit hours on the UMES campus, including at least 17 hours of designated BIOL/ENVS courses.
- Shall not begin environmental science coursework at UMES until they have completed BIOL 201, BIOL 202, BIOL 211, BIOL 212 or BIOL 213; CHEM 121; and CHEM 122 with a C or better in all four courses.
- Complete registration for UMES courses by submitting an interinstitutional enrollment form available from their advisor or the Registrar's Office.

### Transfer Students

Transfer students seeking the degree in biology must complete a minimum of 15 credit hours of courses in biology at Salisbury University.

### Checklist

This checklist is an unofficial tool for planning. Matriculated students and advisors should consult the Academic Requirements Report in GullNet before and after registering for classes each semester to track academic progress.

## University Undergraduate Major Policies

- Refer to the program page for this major and the Courses section of this catalog for approved prerequisites and General Education courses.
- Program requirements may not equal 120 credit hours. Students must register for additional electives to complete 120 credits required for graduation.
- All graduates must have a minimum of 30 credits of 300/400-level courses with C grade or above; at least 15 of those credits must be taken at SU.
- Students must have a minimum cumulative GPA of 2.0 for graduation.
- Students must complete at least 30 credit hours by direct classroom instruction and/or laboratory experience.
- Students must take 30 of the last 37 credit hours at SU.
- It is the student's responsibility to satisfy graduation requirements. Please refer to the program page of this catalog for detailed major requirements.
- Students must apply online for graduation by November 15 for May and by May 15 for December.

## General Education Requirements

See which courses fulfill specific General Education requirements: General Education Courses

Please Note: There may be courses required for your major or minor that also satisfy a requirement below.

### SU Signature Outcomes Requirements (3 Courses)

*These courses may also meet additional General Education and/or major requirements.*

#### Complete 1 Course In Each Of The Following Areas (3 Courses):

Course Name	Hour(s) Credit	Term Taken	Grade
GENE CCE - Civic and Community Engagement	3-4 Hour(s) Credit		
GENE DI - Diversity and Inclusion	3-4 Hour(s) Credit		
GENE ES - Environmental Sustainability	3-4 Hour(s) Credit		

### Additional General Education Requirements (11 Courses)

*These courses may also meet SU Signature Outcomes and/or major requirements.*

\* To be taken in the first 24 credit hours of courses

**Complete 1 Course In Each Of The Following (3 Courses):**

Course Name	Hour(s) Credit	Term Taken	Grade
GENE FYS - First Year Seminar	4 Hour(s) Credit		
GENE CTW - Communicating Through Writing *	3-4 Hour(s) Credit		
GENE QA - Quantitative Analysis *	3-4 Hour(s) Credit		

**Complete 1 Course In Each Of The Following - Must Be From Different Content Areas (2 Courses):**

Course Name	Hour(s) Credit	Term Taken	Grade
GENE HE - Human Expression	3-4 Hour(s) Credit		
GENE HIC - Humanity In Context	3-4 Hour(s) Credit		

**Complete 1 Course In Each Of The Following - Must Be From Different Content Areas (2 Courses):**

Course Name	Hour(s) Credit	Term Taken	Grade
GENE SC - Social Configurations	3-4 Hour(s) Credit		
GENE SI - Social Issues	3-4 Hour(s) Credit		

**Complete 1 Course In Each Of The Following - Must Be From Different Content Areas (2 Courses):**

Course Name	Hour(s) Credit	Term Taken	Grade
GENE HOS - Hands-On Science	4 Hour(s) Credit		
GENE STS - Solutions Through Science	3-4 Hour(s) Credit		

**Complete 1 Course In Each Of The Following (2 Courses):**

Course Name	Hour(s) Credit	Term Taken	Grade
GENE PW - Personal Wellness	4 Hour(s) Credit		
GENE EL - Experiential Learning	Min. of 3 Hour(s) Credit		

**Major Requirements****Biology Dual Degree Core****Complete the Following:**

\* A C or better is required in BIOL 201, BIOL 202, BIOL 211, and BIOL 212 or BIOL 213 before taking any courses for which they are a prerequisite and as a requirement for graduation.

No course may double count to fulfill requirements.

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 201 - Introduction to Biology: Molecular and Cellular Biology *	4 Hour(s) Credit		
BIOL 202 - Introduction to Biology: Evolution and Ecology *	4 Hour(s) Credit		
BIOL 211 - Microbiology *	4 Hour(s) Credit		
BIOL 212 - Introduction to Plant Biology *	4 Hour(s) Credit		
OR			
BIOL 213 - Zoology *	4 Hour(s) Credit		
BIOL 310 - Ecology	4 Hour(s) Credit		
BIOL 360 - Genetic Analysis	4 Hour(s) Credit		
OR			
BIOL 370 - Molecular Genetics	4 Hour(s) Credit		
BIOL 375 - Evolution	3 Hour(s) Credit		

**Environmental Science Courses**

\*\* UMES courses; C or better is required.

- ENVS 201(lec)/203(lab)\*\* - Marine Biology **4 Hour(s) Credit**
- ENVS 202(lec)/204(lab)\*\* - Oceanography **4 Hour(s) Credit**
- ENVS 221(lec)/222(lab)\*\* - Principles of Environmental Science **4 Hour(s) Credit**
- ENVS 403(lec)/405(lab)\*\* - Marine Ecotoxicology **4 Hour(s) Credit**
- DNSC 400\*\* - Senior Proficiency Exam **1 Hour(s) Credit**

**Complete the Following:**

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 401 - Wetland Ecology	4 Hour(s) Credit		

BIOL 3XX/4XXX Enviro Track Electives (See List Below) 3-4 Hour(s) Credit:			
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**Complete 1 of the Following:**

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 410 - Estuarine Ecology	4 Hour(s) Credit		
BIOL 488 - Marine and Estuarine Ecology 4 Hour(s) Credit **			

**Complete 1 of the Following:**

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 420 - Readings in Biology (3 Hour(s) Credit)	1-3 Hour(s) Credit		
ENVS 498 - Independent Study 4 Hour(s) Credit **			

**Complete 1 of the Following:**

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 415 - Research in Biology (3 Hour(s) Credit)	1-3 Hour(s) Credit		
(must be taken for 3 credits to count toward the major) ENVS 499 - Undergraduate Research 4 Hour(s) Credit **			

**Required Related Sciences Courses**

\*\*\* A C or better is required in CHEM 121, CHEM 122, and CHEM 221 before taking any courses for which they are a prerequisite and as a requirement for graduation.

\*\*\*\* A C or better is required in CHEM 121 as a prerequisite to this course.

Course Name	Hour(s) Credit	Term Taken	Grade
CHEM 121 - General Chemistry I ***	4 Hour(s) Credit		
CHEM 122 - General Chemistry II ***	4 Hour(s) Credit		
CHEM 221 - Organic Chemistry I	4 Hour(s) Credit		
CHEM 222 - Organic Chemistry II ****	4 Hour(s) Credit		
MATH 155 - Modern Statistics with Computer Analysis	3 Hour(s) Credit		

**Complete 1 of the Following:**

Course Name	Hour(s) Credit	Term Taken	Grade
PHYS 121 - General Physics I	4 Hour(s) Credit		
PHYS 221 - Physics I	4 Hour(s) Credit		

**Complete 1 of the Following:**

Course Name	Hour(s) Credit	Term Taken	Grade
PHYS 123 - General Physics II	4 Hour(s) Credit		
PHYS 223 - Physics II	4 Hour(s) Credit		

**Complete 1 of the Following:**

Course Name	Hour(s) Credit	Term Taken	Grade
MATH 198 - Calculus I For Biology and Medicine	4 Hour(s) Credit		
MATH 201 - Calculus I	4 Hour(s) Credit		

**Complete the Following:**

Course Name	Hour(s) Credit	Term Taken	Grade
MATH 202 - Calculus II	4 Hour(s) Credit		

**Complete 1 of the Following:**

Course Name	Hour(s) Credit	Term Taken	Grade
GEOG 104 - Earth and Space Science	4 Hour(s) Credit		
GEOG 105 - The Dynamic Environment	4 Hour(s) Credit		
GEOG 219 - Map Interpretation and Analysis	4 Hour(s) Credit		

**Environmental Biology (Enviro Track) Electives**

A course may not be used as an elective if it was taken to fulfill another requirement in the major.

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 302 - Bioinformatics I	4 Hour(s) Credit		
BIOL 303 - Conservation Biology	3 Hour(s) Credit		
BIOL 310 - Ecology	4 Hour(s) Credit		
BIOL 312 - Plant Taxonomy	3 Hour(s) Credit		
BIOL 320 - Biology of The Vertebrates	4 Hour(s) Credit		

BIOL 322 - Parasitology <i>Spring Only</i>	4 Hour(s) Credit		
BIOL 324 - Plant Morphology	3 Hour(s) Credit		
BIOL 325 - Plant Anatomy	4 Hour(s) Credit		
BIOL 375 - Evolution	3 Hour(s) Credit		
BIOL 398 - International Topics in Ecology	4 Hour(s) Credit		
BIOL 399 - International Field Studies	3 Hour(s) Credit		
BIOL 401 - Wetland Ecology	4 Hour(s) Credit		
BIOL 405 - Biology of Birds	4 Hour(s) Credit		
BIOL 407 - The Biology of Fishes	4 Hour(s) Credit		
BIOL 410 - Estuarine Ecology	4 Hour(s) Credit		
BIOL 413 - Entomology	4 Hour(s) Credit		
BIOL 415 - Research in Biology	1-3 Hour(s) Credit		
BIOL 416 - Research in Biology	1-3 Hour(s) Credit		
BIOL 417 - International Research in Biology	4 Hour(s) Credit		
BIOL 418 - Biology Seminar	1 Hour(s) Credit		
BIOL 420 - Readings in Biology	1-3 Hour(s) Credit		
BIOL 421 - Mammalogy	4 Hour(s) Credit		
BIOL 422 - Vertebrate Physiology	4 Hour(s) Credit		
BIOL 423 - Biology of Reptiles and Amphibians	4 Hour(s) Credit		
BIOL 425 - Toxicology	3 Hour(s) Credit		
BIOL 433 - Environmental Microbiology	4 Hour(s) Credit		

**Notes:**

Student ID: \_\_\_\_\_  
 Student Name: \_\_\_\_\_  
 Advisor Name: \_\_\_\_\_

Catalog: 2024-2025 Undergraduate & Graduate Catalog  
 Program: Biology, B.S. and Environmental Science Dual Degree Curriculum Guide

## Biology, B.S. and Environmental Science Dual Degree Curriculum Guide

This curriculum guide is an unofficial tool for planning. Matriculated students and advisors should consult the Academic Requirements Report in GullNet before and after registering for classes each semester to track academic progress.

No course may double count to fulfill requirements.

\* Enviro Electives: BIOL 302, BIOL 303, BIOL 312, BIOL 320, BIOL 322, BIOL 324, BIOL 325, BIOL 398, BIOL 399, BIOL 405, BIOL 407, BIOL 410, BIOL 413, BIOL 415, BIOL 416, BIOL 417, BIOL 418, BIOL 420, BIOL 421, BIOL 422, BIOL 423, BIOL 425, BIOL 433

### University Undergraduate Major Policies

- Refer to the program page for this major and the Courses section of this catalog for approved prerequisites and General Education courses.
- Program requirements may not equal 120 credit hours. Students must register for additional electives to complete 120 credits required for graduation.
- All graduates must have a minimum of 30 credits of 300/400-level courses with C grade or above; at least 15 of those credits must be taken at SU.
- Students must have a minimum cumulative GPA of 2.0 for graduation.
- Students must complete at least 30 credit hours by direct classroom instruction and/or laboratory experience.
- Students must take 30 of the last 37 credit hours at SU.
- It is the student's responsibility to satisfy graduation requirements. Please refer to the program page of this catalog for detailed major requirements.
- Students must apply online for graduation by November 15 for May and by May 15 for December.

### First Year

#### Semester 1

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 202 - Introduction to Biology: Evolution and Ecology	4 Hour(s) Credit		
CHEM 121 - General Chemistry I	4 Hour(s) Credit		
GENE FYS - First Year Seminar	4 Hour(s) Credit		
GENE PW - Personal Wellness	4 Hour(s) Credit		

**Total Credits: 16**

#### Semester 2

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 201 - Introduction to Biology: Molecular and Cellular Biology	4 Hour(s) Credit		
CHEM 122 - General Chemistry II	4 Hour(s) Credit		
GEOG XXX - GEOG 104, GEOG 105 or GEOG 219 <b>4 Hour(s) Credit</b>			
GENE CTW - Communicating Through Writing	3-4 Hour(s) Credit		

**Total Credits: 15-16/31-32**

### Winter/Summer Term

List courses that were taken during winter/summer terms:

## Second Year

### Semester 1

Course Name	Hour(s) Credit	Term Taken	Grade
CHEM 221 - Organic Chemistry I	4 Hour(s) Credit		
MATH 198 - Calculus I For Biology and Medicine	4 Hour(s) Credit		
<b>OR</b>			
MATH 201 - Calculus I	4 Hour(s) Credit		
ENVS 201 - Marine Biology <b>3 Hour(s) Credit</b> ENVS 202 - Oceanography <b>4 Hour(s) Credit</b> ENVS 203 - Marine Biology Laboratory <b>1 Hour(s) Credit</b> ENVS 204 - General Oceanography Laboratory <b>1 Hour(s) Credit</b>			

**Total Credits: 17/48-49**

### Semester 2

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 2XX - one must be BIOL 211 <b>4 Hour(s) Credit</b>			
CHEM 222 - Organic Chemistry II	4 Hour(s) Credit		
ENVS 221 - Principles of Environmental Science <b>3 Hour(s) Credit</b> ENVS 222 - Principles of Environmental Science Laboratory <b>1 Hour(s) Credit</b>			
MATH 202 - Calculus II	4 Hour(s) Credit		

**Total Credits: 16/64-65**

### Winter/Summer Term

List courses that were taken during winter /summer terms:



## Third Year

### Semester 1

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 2XX - one must be BIOL 211 <b>4 Hour(s) Credit</b>			
BIOL 360 - Genetic Analysis	4 Hour(s) Credit		
<b>OR</b>			
BIOL 370 - Molecular Genetics	4 Hour(s) Credit		
BIOL 3XX/4XX Enviro Elective* <b>3-4 Hour(s) Credit</b>			
PHYS 121 - General Physics I	4 Hour(s) Credit		
<b>OR</b>			
PHYS 221 - Physics I	4 Hour(s) Credit		
GENE DI - Diversity and Inclusion	3-4 Hour(s) Credit		

**Total Credits: 18-20/82-85**

### Semester 2

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 310 - Ecology	4 Hour(s) Credit		
GENE HE - Human Expression	3-4 Hour(s) Credit		
PHYS 123 - General Physics II	4 Hour(s) Credit		
<b>OR</b>			
PHYS 223 - Physics II	4 Hour(s) Credit		
MATH 155 - Modern Statistics with Computer Analysis	3 Hour(s) Credit		
GENE CCE - Civic and Community Engagement	3-4 Hour(s) Credit		

**Total Credits: 17-19/99-104**

### Winter/Summer Term

List courses that were taken during winter/summer terms:

## Fourth Year

### Semester 1

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 401 - Wetland Ecology	4 Hour(s) Credit		
ENVS 403 - Marine Ecotoxicology <b>3 Hour(s) Credit</b> ENVS 405 - Marine Ecotoxicology Laboratory <b>1 Hour(s) Credit</b>			
GENE HIC - Humanity In Context	3-4 Hour(s) Credit		
BIOL 420 - Readings in Biology (3 Hour(s) Credit)	1-3 Hour(s) Credit		
<b>OR</b> ENVS 498 - Independent Study <b>3 Hour(s) Credit</b>			

**Total Credit:12-15/111-119**

### Semester 2

Course Name	Hour(s) Credit	Term Taken	Grade
BIOL 375 - Evolution	3 Hour(s) Credit		
GENE SC - Social Configurations	3-4 Hour(s) Credit		
BIOL 410 - Estuarine Ecology	4 Hour(s) Credit		
<b>OR</b> ENVS 400 - Marine and Estuarine Ecology <b>4 Hour(s) Credit</b>			
BIOL 415 - Research in Biology (3 Hour(s) Credit)	1-3 Hour(s) Credit		
<b>OR</b> ENVS 499 - Undergraduate Research <b>4 Hour(s) Credit</b>			

**Total Credits: 11-15/122-134**

## Fifth Year

### Semester 1

Course Name	Hour(s) Credit	Term Taken	Grade
GENE SI - Social Issues	3-4 Hour(s) Credit		
DNCS 400 Senior Proficiency Seminar <b>1 Hour(s) Credit</b>			
GENE EL - Experiential Learning	Min. of 3 Hour(s) Credit		

**Total Credits: 7-8/129-146**

Notes:

## transfer points & connections

The following Transfer Points and Connections are serviced by this bus route:

CONNECTIONS	STOPS
116, 432, 452 & Delmarva Community Transit	Calvert St., in Salisbury
432 & 452	Walmart - Pocomoke
706, 432, & 452	Princess Anne Transfer Point
432 & 452	Walmart - Fruitland

## how to read this schedule

\$273: Sign Post Road	-	7:49	9:49
\$234: Dash In - North ①	5:38	7:53 ②	9:53
\$232: Westover Park and Ride	5:43	7:58	9:58
\$218: Wilson Landing - North	5:50	8:05	10:05
\$217: Kings Creek Market - North ③	5:53	8:08 ④	10:08
\$207: Greenwood Gardens Apartments	5:59	8:14	10:14
\$208: Hampden Ave. - North	6:03	8:18	10:18

1. Find the stop closest to you to get on the bus
2. See when the bus stops near you
3. Find your destination
4. Follow the row across to see your arrival time.

## fares & payment options

### Single Ride (Cash & Tickets)

Cash: Exact Fare Only. No Pennies Please.

Tickets: Can be purchased in increments of \$.50, \$1, \$1.50, and \$3

Adult	\$3.00
Senior (65 or older)/ Disabled/Medicare	\$1.50
Child under 42"	FREE

Children must be accompanied by an adult.

### Shore Transit Fixed Route Pass (a \$2 one-time initial processing fee)

Unlimited rides... Big savings!

7 days	\$25	21 days	\$75
14 days	\$50	30 days	\$100

### Shore Transit Holidays

There will be NO Service on the following Holidays:

\*New Year's Day    \*Easter    \*Thanksgiving    \*Christmas Day

Shore Transit  
31901 Tri-County Way  
Salisbury, MD 21804

[www.shoretransit.org](http://www.shoretransit.org) | [info@shoretransit.org](mailto:info@shoretransit.org)



Here are some tips to make riding with Shore Transit easy and pleasant for everyone:

- Arrive at the bus stop a few minutes early
- Have your fare ready before you board
- Allow passengers to exit the bus before boarding
- Ask the operator if you're unsure it's the right bus
- Show your bus pass or deposit your fare into the Box
- Be courteous to the bus operator and others
- Please let elderly or disabled riders sit in the front
- Don't smoke, eat, or drink on the bus
- Talk quietly and use clean language
- Dress appropriately (shirt and shoes must be worn)
- No animals (except service animals) allowed
- Use headphones for your music player
- Keep cell phones silenced
- Don't leave trash or belongings on the bus
- Pull the yellow cord about a block before the stop where you want to get off
- Exit the bus safely & Thanks for riding!

### Customer Service

For General Information, as well as for information regarding the following: Lost & Found, Bus Schedules, Tickets & Passes, Origin-To-Destination Services & Cancellations, Mobility / Risk Management, please call our office at 443-260-2300.

TTY users call via Maryland Relay 7-1-1



Shore Transit buses meet Americans with Disabilities Act (ADA) requirements, offering wheelchair lifts to accommodate customers with disabilities.

Wheelchairs and other mobility devices will be transported as long as they can be safely accommodated by our wheelchair lifts and fit within the securement area.

Shore Transit offers Paratransit Service for persons with a qualifying disability which prevents use of the Fixed Route system. This service includes Eligibility Certification requirements and different service characteristics (including fares and advanced reservations). Please call 443-260-2300 to receive additional information Paratransit Service.

Shore Transit receives funding from the Federal Transit Administration, the Maryland Department of Human Resources, the Maryland Transit Administration, and Somerset, Wicomico, and Worcester Counties.

Shore Transit assures that no person shall, on the grounds of race, color, or national origin, as provided by the Title VI of the Civil Rights Act of 1964 and the Civil Rights Act of 1987, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity. For more info or to file a complaint, please contact our Mobility Management Coordinator.

## Salisbury, Princess Anne & Pocomoke

July 1, 2023



# 253

MON - FRI

### SERVING

Tri-County Council Multi-Purpose Ctr.  
Calvert St.  
Salisbury University  
Princess Anne Transfer Point  
Walmart - Pocomoke  
Westover Transfer Point  
Walmart - Fruitland  
Wor-Wic Community College

### Designated Flag Stops

*\* Please call ahead for flag stop service. Even though designated, flag stop locations do not guarantee service. For assured pick-up, use transit stops with listed service times on the reverse side of this schedule brochure.*

Princess Anne Post Office  
Hampden Ave. - Princess Anne  
Kings Creek Market  
Wilson Landing  
Revell's Neck Rd.  
Park & Ride - Westover  
Sysco/ Costen Rd. - Pocomoke



[www.shoretransit.org](http://www.shoretransit.org)  
443-260-2300



# Salisbury, Princess Anne & Pocomoke

PM times are **BOLD**

- means no service

Operates Monday - Friday

**CODE ORANGE:** During inclement weather events, service may not operate fully.

When Shore Transit is operating under **CODE ORANGE**,

**ONLY THE STOPS IDENTIFIED BELOW BY ORANGE COLOR WILL BE SERVED.**

<b>S100: Shore Transit Terminal</b>	4:00	5:30	7:00	-	8:20	-	11:00	<b>12:15</b>	<b>4:15</b>	<b>7:00</b>
<b>S173: Calvert St.</b>	4:15	5:45	7:15	-	8:35	-	11:15	<b>12:30</b>	<b>4:30</b>	<b>7:15</b>
<b>S153: Salisbury Plaza</b>	4:20	5:50	7:20	-	8:40	-	11:20	<b>12:35</b>	<b>4:35</b>	<b>7:20</b>
<b>S174: Salisbury University (Maggs Activity Ctr.)</b>	4:23	5:53	7:23	-	8:43	-	11:23	<b>12:38</b>	<b>4:38</b>	<b>7:23</b>
<b>S181: Walmart - Fruitland</b>	4:31	6:01	7:31	-	8:51	-	11:31	<b>12:46</b>	<b>4:46</b>	<b>7:31</b>
<b>S283: Food Lion - Fruitland</b>	4:35	6:05	7:35	-	8:55	-	11:35	<b>12:50</b>	<b>4:50</b>	<b>7:35</b>
<b>S326: Top City</b>	4:37	6:07	7:37	-	8:57	-	11:37	<b>12:52</b>	<b>4:52</b>	<b>7:37</b>
<b>S229: UMES (Student Services)</b>	4:52	6:22	7:52	-	9:12	-	11:52	<b>1:07</b>	<b>5:07</b>	<b>7:52</b>
<b>S215: Princess Anne Transfer Point</b>	4:58	6:28	7:58	-	9:18	-	11:58	<b>1:13</b>	<b>5:13</b>	<b>7:58</b>
<b>S207: Stewart Neck Rd. @ Somerset Ave.</b>	5:03	6:33	8:03	-	9:23	-	<b>12:03</b>	<b>1:18</b>	<b>5:18</b>	<b>8:03</b>
<b>S232: Westover Transfer Point</b>	5:10	6:40	8:10	-	9:30	-	<b>12:10</b>	<b>1:25</b>	<b>5:25</b>	<b>8:10</b>
<b>S259: Walmart - Pocomoke City</b>	5:23	6:53	8:23	9:25	9:43	10:45	<b>12:23</b>	<b>1:38</b>	<b>5:38</b>	<b>8:23</b>
<b>S232: Westover Transfer Point</b>	5:35	7:05	-	9:37	-	10:57	<b>12:35</b>	<b>1:50</b>	<b>5:50</b>	<b>8:35</b>
<b>S348: Somerset Ave. @ Stewart Neck Rd.</b>	5:41	7:11	-	9:43	-	11:03	<b>12:41</b>	<b>1:56</b>	<b>5:56</b>	<b>8:41</b>
<b>S215: Princess Anne Transfer Point</b>	5:50	7:20	-	9:52	-	11:12	<b>12:50</b>	<b>2:05</b>	<b>6:05</b>	<b>8:50</b>
<b>S229: UMES (Student Services)</b>	5:59	7:29	-	10:01	-	11:21	<b>12:59</b>	<b>2:14</b>	-	<b>8:59</b>
<b>S325: Red Fox - Fruitland</b>	6:12	7:42	-	10:14	-	11:34	<b>1:12</b>	<b>2:27</b>	<b>6:16</b>	<b>9:12</b>
<b>S181: Walmart - Fruitland</b>	6:16	7:46	-	10:18	-	11:38	<b>1:16</b>	<b>2:31</b>	<b>6:20</b>	<b>9:16</b>
<b>S107: Pat's Pizzeria</b>	6:20	7:50	-	10:22	-	11:42	<b>1:20</b>	<b>2:35</b>	<b>6:24</b>	<b>9:20</b>
<b>S173: Calvert St.</b>	6:25	7:55	-	10:27	-	11:47	<b>1:25</b>	<b>2:40</b>	<b>6:29</b>	<b>9:25</b>
<b>S193: Wor Wic Community College</b>	-	8:06	-	10:38	-	11:58	<b>1:36</b>	<b>2:51</b>	<b>6:40</b>	<b>9:36</b>
<b>S100: Shore Transit Terminal</b>	6:40	8:10	-	10:42	-	<b>12:02</b>	<b>1:40</b>	<b>2:55</b>	<b>6:44</b>	<b>9:40</b>

**Flag Stops only in designated areas. For complete list for this route, see reverse side.**

**Please be advised that more than one bus services this route. If your travel time spans more than one "trip or loop", gaps in service and/or changing buses may occur.**