

**MATES Guidance Department
Program of Studies
2020-2021 School Year**



Marine Academy of Technology and Environmental Science

*195 Cedar Bridge Rd.
Manahawkin, NJ 08050*



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*Ocean County Vocational Technical School District
An Equal Opportunity Employer*

Affirmative Action

It is the policy of the Board of Education of Ocean County Technical School District not to discriminate in its technical programs, vocational opportunities, activities, employment practices or admission policies and practices on the basis of race, color, creed, religion, sex, ancestry, national origin, affectional and sexual orientation, disability or social or economic status. Lack of English language skills will not be a deterrent to admission to any program at the Ocean County Vocational Technical School District.

The Affirmative Action Policy, Comprehensive Equity Plan, and grievance procedures are located in the main office of the Ocean County Vocational Technical School Board of Education and in the main office of each school within the district.

Affirmative Action Grievance Procedure

Inquiries regarding affirmative action, discrimination (including Federal Title IX requirements), sexual harassment, or equity should be directed to:

Dr. Michael Maschi, Affirmative Action Officer
732-240-6414

Mission Statement

The mission of the Marine Academy of Technology and Environmental Science (MATES) is to provide an opportunity to students in Ocean County to become critical thinkers and problem solvers. Students of this academy will participate in an intimate, integrated, and challenging curriculum with a focus on marine and environmental science. MATES will empower its students with skills important to post-secondary study and employment in a global community.



The mission of the Ocean County Vocational Technical School system is to prepare students for job placement or further education leading to successful employment.

We develop partnerships with affiliated schools, parents, business, industry, and community agencies to create and deliver opportunities for students to participate in quality occupational programs and support services. These programs and services are designed to meet the needs of high school students and adult learners, as well as the requirements of employers, colleges, technical schools and the community. All students will achieve the New Jersey Core Curriculum Content Standards at all grade levels.

Counselor Contact Information

Ms. Kate Conway
kconway@mail.ocvts.org
609-978-8439 ext. 4013

Mrs. Julia Giglio-Stork
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609-978-8439 ext. 4019

Visit our MATES Counseling website: matescounselingdept.weebly.com
And our MATES Counseling Instagram: [mates_counselors](https://www.instagram.com/mates_counselors)

What is the role of a School Counselor?

As per guidelines set forth by the American School Counselor Association (ASCA):

High school years are full of growth, promise, excitement, frustration, disappointment and hope. It is the time when students begin to discover what the future holds for them. High school counselors have an impact on these years by implementing a comprehensive school counseling program and collaborating with school staff, parents and the community to create a safe and respectful learning environment. High school counselors enhance the learning process and promote academic, career and social/emotional development. High school counseling programs are essential for students to achieve optimal personal growth, acquire positive social skills and values, set informed career goals and realize their full academic potential to become productive, contributing members of the world community.

School counselors do not provide therapy or long-term counseling in schools; however, school counselors are prepared to recognize and respond to student mental health needs and to assist students and families seeking resources.

High school counselors hold a master's degree and required state certification in school counseling. Maintaining certification includes ongoing professional development to stay current with educational reform and challenges facing today's students. Professional association membership enhances the school counselor's knowledge and effectiveness.

School counselors help all students:

- plan for post-secondary options (higher education, military, work force)
- apply academic achievement strategies
- manage emotions and apply interpersonal skills

Appropriate duties include providing:

- individual student academic planning and goal setting
- short-term counseling to students, as needed
- referrals for long-term support
- collaboration with families/teachers/administrators/community for student success
- advocacy for students at individual education plan meetings and other student-focused meetings
- data analysis to identify student issues, needs, and challenges

Some reasons you may want to see your counselor:

- Experiencing academic difficulty
- Personal problems that may impact academic performance

- To obtain assistance with the college search/application/admissions process
- To obtain information on scholarship, financial aid, and volunteer opportunities
- To explore career options
- To discuss post-secondary plans: college, work, military
- To help improve communication skills with teachers and parents

Grade Timelines

Freshman Year:

Fall:

- ✓ During your individual meetings with your counselor, discuss your adjustment to MATES, previous summer activities, and any academic or career plans.
- ✓ Get involved in extracurricular, volunteer, and community activities.
- ✓ Freshmen will automatically be registered for the Preliminary Scholastic Aptitude Test (PSAT 8/9), which will take place later this year (date TBD) at MATES.
- ✓ After your counselor has registered you for the Naviance College Search Program, familiarize yourself with the program.
- ✓ Virtually meet with college admissions representatives who will begin visiting MATES this month and continue through the fall. It is never too early to start exploring your options!

Spring:

- ✓ Track your grades in order to assess your academic progress. Seek help from teachers, peers, or your counselor, if necessary. Peer tutoring can be arranged by your counselor.
- ✓ Start brainstorming your summer plans, such as summer programs, vacation, volunteer work, Jumpstart, etc.

NOTE: The most important thing you can do in your freshman year is to get involved in the MATES community, begin creating relationship with your peers and the MATES staff, and focus on maintaining your grades.

Sophomore Year:

Summer:

- ✓ Students selected for Research Methods who have not yet completed Spanish II will be taking it over summer.

Fall:

- ✓ Virtually meet with college admissions representatives who will begin visiting MATES this month and continue through the fall.
- ✓ PSAT NMSQT will be administered in October at MATES. Sophomores will be automatically registered.
- ✓ PSAT score reports will be distributed in school once scores are released. Note your areas of strength and where you may need improvement.
- ✓ Sign up for clubs at the club fair. Continue extracurricular involvement and seek leadership opportunities.

January – March:

- ✓ Plan a meaningful summer activity by volunteering in a community service agency or hospital, taking a summer course, finding a job, playing a summer sport, or bring involved in other meaningful activities.
- ✓ Refer to Ms. Conway's Summer Experience list, which is posted on the Counseling Page on the Bulletin Board and emailed in January.
- ✓ Register for and take the Chemistry SAT subject test (optional). Your teacher will discuss details with you.

May – August:

- ✓ Continue to familiarize yourself with Naviance and its tools.
 - ✓ Talk to your parents about colleges/careers that interest you.
 - ✓ Take the career inventory quiz on Naviance if you need help deciding a career path.
 - ✓ Start visiting colleges. Schedule a guided tour or attend an open house. Try to gain a general impression of the college including the overall environment of the campus, quality of classrooms, student center, career planning and placement office, residential facilities, etc. Review the student handbook regarding college visit policies.
-

Junior Year:**Summer:**

- ✓ Begin visiting colleges if you have not already done so. Attend an open house or schedule a campus tour.
- ✓ Participate in a meaningful extracurricular activity, volunteer, find a summer job, etc.
- ✓ Begin researching your college of interests' current dual enrollment credit policies in order to make informed decisions for the upcoming year.

September:

- ✓ Meet with college admissions representatives who will begin visiting MATES this month and continue through the fall.

October:

- ✓ You will automatically be registered for the PSAT NMSQT, which will take place this month at MATES. This is the year your scores may qualify you for scholarships!
- ✓ Attend a college fair in your area.
- ✓ Begin preliminary college discussions with your parents.
- ✓ Begin familiarizing yourself with Naviance and its features, if you have not already done so.

November:

- ✓ Continue to strive for academic achievement. This is a very important year because it is the last full year of grades colleges will see when making admission decisions.
- ✓ Develop further in-depth extracurricular activities and leadership positions.
- ✓ Begin reviewing college websites and their admission requirements.

December:

- ✓ Your PSAT scores will become available to you, and score reports will be distributed in school. Review your scores and consider an SAT prep course, if appropriate.
- ✓ Register for an SAT administration in the next few months.
- ✓ Register for the SAT subject tests, in accordance with your college of interests' admission requirements.

January - February:

- ✓ Continue researching colleges and building a preliminary list of prospective colleges. Add these colleges to your “Colleges I’m Thinking About” list on Naviance.
- ✓ Begin looking into a meaningful summer activity (e.g. internship, college course, job).
- ✓ Develop a college finance plan with your parents.
- ✓ Register for the Biology SAT subject test after completing Bio-Technology (optional).
- ✓ Sign up for an ACT administration to take over the next few months.

March-April:

- ✓ Continue visiting colleges. Include a variety of schools ranging in size, selectivity, location, and characteristics. Apply how you feel about these environments to schools you may not be able to visit.
- ✓ Continue working hard to maintain your grades.
- ✓ Sign up for SAT/SAT subject tests to take near the end of this school year.
- ✓ Visit colleges over spring break.
- ✓ Work on your brag sheets that were mailed home and prepare a list of questions you may want to ask your counselor at your college meeting this spring.

May:

- ✓ Brainstorm which teachers you may ask for letters of recommendation. Refer to the guidelines in the packet mailed home earlier in spring. *NOTE – you will not ask teachers for letters of recommendation until told it is time to do so.
- ✓ Research sources of scholarships and procedures for applying.
- ✓ Begin to narrow your college choices while continuing your visits.
- ✓ Sign up for SAT/SAT subject tests to take at the end of the school year and/or August. It is ideal to try to complete all testing before senior year begins.

June:

- ✓ Take the SAT subject tests to be prepared for early decision/early action deadlines if you choose to do so. Deadlines for early applications generally range from mid-October to mid-November. Some colleges require two SAT subject tests and some require a third.
- ✓ This is a great time to take the Physics SAT subject test (optional) since you are completing the course.
- ✓ When told it is time to do so, ask two teachers who know you well for letters of recommendation. Have them sign the request forms and return them to your counselor.

July-August:

- ✓ Organize records of grades, extracurricular activities, honors, awards, and standardized test scores.
- ✓ Continue fine-tuning your resume.
- ✓ Continue college visits, especially in late August after students return to campus.
- ✓ Create a Common Application account on commonapp.org AFTER August 1.
- ✓ Work on your college essays and supplemental essays.

Senior Year:**Summer:**

- ✓ Consider the August SAT administration.
- ✓ Begin working on your Common Application after August 1.
- ✓ Continue adding colleges to your “Colleges I’m thinking about” section on Naviance.

September:

- ✓ Register of fall administrations of college entrance exams, if necessary. Be mindful of leaving enough time before admission deadlines to be able to test, receive, and send your scores.
- ✓ Waive your FERPA rights on your Common App.
- ✓ Match your Common App and Naviance account.
- ✓ Request your letters of recommendation on Naviance, if you have not already done so.
- ✓ Email your recommenders to inform them of your upcoming college deadlines.
- ✓ Request your transcripts on Naviance AND using a paper request form, located outside the Counseling wing, on the Bulletin Board, and the MATES Counseling Website.
- ✓ Complete CSS profile.

October:

- ✓ Begin completing your college applications.
- ✓ Complete the FAFSA by visiting FAFSA.gov. The application opens October 1.
- ✓ Send your ACT/SAT and Subject Test directly from their websites to the colleges to which you are applying. Allow up to 6 weeks for them to be sent during high peak application time. They are not on your transcript.
- ✓ Continue meeting with college admission reps visiting MATES. These are often the same people who are reviewing your applications, so it is very beneficial to meet them in person and introduce yourself.
- ✓ Check your Naviance account to see if your letters of recommendation were uploaded by your selected teachers.

November:

- ✓ Continue visiting colleges and consider overnight visits for those to which you are seriously considering applying.
- ✓ Maintain your grades and extracurricular activities.

January – March:

- ✓ Continue monitoring the scholarship tab on your Naviance account. At this point in time, new scholarship opportunities are added almost every day.
- ✓ Contact your home school's counseling department to request access to their scholarship offerings for which you may be eligible.

April:

- ✓ Meet with your counselor if you need assistance deciding to which college you should commit.
- ✓ Update your Naviance account by setting your attending school once you decide.

May:

- ✓ Notify your counselor which school you have chosen.
- ✓ Send thank you notes to teachers who wrote your recommendations.
- ✓ If you are waitlisted at your first-choice school, develop a strategy with your counselor to remain a viable candidate.

June:

- ✓ All students are encouraged to attend Awards Night.
- ✓ Send thank you letters to the scholarship committees that selected you to receive monetary awards.
- ✓ Enjoy your accomplishments by participating in the end-of-the-year activities.

Academic Assistance and Intervention

All teachers are available to students to provide extra help at a specified time during lunch/activity period. Please refer to your teacher's syllabus for more information. This is an excellent opportunity to work with your teacher one-on-one in order to address any questions you may have or clarify course content. If you feel you may benefit from more personalized attention, peer tutoring is also available. Please see your counselor to be matched with a peer tutor who excels in the area in which you need assistance.

Students may be placed on a Personal Improvement Plan (PIP) as an academic intervention to improve a class grade. The counselor, teacher, and student contribute to the development of the PIP in order to set a personalized, attainable goal to be accomplished by a specified date (e.g. increase course average ten points in the next 4 weeks). Follow up PIPs may be created, as needed, dependent upon the student's progress.

If you have any questions or concerns about a grade, the first point of contact should always be the instructor. If concerns continue, the second point of contact should be the student's counselor.

College/Career Planning

College/career planning is an integral part of each student's high school experience. It is a collaborative process, involving all MATES staff, that begins in freshman year and continues through senior year, with increased focus on the college process beginning in spring of junior year.

In the spring of junior year, counselors will meet with students individually for their official college meetings. At that time, families will receive a comprehensive college process guide to assist with planning. Traditionally, meetings are on a one-on-one basis in person; however, due to the current pandemic, meetings will be conducted virtually. Furthermore, follow up questions are welcomed at any time by email or phone. Students may also schedule virtual follow up meetings, if necessary, or visit the counselors at our "Counseling Outpost" in the senior lounge area during lunch/activity period.

Confidentiality

Everything you tell your counselor will remain confidential **unless**:

- You or someone else is in danger of being hurt.
- There is a medical emergency.
- You have a conflict in a class that can be easily resolved by speaking to the teacher.
- You grant us permission to discuss with someone else.

In summary, details of what is discussed will only be shared if your or someone else's wellbeing is at risk, or you grant us permission to discuss with another person. Your counselors care about earning your trust and are ethically bound to proceed in this manner.

HIB: Harassment, Intimidation, Bullying

A safe and civil environment in school is necessary for students to learn and achieve high academic standards. Harassment, intimidation, or bullying is conduct that disrupts both a student's ability to learn and a school's ability to educate its students in a safe environment.

No student should feel uncomfortable or unsafe at school. We encourage students and parents to contact their counselors or administration to report possible HIB violations. Students may also utilize the anonymous reporting box located in the Counseling wing, next to the copy machine.

Please note that as per state law, an investigation must take place in certain situations. Both MATES counselors fulfill the roles of Anti-Bullying Specialists (ABS) for our school. The role of the ABS is to objectively record the perspectives of all parties involved in an investigation in order to determine if a situation is considered a HIB violation, as defined by state law. Follow up counseling support may be provided to the parties involved, as deemed necessary. The counselors are never involved in disciplinary decisions that may result from an investigation.

College Credit Opportunities

Students will have the option to pursue earning college credits at a discounted rate from Ocean County College and Stockton University for certain embedded courses they will already be taking at MATES. These courses will be taken during junior and senior years, with the exception of some sophomores in advanced Spanish. Students will be notified by our Dual Enrollment Coordinator, Mrs. Giglio-Stork, in advance, as these opportunities arise.

This can be an excellent savings for students, as these college credits are available for a fraction of the cost you will pay in college! However, please be aware that these dual enrollment credits may not transfer to all colleges/universities. We encourage you to research your colleges/universities of interest to learn about their current dual enrollment credit transfer policies. Additionally, you may visit NJtransfer.org to explore the transferability of your Ocean County College courses to public four-year colleges/universities in New Jersey.

Students may elect to take additional courses through Ocean County College's Jumpstart program on the college campus, as well. These credits are also available at a discounted rate for high school students. Transferability rules are consistent with those of dual enrollment courses taken at MATES, so it is important to research prospective college/university policies before committing. This is not a MATES requirement and is completely *optional*. Please note, any courses taken outside of the MATES course of study will not appear on your MATES transcript.

Services for Students with Disabilities (SSD)

Students who receive accommodations or modifications in accordance with an Individualized Education Program or 504 Plan do not automatically qualify for these services on standardized tests. If you would like to pursue a request for accommodations on College Board assessments (PSAT, SAT, SAT subject tests, AP exams) or the ACT, please contact MATES SSD Coordinator, Ms. Conway. The approval process may span several

weeks, so please plan accordingly. Additionally, you may be required to supply additional documentation at the request of College Board or ACT.

Grading System

The following range of grades has been approved by the Ocean County Vocational Technical School Board of Education:

<u>Grade</u>	<u>Numerical Equivalent</u>
A+	95-100
A	90-94
B+	85-89
B	80-84
C+	75-79
C	70-74
D	66-69
F	65 and below

I = Incomplete

M = Medical Exempt

NC = No Credit

Numerical grades will appear on transcripts; NOT letter grades. See your counselor if you have to convert your GPA to a 4.0 scale for any reason.

Grade Reporting

Student proficiency is measured by report card grades issued each semester and progress reports issued midway between each semester. Additional student progress updates are available at any time during the school year. Parents should contact their child's teacher and/or counselor for such updates.

If parents/guardians have questions concerning the academic progress of their child or questions concerning their child's overall adjustment to the school they have several options:

1. Contact the classroom teacher via email, phone, or letter.
2. Contact the student's guidance counselor.
3. Contact a school administrator

Only the final grade for each course appears on the student's official transcript.

MATES does not distinguish the level of courses within the school. **Grades are not weighted. Class rank is not computed.** Because of our selective admissions policy and demanding honors-level and college curriculum, the specific ranking of students requires making distinctions based on too fine of a margin. GPAs are calculated as follows: each final grade is multiplied by the number of credits for that course. These calculations are then added together and divided by the total number of earned credits.

Exams

Midterm and Final Exams

Examinations will be given in all core courses. Exams may be written, oral, or project-based. Courses averages are based on each quarter grade, the mid-term, and the final exam.

A final grade for each semester will be based on the following percentages:

Marking Period 1 – 37.5%; Marking Period 2 – 37.5%; Mid-Term – 10%; Final Exam – 15%

State Testing Requirements

The **New Jersey Student Learning Assessments (NJSLA)** are used as a measure of student competence to graduate high school. NJSLA assessments are delivered online and provide schools with thorough feedback of student progress. Students may not opt out or refuse NJSLA assessments.

The **NJSLA** assesses proficiency in English, Mathematics, and Science. More information on NJSLA can be found by visiting: <https://nj.pearsonaccessnext.com/customer/index.action>

The chart below details how students can satisfy their assessment graduation requirement:

*** Please note, the following chart outlines state testing requirements as they stood prior to the pandemic. Updates will be conveyed as they are received by the school.**

This document reflects the high school graduation assessment requirements for the Classes of 2019, 2020, 2021, and 2022, pursuant to an amended Consent Order received by the NJDOE from the Appellate Division of the Superior Court of New Jersey on June 5, 2019.

The requirements for the Class of 2019, including the cut scores, remain unchanged from the requirements that were applied to the Classes of 2017 and 2018. These requirements now apply to the Classes of 2020, 2021, and 2022.

Pathways Available	English Language Arts/Literacy (ELA)	Mathematics
First Pathway: <i>Demonstrate proficiency in the high school end-of-course NJSLA/PARCC assessments in ELA-10 and/or Algebra I</i>	NJSLA/PARCC ELA Grade 10 \geq 750 (Level 4)	NJSLA/PARCC Algebra I \geq 750 (Level 4)
Second Pathway: <i>Demonstrate proficiency in English language arts and/or mathematics by meeting the designated cut score on one of the alternative assessments</i>	NJSLA/PARCC ELA Grade 9 \geq 750 (Level 4), <i>or</i> NJSLA/PARCC ELA Grade 11 \geq 725 (Level 3) <i>or</i> SAT Critical Reading (taken before 3/1/16) \geq 400, <i>or</i> SAT Evidence-Based Reading and Writing Section (taken 3/1/16 or later) \geq 450, <i>or</i> SAT Reading Test (taken 3/1/16 or later) \geq 22, <i>or</i> ACT Reading or ACT PLAN Reading ¹ \geq 16, <i>or</i> ACCUPLACER WritePlacer \geq 6, <i>or</i> ACCUPLACER WritePlacer ESL \geq 4, <i>or</i> PSAT10 Reading or PSAT/NMSQT Reading (taken before 10/1/15) \geq 40, <i>or</i> PSAT10 Reading or PSAT/NMSQT Reading (taken 10/1/15 or later) \geq 22, <i>or</i> ACT Aspire Reading ¹ \geq 422, <i>or</i> ASVAB-AFQT Composite \geq 31	NJSLA/PARCC Geometry \geq 725 (Level 3), <i>or</i> NJSLA/PARCC Algebra II \geq 725 (Level 3) <i>or</i> SAT Math (taken before 3/1/16) \geq 400, <i>or</i> SAT Math Section (taken 3/1/16 or later) \geq 440, <i>or</i> SAT Math Test (taken 3/1/16 or later) \geq 22, <i>or</i> ACT or ACT PLAN Math ¹ \geq 16, <i>or</i> ACCUPLACER Elementary Algebra \geq 76, <i>or</i> Next-Generation ACCUPLACER Quantitative Reasoning, Algebra, and Statistics (QAS) (beginning January 2019) ² \geq 255, <i>or</i> PSAT10 Math or PSAT/NMSQT Math (taken before 10/1/15) \geq 40, <i>or</i> PSAT10 Math or PSAT/NMSQT Math (taken 10/1/15 or later) \geq 22, <i>or</i> ACT Aspire Math ¹ \geq 422, <i>or</i> ASVAB-AFQT Composite \geq 31
Third Pathway: <i>Demonstrate proficiency in English language arts and/or mathematics through Portfolio Appeals</i>	Meet the criteria of the NJDOE Portfolio Appeal for ELA	Meet the criteria of the NJDOE Portfolio Appeal for Math

Credit Structure

High schools in New Jersey may meet the state graduation requirements in whole or part in the following ways. District Boards of Education may determine and establish curricular activities/programs used in achieving the Core Curriculum Content Standards (CCCS) for promotion and graduation purposes. Curricular activities and programs may involve in-depth experiences linked to the CCCS, and interdisciplinary or theme-based programs, independent study, co-curricular or extra-curricular activities, student exchange programs, distance learning opportunities, internships, community service, or other structural learning experiences. District Boards of Education may utilize performance or assessment to approve student completion of progress and meeting /exceeding the CCCS, including those occurring all or in part, prior to a student's high school enrollment. Boards of Education may also recognize successful completion of an accredited college course that assures achievement of knowledge and skills that builds on and goes beyond the standards. This way of meeting the state graduation requirements in part is the Option II portion of graduation methods. The purpose of Option II is to provide educational experiences that are meaningful and relevant, and to provide students with opportunities to explore and achieve at high levels. Option II allows local school districts to design and implement curricular programs that meet the needs of all students and get credit for learning experiences outside the classroom. Some of these experiences may provide real-world connections not available in the school setting. Other learning experiences may go beyond what the traditional high school can provide. Option II is designed to allow schools to provide or facilitate flexible educational experiences that maximize student achievement and success.

MATES offers Option II to students to fulfill some of the requirements for graduation in the State of New Jersey.

According to the Ocean County Vocational Technical School Board of Education policy on the Marine Academy of Technology and Environmental Science graduation requirements, students must successfully complete 161.25 high school credit hours or their college equivalent to graduate.

MATES Graduation Requirements

According to the Ocean County Vocational Technical School Board of Education policy on the Marine Academy of Technology and Environmental Science graduation requirements, students must successfully complete 161.25 high school credit hours or their college equivalent to graduate.

Credits Required	161.25
Yearly Credits Required	40
English	4 Years/20 Credits
Social Studies	3 Years 5 Credits World History 10 Credits United States History
Mathematics	4 Years/35 Credits
Science	4 Years/40 Credits

Health, Physical Education¹	4 Years 18.75 Credits in Physical Education/Health 2.5 Credits in Financial Literacy
World Language	Up to Level III (10-15 credits)
Visual/Performing Arts	5 Credits
Career Education/Practical Arts	5 Credits
Elective	5 Credits

Course of Study

All courses are instructed utilizing a block scheduling format. Classes are 80 minutes.
 All students are accepted via a competitive application process and follow the same rigorous course of study.
 Students must successfully complete 161.25 high school credits or their college equivalent to graduate. All high school courses are taught at an honors level.

Freshman Year	Credit(s)
English I	5
Algebra I/Research and Mathematical Analysis (RMA)	5
Geometry	5
Chemistry I *	5
Biology I *	5
PE/Health I	5
World History	5
MATES Spanish	5
Independent Research Study *	
Total:	40

**science course requirement*

Sophomore Year	Credit(s)
English II	5
Statistics	5
Algebra II	5
Chemistry II	5
Aquatic Ecology	5
Spanish III	5
Spanish IV (OCC SPAN 152) or Research Methods/Applications	5
Health II/Driver's Education	1.25
PE II	3.75
Total:	40

Junior Year	Credit(s)
English III	5
Pre-Calculus	5
EFA/Trigonometry	5
Biotechnology (OCC BIOL 161)	5

¹ One year for each year in attendance

Physics (OCC PHYS 171/172)	5
Introduction to Art *, Spanish IV (OCC SPAN 152), or Computer Science **	5
US History I	5
PE/Health III	3.75
Financial Literacy	2.5
Total:	41.25

*Option II V/PA available as a P/F course in fulfillment of NJDOE requirements

**Placement test required

Senior Year	Credit(s)
AP Literature and Composition (OCC ENGL 151/152)	5
Calculus (OCC MATH 265)	5
US History II	5
Oceanography (SU MARS 2202)	5
Environmental Science (SU ENVL 1100)	5
Computer Science or Data Science	5
Senior Elective *	5
PE/Health IV	5
Total:	40

****Electives:** Geographic Information Systems (GIS SU GNM 1242); Geo/Astrophysics (SU GEOL 2120); Art History/Basic Drawing (OCC ARTS 182/183)

*****ALL COURSES SUBJECT TO CHANGE*****

Course Selection

The MATES curriculum is designed in a very specific way, in order to provide students with an enriched educational experience. No deviations from the set curriculum are allowed. Any courses taken outside of MATES will not be listed on the student's MATES transcript, nor may they be used as replacements for MATES courses.

Students have the option to select the elective of their choice during junior and senior years. Counselors will discuss these options at the appropriate time. All efforts will be made to accommodate each student's first choice, although placement is not guaranteed. Furthermore, schedule-related requests are not possible.

Course Guide

English I

Course Description: Classic literature is the textual focus. Emphasis is placed on literary analysis, and literature instruction is coordinated with the course's textbook, as well as selected novels. Student writing is aligned with established portfolio guidelines: process writing and final product quality are stressed. Grammar comprehension is reinforced through direct instruction. A classical vocabulary program is utilized for test-preparation, and research skills are reinforced via project work.

English II

Course Description: The study of Contemporary literature is the textual focus. Emphasis is placed on literary analysis, and literature instruction is coordinated with the course's textbook, as well as selected novels. Student writing is aligned with established portfolio guidelines: process writing and final product quality are

stressed. Grammar comprehension is reinforced through direct instruction. A classical vocabulary program is utilized for test-preparation, and research skills are reinforced via project work.

English III

Course Description: American literature is the textual focus. Emphasis is placed on literary analysis, and text-based instruction is coordinated with classical and contemporary selections. Student writing is aligned with established portfolio guidelines: process writing and final product quality are stressed. Research skills are reinforced via project work.

Advanced Placement Literature and Composition (OCC ENGL 151 and 152)

Expectations: Summer reading assignments are required prior to entering this course. The ability to balance multiple assignments, both short and long term is expected.

Course Description: This advanced placement/OCC course is designed to prepare college-bound students to critically analyze literature and composition on a challenging college level. This course will include an intensive study of American and British literary works written from a variety of genres representing various literary periods from the sixteenth century to the present. The curriculum requirements are based on the AP® English course description and are intended to prepare each student for the corresponding College Board exam at the end of the academic year. By the end of the course, students will have studied the *writer's* craft: use of language, character, action, theme, structure, meaning, value, and relevance. British and American works will help provide the models for organization, unity, and development for students to analyze written and oral expressions. Students may opt to pay for the OCC credits at the beginning of the school year and/or take the AP exam in May.

Algebra I & Research and Mathematical Analysis

Course Description: Algebra 1 & Research and Mathematical Analysis will be a unique course combining mathematical and scientific topics. Students will use various in class activities to learn how to use mathematical modeling to interpret and extrapolate data. Students will be taught the basics of collecting, analyzing, and writing about data through both group and individual research projects. Data analysis techniques will be covered, including how to use technology to analyze data. Time will also be spent on how to properly present researched topics, including paper writing, poster development, and public speaking. Throughout the course, skills from the Algebra 1 curriculum will also be reviewed, taught, and assessed to ensure students are ready to proceed with the mathematical courses ahead of them.

Algebra II

Course Description: This course builds upon the solid mathematical foundation that was laid in Algebra I. Out of class preparation is a vital component of this course along with the ability to apply critical thinking skills. Students will revisit linear and quadratic functions that were first explored in Algebra I, but will now take their understanding to a deeper level. Students will then explore matrices and conic sections as well as exponential, logarithmic, polynomial, rational, and radical functions.

Geometry

Course Description: Students will explore Euclidean geometry, basic trigonometry and other areas of enrichment. In order to promote higher level and self-directed learning, independent and cooperative projects will frequently be assigned throughout the course.

Statistics

Course Description: This course will introduce students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. Out of class preparation is a vital component of this course along with the ability to apply critical thinking skills. Students will be exposed to four main conceptual themes throughout this course:

1. Exploring data using graphical and numerical techniques.
2. Planning a study in order to collect valid information on a conjecture.
3. Anticipating patterns using probability that is oriented towards describing data distributions.
4. Using statistical inference as a guide to selecting an appropriate model.

Technology (graphing calculators and/or computer software) will be implemented as a tool for data analysis as well as the simulation approach to probability.

Elementary Function Analysis (EFA) Trigonometry

Course Description: A great deal of emphasis will be placed upon learning and understanding trigonometric functions as the students prepare for Pre-Calculus. The student will study the six basic trigonometric functions, the six basic inverse trigonometric functions and their relationship to the unit circle and right triangles. Graphs of these functions and their transformations will be emphasized, and the relationships among the functions will be explored through problems involving identities and the solving of trigonometric equations. The solutions of triangles, both right and oblique, will also be studied. To deepen their understanding, students will make extensive use of graphing calculators throughout the course. Along these ends, emphasis will be on problem solving and applying mathematics to real-world problems.

Pre-Calculus

Course Description: This is a comprehensive analysis course which focuses on algebraic and transcendental functions. Out of class preparation is a vital component of this course along with the ability to apply his/her level critical thinking skills. In addition to function analysis, topics include vectors, parametric equations, and computer algebra systems. There are several cooperative laboratory projects in which students model real-world data with relations and functions as well as solve rigorous problems that require the use of technology. The last quarter is devoted to a study of introductory calculus topics such as limits, continuity, and the concept of a derivative.

College Calculus (OCC MATH 265)

Course Description: Students enrolled in this college course will cover a study of limits and continuity; differentiation formulas for algebraic, trigonometric, inverse trigonometric, exponential and logarithmic functions; higher order derivatives; mean value theorem; applications of the derivative including related rates, maximum-minimum; graphing; L'Hospital's Rule; antiderivates; the definite integral; integration using substitution; applications of the integral to evaluation of area; alternate definition of the natural logarithmic function. Students successfully completing this course may be eligible to receive 4 credits for MATH 265 through Ocean County College.

Computer Science

Course Description: This course introduces students to computer programming techniques using a mixture of programming language. The course focuses primarily on the Java programming language and also delves into Python 3.0. Topics include: current events in technology, the history of computers, binary/octal/hex conversions, control structures, selection structures, iteration structures (loops), input/output statements, data types, methods, file input and output, arrays, inheritance, sorting algorithms, runtime analysis, the command line, and other object-oriented programming principles.

Introduction to Data Science

Course Description: Data science requires a wide-ranging set of technical skills along with a strong understanding of how to formulate problems that will offer unbiased, effective solutions. This course introduces students to this rapidly growing and high demand field. Students will learn concepts, techniques, and tools they need to deal with various facets of data science practice, including data collection and integration, exploratory data analysis, predictive modeling, descriptive modeling, and effective communication. Our focus will be on breadth as opposed to depth, and emphasis will be placed on integration and synthesis of concepts and their application to problem solving. Students will acquire a working knowledge of data science through projects and case studies covering a variety of domains. Issues of ethics are also highlighted.

Prerequisite: This course is only available to students who test into Computer Science as juniors.

Biology

Course Description: Biology is an activity driven course that covers topics in great depth and at a fast pace. Out of class preparation is a vital component of this course along with the ability to apply critical thinking skills. Completion of summer independent work is required prior to entering the class. Instruction will include inquiry-based learning along with traditional learning styles integrating the marine and environmental fields. The curriculum emphasizes cellular and molecular biology, taxonomy and an ecosystems approach to functions. Also included are invertebrate studies, genetics and evolution with an emphasis on marine invertebrates and their adaptation within the coastal ecosystem. Students are expected to expand their understanding of the framework of notes delivered in class by studying their text and outlining each unit. Unit tests frequently include materials from several chapters of the textbook as well as information gleaned from lab work. There will be extensive laboratory and fieldwork to support classroom lessons focusing on our local environment. The rigorous nature of the material being taught at this level requires students to be both highly motivated and self-directed.

Chemistry I

Course Description: This course encourages the development of higher-level thinking and problem-solving skills via self-directed activities and assignments. Out of class preparation is a vital component of this course along with the ability to apply critical thinking skills. Direct student experience is required in all lab exercises. Emphasis is on stoichiometry, atomic structure and theory, bonding, solutions and colligative properties, various equilibria, kinetics, thermodynamics and electrochemistry. There will be a relationship to chemistry in the environment especially estuarine systems. Descriptive chemistry is included on a regular basis.

Chemistry II

Course Description: This course encourages the development of higher-level thinking and problem-solving skills via self-directed activities and assignments. Out of class preparation is a vital component of this course along with the ability to apply critical thinking skills. Direct student experience is required in all lab exercises. Some of the topics in this course include: kinetic- molecular theory, kinetics, thermodynamics, electrochemistry, organic molecules, and solution equilibrium. There will be emphasis on alternative energy sources necessary to reduce the effects of pollutants in the environment. A key focus is fuel cell technology and the efficiency of them for transportation. Students will learn about the effects of biphenyls and their impact on organisms, and the effects of global warming on ocean chemical processes. There will be intensive laboratory and field related activities focusing on our local environment. Motivated students are encouraged to take the SAT II in Chemistry.

Aquatic Ecology

Course Description: This course will introduce students to the ecological principles of aquatic ecosystems. Students identify what is meant by ecology and the relationships between living and nonliving components and the principles common to all ecosystems. Out of class preparation is a vital component of this course along with the ability to apply critical thinking skills. The student will compare and contrast the different types of freshwater ecosystems and the structure and function of various invertebrates, sponges, nematodes, segmented worms, water mites, and numerous crustaceans within them. Marine ecosystems are also studied, including abiotic and biotic factors. They will study geophysical properties, chemical properties, and biological indicators of water quality. This course is field-based. The course culminates with an analysis of problem-based learning, covering topics involving the effects of human activities on natural resources, relationships between technology and society in coastal sciences, and pollution in the aquatic environment.

Biotechnology (OCC BIOL 161)

Course Description: This course is designed to be the equivalent of a college introductory biology course usually taken by biology majors during their first year. This course provides enrichment and acceleration for students with special interests in science and math. The Biotech course places a high priority on developing critical thinking skills by examining real world problems and the ongoing research in the bioengineering field. The two main goals of the Biotech course are to help students develop a conceptual framework for modern biology and to help students gain an appreciation of science as a process. The curriculum examines topics with more depth than the Biology I course and includes more advanced resource materials with a college level text for supplemental reading. Laboratory investigations will play a very prominent role in the Biotech course. Labs will be highly sophisticated and students are expected to design and carry out experiments using appropriate methods and resources. Students will also be expected to write formal lab reports over major labs. ***Students successfully completing this course will be eligible to receive 4 credits for BIOL 161 through Ocean County College.***

Physics (OCC PHYS 171 and 172)

Course Description: This course emphasizes analytical and laboratory techniques as they are applied to motion, forces, dynamics, heat, electricity and magnetism, optics and atomic theory. The course begins with a review of mechanics and proceeds with an in-depth study of heat and thermodynamics, electricity and magnetism, waves and optics, and topics in modern physics. Emphasis is on problem solving with laboratory activities designed to develop through understanding of physical phenomena. Out of class preparation is a vital component of this course, along with the ability to apply critical thinking skills. It is a course in classical physics theory designed for those students who are preparing to study science in college. Data collection techniques and analysis are emphasized throughout the course.

Students successfully completing this course will be eligible to receive 8 credits for PHYS 171 and 172 through Ocean County College.

Oceanography (SU MARS 2202)

Course Description: This course begins with the history and origins of oceanography, concentrating on the modern technological approaches to science. Students will examine physical and chemical properties of seawater, as well as the interactions of ocean, atmosphere, and climate. Further investigations include local coastlines, estuaries, and bays. Out of class preparation is a vital component of this course along with the ability to apply critical thinking skills. Students also have the opportunity to enroll in MARS 2202 for 4 credits through Stockton University.

Environmental Science (SU ENVL 1100)

Course Description: This course addresses concerns for the environment. This course is an interdisciplinary course integrating scientific principles of chemistry, biology, and earth science to understand interrelationships of the natural world. It provides an in-depth overview of the three major vectors in the environment. It emphasizes topics including: Pine Barrens Ecology, Estuarine Biology, Forestry, Wildlife Management, Population Dynamics, Toxicology, and Energy. This course will frequently require students to research current information that relates to the environment and society. Field experiences relate classroom topics to community research projects. Oral reports and group presentations will often be required. Students will be asked to think and form opinions based on research and facts rather than emotions. It is a project-based course. Students successfully completing this course may be eligible to receive 4 credits for ENVL 1100 through Stockton University.

Research Methods and Applications

Course Description: This sophomore year elective course is designed to provide students with the tools and methods necessary to conduct an independent or team research project. Students will be able to design and conduct a study relating to various aspects of physical and natural sciences. This course will focus on current projects in the local area, and the specifics of what makes a project successful. Students will meet with scientists and will learn about research being conducted in the marine and environmental science fields. Students will learn multiple presentation styles and will integrate other disciplines into the presentations. The course will include opportunities for students to present at regional and/or statewide science events as individual and/or team research projects.

Geographic Information System (GIS)- (SU GNM 1242)

Course Description: This senior year elective is designed to be an introduction to Geographic Information System that will let students make and use digital maps in creative and problem solving ways. GIS is a software system that allows users to manage and analyze geographic information to find relationships and trends in a meaningful visual model. The course will begin with basic instruction and exercises on how to use the software, and then progress to case study and project-based learning. This interdisciplinary course will focus heavily on group work, and critical thinking, and help to strengthen interpersonal communication between students. It is a course designed for students who are preparing to study environmental science, oceanography, engineering, political science, human health, and a host of other professions and fields. Students also have the opportunity to enroll in GNM 1242 for 4 credits through Stockton University.

Geo/Astrophysics (SU GEOL 2120)

Course Description: This senior year elective is a laboratory and field course dealing with the major disciplines of the Geological Sciences and Astronomy. The course will be divided into two ten-week sessions. The first will focus on the elements of Geological Sciences and Meteorology: Stratigraphy, Structural Geology, Sedimentology, Paleontology, Petrology, and Atmospheric. The second will focus on Astronomy: The Solar System, Stars and their Life-Cycles, Galaxies and Cosmology. Field and laboratory work will include astronomical observations, analysis of astronomical data, collection and analysis of sediments, structural geological data, orienteering, and fossils. Students successfully completing this course may be eligible to receive 4 credits for GEOL 2120 through Stockton University.

World History

Course Description: World History is a challenging course that covers the dynamics of continuity and change through history. This course begins with a study of world cultures in the 17th century and ends with an analysis of challenges facing the world today. From Western culture, to the Middle East, Asia, and Africa,

students will be acquainted with the major political, social, religious, and economic changes in an ever-growing interconnected global system. Emphasis is placed on the close reading of historical documents, textual analysis, critical thinking scenarios, data-base questioning, and historical research.

United States History I

Course Description: US History I concentrates on “chapters” in American history through engagement with the words of the individuals who contributed to the “story” of the United States. US History I addresses “chapters” in the “story” of America from the American Revolution to the Progressive movement. Students will trace the political, economic, cultural, and geographic development of the United States of America. Emphasis is placed on the close reading of historical documents, textual analysis, historical research, and the reinforcement of Social Studies skills.

United States History II

Course Description: US History II examines the Age of Expansion, Progressivism, our nation’s involvement in World War I and Vietnam, and concludes with an analysis of post-9/11 America. Emphasis is placed on the close reading of historical documents, textual analysis, cultural and historical research, and the reinforcement of Social Studies skills.

MATES Spanish

Course Description: MATES Spanish offers a hybrid of Spanish I and Spanish II content in one semester, in order to assist all incoming freshmen in progressing towards a common level of understanding. This course will introduce important aspects of the Spanish culture, vocabulary, and grammatical concepts. Students will be prompted to think critically, read, and communicate in Spanish. Active participation is expected.

Spanish III

Course Description: Spanish III reinforces and expands upon the communicative skills that were established in Spanish I and II, to ensure solid growth towards practical use of the language and success as a life-long learner of Spanish. Students will develop oral and written language proficiency through a series of authentic performance-based activities. Students must demonstrate independence and self-direction, meet high evaluation standards, and assume ownership of their academic work. While a communicative approach leading towards a life-long love of the language continues to be its basis, increased emphasis is placed on language usage skills found at this level. Internet resources and varied media complement the program.

Spanish IV (OCC SPAN 152)

Course Description: This elective course reinforces and expands upon the communicative skills that were established in Spanish I through III to promote solid practical usage of Spanish, as well as a life-long love of the language. Continued exploration of the language and culture will include student-based projects, cultural readings, and exploration of Internet resources and enjoyment of varied media. Performance-based assessments and some objective evaluations will ensure student proficiency in Spanish. Students must demonstrate independence and self-direction, meet high evaluation standards, and assume ownership of their academic work. Literary and cultural texts are important course components, and students will be required to read complete, original literary works in Spanish. Students successfully completing this course may be eligible to receive 3 credits for SPAN 152 through Ocean County College.

Introduction to Art

Course Description: This course will provide students with the ability to explore multiple artistic styles and time periods and gain an appreciation for the importance of art in society. They will develop an understanding of art and history's influence upon it. Students will be encouraged to make connections between artworks and their influences. They will be able to study methods used to critique art and apply them in group situations. They will learn to use critique to improve upon skills and advance their techniques. Students will gain hands on experience with multiple mediums used in art. They will create original artworks as well as use famous works as models for their own art. Students will have the opportunity to practice using the principles of design and apply them to real life situations. Students will learn to use problem solving skills to solve artistic challenges. Students will also be exposed to career opportunities provided by the arts. This course will provide students with a working knowledge of concepts and an enriched vocabulary so that they can become more informed consumers of art.

Art History/Basic Drawing (OCC ARTS 182 and 183)

Course Description: Art History is a survey of the visual arts, focusing on the sculpture, painting and architecture from the Prehistoric through the Post Impressionism. This course explores the motivations, motifs, and vocabulary of art within its physical and socio-political context. The course concentrates on the arts of the Western tradition, including America, but twenty percent of the course content will be from non-Western cultures. Emphasis will be placed on the identification of works and their association with their time period, culture and subsequent characteristics. Students will be assessed with weekly quizzes and/or tests. Students will use critical thinking and literacy skills to write short essays analyzing specific artworks and their significance in history. Students successfully completing this course may be eligible to receive up to 6 credits through Ocean County College.

Physical Education

Grades 9,10,11,12

Course Description: This program presents a full spectrum of knowledge and skill experiences in the area of physical education in order to equip students to maintain active lifestyles, identify fitness needs and objectives, and achieve well being throughout their lives. The program consists of planned learning experiences which will assist students in gaining understanding, attitudes and practices related to fitness, rhythm and cooperative activities as well as team and individual sports.

Health I

Course Description: Health I is a course required for all freshmen students. The course emphasizes and promotes responsible student attitudes and behaviors in the pursuit of lifelong wellness. This course gives students a foundation of knowledge to enable them to make healthy lifestyle choices. The state-required ten hours of annual instruction in substance awareness is an inherent part of the course, as is mandated HIV education.

Health II (Driver's Education)

Course Description: Driver's Education is a course required of all students in their sophomore year. Students will receive thirty hours of driver education theory and safety instruction in preparation for the NJ State Motor Vehicle written examination. This course is intended to prepare students to responsibly operate a motor vehicle in today's society. Students must, however, meet all State regulations and standards to qualify for a learner's permit.

Health III

Course Description: Health III is a course required for all junior students. The course will provide students with the essential tools and skills for making informed decisions, recognizing risk reduction and prevention strategies in the areas of optimum wellness, substance awareness, and sexuality. A component on Financial Literacy is also included in this course.

Health IV

Course Description: Health IV is a course required for all seniors. The course will provide students with the knowledge and skills necessary to respond appropriately to common first aid emergencies and CPR training.