Prof- zee

LT PAUL PREUSSE
PUBLIC AFFAIRS DIRECTOR

U. S. COAST GUARD ACADEMY
NEW LONDON, CONNECTICUT 06320

(203) 444-8270

internatl econ

defense + alliance structures to allow this

internal econ
arms control } triumph of idea of freedom

FINAL

McGroarty/Dooley
May 23, 1989
11:30 pm
Draft 10

PRESIDENTIAL REMARKS: COAST GUARD ACADEMY COMMENCEMENT
NEW LONDON, CONNECTICUT
MAY 24, 1989

Thank you, Admiral. [Acknowledgments, Admiral Yost, Secretary Skinner, Alex Haley, distinguished guests.] I congratulate each member of this year's class on receiving your commission into such a proud service.

Mention the Coast Guard, and most people think about lives saved at sea, daring rescue operations. But those daily acts of heroism are just one part of the vital work the Coast Guard performs. Right now, in Prince William Sound, the Coast Guard continues to work around the clock in a major environmental clean-up effort. Right now, off the Florida coast, Coast Guard patrols are chasing down drug smugglers -- and keeping drugs off our streets. That may be "all in a day's work" for the Coast Guard -- but it's absolutely vital to our national health, well-being and security.

I'm sure on that long first day of Swab Summer, you never thought four years could pass so quickly. But they have. You've worked hard, Billet Night has come and gone.... You're ready -- "Semper Paratus" in the words of your motto -- ready to enter the Coast Guard service, and the world. The truth is, that is what commencement is all about. The world <u>is</u> yours, and today's ceremony is really part of the change of command from one generation to the next.

Today, our world -- your world -- is changing, East and West. Today I want to speak to you about the world we want to see, and what we can do to bring that new world into focus.

We live in a time when we are witnessing the end of an idea: the final chapter of the communist experiment. Communism is now recognized -- even by many within the communist world itself -- as a failed system: One that promised economic prosperity but failed to deliver the goods, a system that built a wall between the people and their political aspirations.

But the eclipse of communism is only one half of the story of our time. The other is the ascendancy of the democratic idea.

Never before has the idea of freedom so captured the imaginations of men and women the world over. Never before has the hope of freedom beckoned so many. Trade unionists in Warsaw. The people of Panama. Rulers consulting the ruled in the Soviet Union. And even as we speak the world is transfixed by the dramatic events in Tiananmen Square. Everywhere, those voices are speaking the language of democracy and freedom.

So today, I want to speak about our security strategy for the 1990s -- one that advances American ideals, and upholds American aims.

Amidst the many challenges we'll face, there will be risks. But let me assure you: we'll find more than our share of opportunities. We and our allies are strong -- stronger than at any point in the post-war period, and more capable than ever of supporting the cause of freedom.

There's an opportunity before us to shape a new world.

What is it that we want to see? It's a growing community of democracies anchoring international peace and stability, and a dynamic free market system generating prosperity and progress on a global scale. The economic foundation of this new era is the proven success of the free market -- and nurturing that economic foundation are the values rooted in freedom and democracy.

America was founded on these values; they give us the confidence that flows from strength. So let's be clear about one thing: America looks forward to the challenge of an emerging global market. These values are not ours alone, they are now shared by our friends and allies around the globe.

The economic rise of Europe and the nations of the Pacific Rim is the crowning success of our post-war policy.

Our time is a time of tremendous opportunity -- and our destiny is in our hands. To reach the world we want to see, we've got hard work ahead of us.

o We must resolve international trade problems that threaten to pit friends and allies against one another.

o We must combat misguided notions of economic nationalism that tell us to close off our economies to foreign competition, just when the global marketplace is a fact of life.

o We must open the door to the nations of Eastern Europe and other socialist countries that embrace free market reforms.

o And finally, for developing nations heavily burdened with debt, we must provide assistance and encourage the market reforms that will set those nations on a path towards growth.

If we succeed, the next decade and the century beyond will be an era of unparalleled growth -- an era which sees the flourishing of freedom, peace and prosperity around the world.

But this new era cannot unfold in a climate where conflict and instability exist. Therefore, our goals must also include security and stability: security for ourselves, our allies and friends; stability in the international arena, and an end to regional conflicts.

Those goals don't change, but the strategy we employ to reach those goals can, and must. Today, the need for a dynamic and adaptable strategy is imperative. We must be strong -- economically, diplomatically, and militarily -- to take advantage of the opportunities open to us in a world of rapid change.

But nowhere will the ultimate consequences of change have more significance for world security than within the Soviet Union.

What we're seeing now in the USSR is indeed dramatic. The process is still ongoing, unfinished. But make no mistake: Our policy is to seize every, and I mean every, opportunity to build a better, more stable relationship with the Soviet Union -- just as it is our policy to defend American interests in light of the enduring reality of Soviet military power.

We want to see perestroika succeed. We want to see the policies of glasnost and perestroika -- so far, a revolution imposed from the top down -- institutionalized within the Soviet Union. And we want to see perestroika extended as well. We want to see a Soviet Union that restructures its relationship toward the rest of the world . . . A Soviet Union that is a force for constructive solutions to the world's problems.

The grand strategy of the West during the post-war period has been based upon the concept of containment: checking the Soviet Union's expansionist aims, in the hope that the Soviet system itself would one day be forced to confront its internal contradictions. The ferment in the Soviet Union today affirms the wisdom of this strategy. Now we have a precious opportunity to move beyond containment.

This goal -- integrating the Soviet Union into the community of nations -- is every bit as ambitious as containment was in its time. And it holds tremendous promise for international stability.

Coping with a changing Soviet Union will be a challenge of the highest order. But the security challenges we face today do not come from the East alone. The emergence of regional powers is rapidly changing the strategic landscape.

In the Middle East, in South Asia, in our own hemisphere, a growing number of nations are acquiring advanced and highly destructive capabilities -- in some cases, weapons of mass destruction, and the means to deliver them. And it is an

unfortunate fact that the world faces increasing threats from armed insurgencies, terrorists, and (as you in the Coast Guard are well aware) narcotics traffickers -- and, in some regions, an unholy alliance of all three.

Our task is clear: we must curb the proliferation of advanced weaponry; we must check the aggressive ambitions of renegade regimes; and we must enhance the ability of our friends to defend themselves. We have not yet mastered this complex challenge. We and our allies must construct a common strategy for stability in the developing world.

How we and our allies deal with these diverse challenges depends on how well we understand the key elements of defense strategy. Let me focus today on two points in particular.

o First, the need for an <u>effective deterrent</u>, one that demonstrates to our allies and adversaries alike American strength and resolve;

o Second, we must maintain an approach to <u>arms reduction</u> that promotes stability at the lowest feasible level of armaments.

Deterrence is central to our defense strategy. The key to keeping the peace is convincing our adversaries that the cost of aggression against us or our allies is simply unacceptable.

In today's world, nuclear forces are essential to deterrence. Our challenge is to protect those deterrent systems from attack. That's why we will move Peacekeeper ICBMs out of fixed and vulnerable silos -- making them mobile and thus harder to target.

Looking to the longer-term, we will develop and deploy a new highly mobile single-warhead missile, the Midgetman. With only minutes of warning, these new missiles can relocate out of harm's way. Any attack against systems like these will fail.

We are also researching -- and we are committed to deploy -- a more comprehensive defensive system, known as SDI. Our premise is straight forward: defense against incoming missiles endangers no person and no country.

We're also working to reduce the threat -- nuclear and conventional. The INF Treaty demonstrates that willingness. In addition, in the past decade, NATO has unilaterally removed 2400 shorter-range theater warheads. But theater nuclear forces contribute to stability, no less than strategic forces. It would be irresponsible to depend solely on strategic nuclear forces to deter conflict in Europe.

The conventional balance in Europe is just as important -- and is linked to -- the nuclear balance. For more than 40 years, the Warsaw Pact's massive advantage in conventional forces has cast a shadow over Europe.

The unilateral reductions President Gorbachev has promised give us hope that we can now redress that imbalance. We welcome those steps because -- if implemented -- they will help reduce the threat of surprise attack. And they confirm what we've said all along: that Soviet military power far exceeds the levels needed to defend the legitimate security interests of the USSR. And we must keep in mind that these reductions alone -- even if

implemented -- are not enough to eliminate the significant numerical superiority the Soviets now enjoy.

Through negotiation, we can now transform the military landscape of Europe. The issues are complex. The stakes are high. But the Soviets have been forthcoming, and we hope to achieve the reductions we seek.

Let me emphasize: Our aim is nothing less than removing war as an option in Europe.

The USSR has said it is willing to abandon its age-old reliance on offensive strategy. It's time to begin. This should mean a smaller force -- one less reliant on the tanks, artillery and personnel carriers that provide the Soviets' offensive striking power. A restructured Warsaw Pact -- one that mirrors the defensive posture of NATO -- would make Europe and the world more secure.

Peace can also be enhanced by movement toward more openness in military activities. Two weeks ago, I proposed an "open skies" initiative, to extend the concept of openness. That plan for territorial overflights would increase our mutual security against sudden and threatening military activities. In the same spirit, let us extend this openness to military expenditures as well. I call on the Soviets to do as we have always done. Let's open the ledgers. Publish an accurate defense budget.

But we must be realistic. Transformations of this magnitude will not happen overnight. If we are to reach our goals, a great

deal is required of us, our allies -- and of the Soviet Union. But we can succeed.

I began today by speaking about the triumph of a particularly American ideal: freedom. I know there are those who may think there's something presumptuous about that claim -- those who will think it boastful. But it's not, for one simple reason:

Democracy isn't our creation -- it's our inheritance.

We can't take credit for democracy -- but we <u>can</u> take that precious gift of freedom, preserve it and pass it on -- as my generation does to you, and you, too, will do one day. And perhaps -- provided we seize the opportunities open to us -- we can help others attain the freedom we cherish.

As I said on the Capitol steps the day I took this office, "There is but one just use of power, and it is to serve people." As your Commander in Chief, let me call on this Coast Guard class to reaffirm with me that American power will remain always in service to the enduring ideals of democracy and freedom.

Thank you and God bless America.

# # #

THE WHITE HOUSE

WASHINGTON

U.S. COAST GUARD ACADEMY COMMENCEMENT ADDRESS

DATE: MAY 24, 1989
TIME: 12:00 P.M.
LOCATION: U.S. COAST GUARD ACADEMY

FROM: DAVID DEMAREST
ASSISTANT TO THE PRESIDENT FOR COMMUNICATIONS

I. PURPOSE

To deliver an address focusing primarily on nuclear strategy and modernization questions, with some treatment of conventional force balance.

II. BACKGROUND

Originally established by legislation in 1876, the U.S. Coast Guard Academy had a fitful history until World War I, when it received its present name. The Academy is the only federal service academy that offers appointments on the basis of a nationwide competition -- there are no congressional nominations, state quotas or special categories.

There are 835 cadets at the Academy: 120 women; and 715 men. Each graduate earns a Bachelor of Science degree, and after commencement each ensign will be assigned aboard a Coast Guard cutter. Their duties could involve drug or alien interdiction, saving lives at sea, or the defense of U.S. maritime regions.

Thirty-four members of the class of 1991 will be spending their summer in Alaska, aiding in the Valdez oilspill clean-up.

Alex Haley, author of Roots, will be receiving an honorary degree at the ceremony. He was in the Coast Guard for twenty years, and claims he does his best work aboard ship, which is where he wrote his most recent book.

III. PARTICIPANTS

The President

164 First Class Cadets (3 international cadets: two from Costa Rica, one from Panama)

5200 Friends, Family and Faculty

Rear Admiral Cueroni, Superintendant, USCGA

Secretary Skinner

Admiral Yost

Ambassador Juarez, Costa Rica

Alex Haley

Dr. Sanders, Dean, USCGA

Captain Versaw, Assistant Superintendant, USCGA

Professor Gethy

Commodore Pratt, Commodore, USCG Auxiliary

Captain Ashworth, Commandant of Cadets

Captain McCoy, Catholic Chaplain

IV. PRESS PLAN

Open Press

V. SEQUENCE OF EVENTS

Please see Advance Team Scenario.

MESSAGES

The Stafford Hotel St James's Place London SW1A 1NJ Tel: 01-493 0111

learn to be a leader
work together - team, sportsman-
ship
competing & winning
it's gotta be tough to
be worth something
swab summer - never wanting
to quit

The Stafford Hotel St James's Place London SW1A 1NJ Tel: 01-493 0111

a humanitarian service

U.S. Department of
Transportation
Office of the Secretary
of Transportation

Chriss,

Attached please find a recent item from the New London Day. It might be a nice addition to the President's speech at the Coast Guard Academy next Wednesday.

Best,

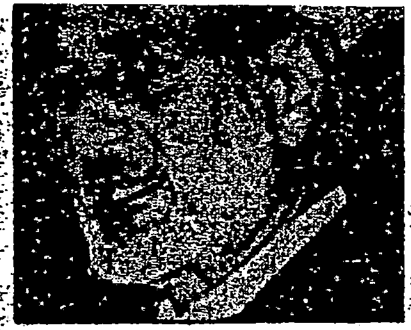
Dave Sandor

...killed in the powerful explosion.

...he booby-trapped car, which police said was laden with ...re than 300 pounds of TNT, ...w up in Aishe Bakkar, a ...wded residential quarter of ...slim-controlled west Beirut as ...convoy carrying Sheik Hassan ...aled passed by.

Sheik Khaled, the grand mufti ... Lebanon, was killed instantly ...d many of his entourage, in...uding his son-in-law, were ...ong the dead. One-hundred ...er people were wounded, some ... them seriously, according to ... police.

...No one claimed responsibility ... the explosion, which also



Sheik Khaled

damaged the nearby home of Prime Minister Selim Hoss.

Hoss, who was unhurt, heads the Muslim Cabinet that claims to always advocating coexistence with the Christians. Patriarch Nasrallah Butros Sfeir, spiritual head of the Maronites, Lebanon's largest Christian community, was among the first to offer his sympathies to the Sunni community over the Mufti's death.

In Washington, a State Department spokesman, Richard Boucher, said the United States was "revolted by the cold-blooded killing" and described Sheik Khaled as "a selfless leader," The Associated Press reported.

The killing of the senior religious figure inflamed emotions as Lebanon's warring factions were

Blast/A8

Associated Press

Goodbye from Panama — Panamanians gather to say farewell to American friends and relatives Tuesday at Howard Air Force Base as hundreds of servicemen and their dependents left for the United States and other assignments. The U.S. offered immediate evacuations to 14,000 military dependents who may want to leave the troubled country. Members of the Organization of American States will meet today to discuss the situation. Story, **A3**

...EATHER

...oday, drizzle giving way to ... brightening sky. Tonight, ...w in the 50s. Thursday, ...gh near 70. **A2**

...ATION

...e U.S. is cautious about a ...oviet statement that it has ...opped supplying the ...andinistas with weapons. **A3**

...ORLD

...alestinians in the Gaza are ...ent home from work as ...unishment by the Israelis. **A3**

...USINESS

...ousing starts are down for ...e third straight month. **E1**

Mate says Valdez was on automatic pilot

By **BRIAN S. AKRE**
Associated Press Writer

ANCHORAGE, Alaska — The Exxon Valdez was on automatic pilot 12 minutes before the tanker crashed into a reef and spilled oil, the vessel's third mate told federal investigators Tuesday.

Gregory T. Cousins, who was in command of the 987-foot tanker when it ran aground on March 24, testified that he took a bearing and, a few minutes later, tried to change the ship's course back toward its designated shipping lane.

Cousins said that when he determined the ship's course had not changed significantly, he attempted a sharper turn, but the ship seemed to continue moving toward the charted reef.

"It's a source of trouble for me as to why the vessel did not track away from that track line," Cousins told a National Transportation Safety Board panel as it began a five-day hearing.

The Exxon Valdez leaked 10.9 million gallons of oil into wildlife-rich Prince William Sound, polluting hundreds of miles of shoreline and killing countless birds, fish and marine mammals in the nation's worst oil spill.

The panel is trying to determine why the tanker strayed far from the shipping lane on a clear night, whether Capt. Joseph Hazelwood was drunk and why Cousins — who was not certified to operate the vessel in those waters — was in command.

The third mate said Hazelwood left the bridge to send out messages after ordering the ship out of designated lanes to avoid floating ice. Cousins testified that Hazelwood did not appear intoxicated. Hazelwood failed sobriety tests administered about nine hours after the crash.

Cousins said he could not explain why the vessel was on automatic pilot. Exxon policy limits use of the device to open waters.

Cousins said that after trying to return the ship to a traffic lane, he called Hazelwood and told him "it looked like we might get into the leading edge of the ice."

Under questioning by Coast Guard Commander Darryle Waldron of Juneau, Cousins said there was never any discussion about reducing the ship's speed. Operating at a slower speed would have made the ship harder to move through the sound, Cousins said. The Exxon Valdez was traveling between half and full speed at the time of the accident.

The panel will question more than two dozen witnesses, including Coast Guard personnel and Exxon executives, and try to determine whether the Coast Guard, the oil

Mate/A8

34 cadets at CGA volunteering to make cleanup their assignment

By **STAN SIMON**
Day Staff Writer

NEW LONDON — Thirty-four members of the Coast Guard Academy Class of 1991 will assist in the oil cleanup effort in Valdez, Ala., which for some means giving up all or part of their summer leave.

"It's a sacrifice to go there. An oil spill cleanup is not the most glamorous thing to do," said Lt. Cmdr. Thomas R. [illegible], an academy chemistry instructor who helped organize the cadet-inspired effort.

About 60 cadets in the class volunteered for the effort, but because of scheduling and job training programs, only 34 soon-to-be second classmen can go to Alaska to help coordinate the cleanup, which is under Coast Guard command.

Cadets who become second classmen after next week's graduation ceremonies ordinarily spend their third summer in various Coast Guard stations, learning different aspects of their future responsibilities, said Lt. Paul Preusse, public information officer. Summer training usually includes such activities as flight indoctrination, sailing and small boat handling.

The program involves two-week stints at various small boat

Cadets/A8

From Page One

Cadets

From A1

Coast Guard stations around the country as sort of the first hands-on experience in the field, Preusse said. Alaska is not ordinarily one of the stations involved, he said.

This year, Cadet Patrick Knowles expressed an interest in going to Alaska to help with the oil spill cleanup, Reilly said. His idea caught on and about one-third of his 171-member class turned out for a meeting on the issue last Thursday, he said.

Reilly said money was an issue, money for transportation and for housing for the cadets. He said headquarters approved the project and the first cadets now are on their way to Valdez. Others will be sent during the summer as training schedules permit, he said.

Cadet Knowles, who sailed aboard the barque Eagle Monday, will return by air to the academy next month and then will be flown to Alaska for his assignment there. The tall ship is making its trip to Russia and will be returning in August.

Reilly said the cadets will fill roles of officers in monitoring the cleanup operation by civilian employees of Exxon, the company which owned the ship which went aground and spilled 10.9 million gallons of oil in Prince William Sound March 24 in the largest oil spill in American history.

"This shows a high degree of initiative on the part of the cadets, especially considering this program was not planned in advance. It came together in a short period of time," Reilly said.

Mate

From A1

industry and the state reacted as promptly as possible to the spill.

Cousins said that just before the collision he told Hazelwood, "I think we're in serious trouble." Then the Exxon Valdez hit the reef. Cousins said it felt like "a slight roll — a very unusual sensation. I knew we hit something."

"Several seconds passed and we experienced a series of jolts to the vessel. By the time we came to a full stop, I'd estimate we felt a series of six jolts," Cousins recalled.

"There seemed to be a hesitation, and it spun the wheel hard left. By that time I believe we were hard aground."

within 10 to 15 minutes, Cousins said.

Cousins, who was questioned by lead investigator William Woody, answered questions about his work history, educational background and technical subjects. The third mate was accompanied by a lawyer.

Hazelwood will not testify in order to protect his rights in his upcoming criminal trial.

The panel of inquiry includes representatives from the state, Exxon, the Coast Guard and Alyeska Pipeline Service Co., a consortium of oil companies that runs the 800-mile Alaskan pipeline.

The public hearings were scheduled to run through Saturday in a hotel ballroom.

Relations

From A1

meeting with Gorbachev. "People in socialist countries should also enjoy freedom, democracy and human rights. China is prepared to improve these aspects of its political reform."

Li also said China had "taken note of the new thinking" that Gorbachev has fostered in the Soviet Union, in what appeared to be a signal of China's interest in following the Soviet example.

Li's remarks appeared to represent the first time that a Chinese leader has mentioned respect for "human rights" as a goal for the nation. Until an article in the official People's Daily on Friday, which quoted unidentified scholars as calling for human rights, the term was used dismissively, as a bourgeois concept that had little or no meaning in China.

The Chinese Communist Party leader, Zhao Ziyang, also called for more openness — it was his aide, Bao Tong, who arranged for publication of the People's Daily article, party officials said — but his comments were slightly less forceful and less surprising because he has long been associated with a policy of greater liberalization.

On the other hand, just three weeks ago Li reportedly was involved in plans for an abortive crackdown on the democracy movement, and he said early last month that China would not copy Soviet political reforms.

On the second da- of his four- visit to China, Gorbachev ag found that events had to be scheduled because of the dem strations in the cen-er of the cit wreath-laying cer-mony on ananmen Square w-s canceled, his meeting with Li was move Gorbachev's guest house to a disruptions.

Perhaps because the dom unrest has made it more impor for them to achie-e a diplom success to win p-pular supp Deng Xiaoping, China's se leader, and other officials were expectedly gentle with Gorbac on their major a-ea of disag ment, Cambodia.

The Soviet Unio- backs the rent Vietnamese-installed gov

FSX

From A1

sional General Accounting Office suggested the United States had something to lose and little to gain from the deal.

Taking Japan as a partner in producing the new plane will cut the cost and time needed for Japan to become an effective competitor with the American aerospace industry, Deputy Comptroller General Frank C. Conahan told the House Armed Services Committee.

There also appears to be little chance the United States will learn much of value by gaining access to Japanese technology during the coproduction program, Conahan said.

Under the proposed arrangement with Japan, General Dynamics and Mitsubishi Heavy Industries would jointly build the FSX, an advanced version of the F-16, for introduction into the Japanese air force in the late 1990s.

In the House committee hearing Monday, Conahan presented preliminary GAO findings saying the United States has superior technology in the production of plastic composites used to strengthen aircraft wings and has only "modest" need for Japanese technology in the field.

The report by the GAO, the investigative and auditing arm of Congress, also said the United States "appears to be ahead" in development of advanced radar, another important element of FSX production.

In addition, Conahan said the GAO has been told by structural and design engineers "that the Japanese approach s high risk those areas and hat the Un States rejected such an approac the 1970s for large aircraft "du costs and risks."

He also said it s clear that program "will provide Japan valuable systems integration sk an area in which -ome experts lieve the Japanese are deficient

The whole range of coprodu agreements with J-pan will "re the time and expe-se it would taken Japanese firms to catc and become meaningful com tors in the aerospace and air manufacturing industry," Con said.

Another witnes-, Richard P until recently assistant secreta defense for international sec policy, said that if the decision his he would scrap the deal.

Admiral Thomas Wettmers
CGA '48

class of 52 people
200 people entered

☆ first class to return to 4-yr curriculum during war - 3 yr. accelerated program

shifting to post-war considerations

all took same curriculum
all-male

Class Motto '89

Animus Omnia ~~Vincit~~ Vincit
"Courage conquers all"

Eagle left yesterday → northern Europe, London, Leningrad, Denmark + France (bicentennials)

Sequel

HAVING LEFT L.A. TO SETTLE IN HIS NATIVE TENNESSEE, ALEX HALEY TURNS OUT HIS FIRST BOOK SINCE *ROOTS*

In Alex Haley's stately Tennessee mansion hangs a glass frame containing two old sardine cans and 18 cents—a reminder of the time when that was all he had in the world. In another room sits an elegant walnut pool table, Haley's idea of what a man should have when he has made it. Together these things sum up the remarkable turn the 67-year-old writer's life has taken since the publication of *Roots* in 1976. "Do you know what it's like to go from the YMCA to the Waldorf?" he asks. "If I'd known I'd be this successful, I would have typed faster."

Roots, Haley's account of his family history, took 12 years to write and made him rich. Reprinted in 37 languages and transformed into two spectacularly successful miniseries, the book has generated a steady stream of royalties and made Haley a fixture for more than a decade on the international lecture circuit, where he earned more than $250,000 a year.

But a celebrity author, he found, has no time to write. For 12 years Haley couldn't manage to complete a second book. Fans would ask sweetly, "Are you still writing?" and Haley admits he was stung by the question. When a New York publisher asked him to complete a short book for its Christmas list, he quickly made arrangements to return to where he wrote first and still writes best—on a boat. "I was intrigued by the idea of writing a book in two months," he says, "and I was already planning to go to sea again to write." *A Different Kind of Christmas*—the tale of a slave's escape on the Underground Railroad—was written last summer on a freighter trip from Long Beach, Calif., to Australia and reached bookstores last month. Haley has also collaborated on a two-hour television special, *Roots: The Gift,* which airs on ABC Dec. 11, and he has three other books in the works.

To attain this level of productivity, however, Haley had to remove himself from the celebrity whirl. In 1987 he left California and moved back to Tennes-

On the farm at Norris, Haley says, "I always thought that having a retreat where you could bring friends would be joyous."

Breakfasting with Cathy Brown, Mayor of Clinton, Tenn., at the Twins Cafe, Haley chats with the restaurant's 87-year-old proprietors, Hassie Seivers, left, and Lassie Disney.

Photographs by Evelyn Floret

see, where he lives the life of a country squire. His principal residence is a Tudor mansion in Knoxville's best neighborhood. He also owns a 120-acre retreat in nearby Norris, whose renovated 1830 farmhouse he calls "Granny's house with a microwave."

"Having a lot of houses is kind of foolish in itself, but if you were here any weekend when we are having a gathering, it would explain itself," he says. "I really don't have the faintest interest in a Rolls-Royce or limousines, but I love to have these places to share with friends." For Haley, one of life's great pleasures is to let city visitors savor the moment when "they wake up, and the mist is over the farm, ducks are swimming around, the creek is running, and the fish are jumping."

Born in Ithaca, N.Y., Haley was raised from infancy in the West Tennessee town of Henning by his maternal grandmother. (His father was studying in the North, and his mother died young.) "I find that Southern-born people, white or black, tend to be better raised than people from other sections [of the country]," he says. "Grandma taught me like that. I don't do everything she'd want me to do, but I don't get too far afield of her. It's just instinctive." Grandma would not have approved of four-letter words or explicit sex scenes, for example, so *Roots* didn't have any. Says Haley: "That's Grandma on my shoulder."

Haley still spends only about half his time in Tennessee. A typical week finds him in Los Angeles meeting with TV producers, then flying to Paris to talk with his French publishers. But that's nothing compared with the schedule he kept on the lecture circuit. "When *Roots* came out, I was suddenly in hot demand," he says. "One calendar year, I spent 226 nights in motels." His third marriage disintegrated, and he rarely saw his daughter, Cindy, now 24 and an aspiring writer, who was being raised by his second wife in Augusta, Ga. "I'm just not a stationary husband," he says, "but you have to deal with the fact that your life is your life."

Last year Haley ended up in the hospital suffering from exhaustion and a bone inflammation. "I called the lecture bureau and told them I simply had to quit," he says. "You make a lot of money, but it doesn't mean anything when you're never still long enough to enjoy it or to work creatively."

Ever since his 20-year stint in the Coast Guard, when he would write letters home for his shipmates, Haley has had his most creative moments at sea. So every few months he packs up his computer and tape recorders and boards a new ship. "At sea, I will work from 10 at night until daybreak," he says. "Then comes that magic moment when you start to dream about what you are writing, and you know that you are really into it."

Next on Haley's agenda is *Henning,* a book based on his hometown. Like *Roots,* it's about "the little people who did whatever they did and died and would never be thought about again if I didn't write about them," says Haley. Such people are his inspiration and, he insists, the source of his success. "Whenever you see a turtle up on a fence post," he tells the audiences who come to see Alex Haley, famous writer, "you know he had some help."

—Patricia Freeman, and Jane Sanderson in Knoxville

Haley and personal assistant Arthur Sims were the first black residents of Knoxville's Sequoia Hills.

THE WHITE HOUSE

WASHINGTON

TEXAS A & M COMMENCEMENT ADDRESS

DATE: MAY 12, 1989
TIME: 2:30 P.M.
LOCATION: TEXAS A & M UNIVERSITY

THROUGH: DAVID DEMAREST
ASSISTANT TO THE PRESIDENT FOR
COMMUNICATIONS

FROM: SICHAN SIV
DEPUTY ASSISTANT TO THE PRESIDENT
FOR COMMUNICATIONS

I. PURPOSE

To deliver a major foreign policy address on the Soviet Union.

II. BACKGROUND

Texas A & M University was established in 1876 as an all-male military school. Today, in spite of the fact that Texas A & M is coeducational and only 2000 students out of 22,000 undergraduates belong to the Corps of Cadets, the school's military traditions and history are very much alive. They are still very proud of the fact that more military officers from Texas A & M served in the "Great War" (WW II) than from any other military academy. Many of their traditions associated with sporting events, such as the firing of cannon when the football team scores, evolved out of the school's military history.

The school's total student population is 39,163 including 6500 graduate students; 22,834 men; 16,329 women; 1072 Blacks; 2667 Hispanics; and 909 Asians.

As of this week, the Texas A & M baseball team is ranked first in the nation. Peter McIntire, Physics Professor at Texas A & M, along with Sheldon Glashow of Harvard University, conceived the original idea for the Super Conductor/Super Collidor.

III. PARTICIPANTS

600 Undergraduate Degree Candidates from the Colleges of Geosciences and Liberal Arts

500 Graduate Degree Candidates

6900 Friends and Family of Degree Candidates

(Please see attached list of those who will be seated on stage.)

IV. PRESS PLAN

Open Press

V. SEQUENCE OF EVENTS

Please see Advance Team Scenario.

STAGE PARTY
TEXAS A&M UNIVERSITY COMMENCEMENT
May 12, 1989

George Bush, President of the United States
William H. Mobley, President, Texas A&M University
William McKenzie, Chairman, Board of Regents, Texas A&M University
Bill Clements, Governor of Texas
Phil Gramm, United States Senator
Joe Barton, United States Representative
Richard Smith, State Representative
Jack Rains, Secretary of State (Texas)
Wayne Showers, Board of Regents, The Texas A&M University System
Royce Wisenbaker, Board of Regents, The Texas A&M University System
Douglas DeCluitt, Board of Regents, The Texas A&M University System
Lowry Mays, Board of Regents, The Texas A&M University System
John Mobley, Board of Regents, The Texas A&M University System
Bill Clayton, Board of Regents, The Texas A&M University System
Raul Fernandez, Board of Regents, The Texas A&M University System
Ross Margraves, Board of Regents, The Texas A&M University System
Daniel Fallon, Dean, College of Liberal Arts
Duwayne Anderson, Associate Provost, Research and Graduate Studies
Melvin Friedman, Dean of Geosciences
John Koldus, Vice President of Student Services
Robert Walker, Vice President for Development
Robert Smith, Vice President for Finance and Administration
Donald McDonald, Provost and Vice President for Academic Affairs
Richard Williford, President, Association of Former Students
Perry Adkisson, Chancellor, The Texas A&M University System
Herman Saatkamp, Head, Philosophy and Humanities Department
Herbert Richardson, Deputy Chancellor for Engineering
Dean Corrigan, Dean, College of Education
John Fackler, Dean of Science
Benton Cocanougher, Dean of Business Administration
Billy Lay, Director of Admissions
Margie Lasek, Graduate Student (Invocation)
Robert Boone, Director of Vocal Music
John Shadduck, Dean of School of Veterinary Medicine
Richard DeVaul, Dean of School of Medicine
Michael McCarthy, Dean of Architecture
Clinton Phillips, Dean of Faculties and Associate Provost
Gary Engelgau, Executive Director of Admissions and Records
Jay Hays, Student Body President
Thomas Darling, General, Commandant of the Corps of Cadets
Fred McClure, Assistant to the President
Bryan Cole, Announcer
Roger Feldman, Announcer
Donald Carter, Registrar

McGroarty/Dooley
May 19, 1989
9:00 am
Draft 3

PRESIDENTIAL REMARKS: COAST GUARD ACADEMY COMMENCEMENT
NEW LONDON, CONNECTICUT
MAY 24, 1989 12:00 noon

Paul Preuse
Pub. Affairs
Director - USCG
203/444-8270

Thank you, Admiral. I congratulate each member of this year's class on receiving your commission into such a proud service.

Mention the Coast Guard, and most people think about lives saved at sea, daring rescue operations. But those daily acts of heroism are just one part of vital work the Coast Guard performs. Right now, in Prince William Sound, the Coast Guard is working around the clock in a major environmental clean-up effort -- ~~and I know that some of you receiving commissions will soon be joining the Coast Guard team in Alaska.~~ Right now, off the Florida coast, Coast Guard patrols are chasing down drug smugglers -- and keeping drugs off our streets. That may be "all in a day's work" for the Coast Guard -- but it's absolutely vital to our national health, well-being and security.

Paul Preuse
203/444-8
USCGA

((I spoke to your Superintendent earlier about what I'd be saying here today, and he asked me one favor. He said: "Whatever you do, please don't throw a scare into these new Ensigns by telling them the world is theirs."))

Paul Preuse
USCGA
203/444-8

The truth is, that is what commencement is all about. The world is yours, and today's ceremony is really part of the change of command from one generation to the next. I'm sure on that long first day of Swab Summer, you never thought four years could

pass so quickly. But they have. You've worked hard, Billet Night has come and gone.... You're ready -- "Semper Paratus" in the words of your motto -- ready to enter the Coast Guard service, and the world.

And today, our world -- your world -- is changing. The signs are everywhere. Look east across the Atlantic. The nations of Western Europe are expanding their economic ties, uniting into a truly common market beginning in 1992. Look west, to the nations of the Pacific Rim -- to Japan's emergence as a world-class economic power, and to a half-dozen other Asian countries moving quickly into the global economy's front ranks.

And changes in the socialist world are even more profound.

We live in a time when we are witnessing the end of an idea: the final chapter in the evolution of the socialist experiment. Socialism is now recognized -- even by many within the socialist world itself -- as a failed system: One that promised economic prosperity but failed to deliver the goods, a system that built a wall between the people and their political aspirations.

But the eclipse of socialism is only one half of the story of our time. The other is the ascendancy of the democratic idea.

Never before has the idea of freedom so captured the imaginations of men and women the world over. Never before has the hope of freedom beckoned so many -- students in Tiananmen Square. Trade unionists in Warsaw. The people of Panama. Millions throughout the Soviet Union, given a voice and vote.

Everywhere, those voices are speaking the language of democracy and freedom.

Today I want to speak to you about the world we want to see, and what we can do to bring that new world into existence. My national security team has now completed a series of systematic reviews that will help us chart that course. I want to speak about our security strategy for the 1990s -- one that advances American aims, and upholds American ideals.

Amidst the many challenges we'll face, there will be risks. But let me assure you: we'll find more than our share of opportunities. We and our allies are strong -- stronger than at any point in the post-war period, and capable of advancing the cause of freedom.

And the world we can help shape is cause for optimism.

Its outlines are clear: A growing community of democracies anchoring international peace and stability, a dynamic free market system generating prosperity and progress on a global scale. The economic foundation of this new era is the free market -- and developing that economic foundation is central to our security strategy.

And let's be clear about one thing: the emergence of a global market is a challenge America looks forward to -- not a threat to our status as a world power.

We all know there are hand-wringers out there, talking about an "America in decline." I can't explain how some people mistake the triumph of American ideas as a sign of defeat and decline....

The plain truth is: the economic rise of Europe and the nations of the Pacific Rim isn't proof of American decline at all -- it is the crowning success of our post-war alliance policy.

So the hand-wringers are wrong. Our time is a time of tremendous opportunity -- and our destiny is in our hands. To reach the world I just spoke of, we've got hard work ahead of us.

- We've got to resolve international trade problems that threaten to pit friends and allies against one another.
- We've got to combat misguided notions of economic nationalism that tell us to close off our economies to foreign competition, just when the global marketplace is a fact of life.
- We've got to open the door to the nations of Eastern Europe and other socialist countries that embrace free market reforms.
- And finally, for developing nations heavily burdened with debt, we've got to provide debt relief and encourage the market reforms that will set those nations on a path towards growth.

If we succeed, the next decade and the new century beyond will be an era of unparalleled growth -- an era which sees the flourishing of freedom, peace and prosperity around the globe.

But this new era cannot unfold in a climate where conflict and instability prevail. Our goals must also include <u>security</u> and <u>stability</u>: security for ourselves, our allies and friends; stability in the international arena, and an end to regional conflicts.

Those goals don't change, but the strategy we employ to reach those goals can, and must. Today, the need for a dynamic

and adaptable strategy is imperative. We must use all the means at our disposal -- economic, diplomatic, and military -- to take advantage of the opportunities open to us in a world of rapid change.

Nowhere is change more evident than in the Soviet Union, and nowhere are the ultimate consequences of change more important for world security.

I firmly believe that what we're seeing now in the USSR is significant and far-reaching. I also know that the process is still ongoing and unfinished. It is the policy of this Administration to seize every opportunity to build a better, more stable relationship with the Soviet Union -- just as it is our policy to defend American interests in light of the enduring reality of Soviet military power. Socialism may no longer be a moral force in the world, but it is still -- in the Soviet Union -- a military force of considerable power.

NSC

I want to see perestroika succeed. I want to see the policies of glasnost and perestroika -- so far, a revolution imposed from the top down -- institutionalized into the Soviet system. And I want to see perestroika extended as well. I want to see a Soviet Union that restructures its relationship within the community of nations.... A Soviet Union that is a force for constructive solutions to the world's problems -- not a power that seeks to exploit and create international conflict to further its own ends.

Texas A+M speech 3/12/89

The grand strategy of the West during the post-war period has centered on the concept of containment: checking the Soviet Union's expansionist aims, in the hope that the Soviet system itself would one day be forced to confront its internal contradictions. The fact that that is happening today spells the ultimate success of our strategy -- and creates an opportunity to move beyond containment.

The goal we've now set for ourselves -- integrating the Soviet Union into the community of nations -- is every bit as ambitious as containment was in its time. And it is a goal that holds tremendous promise for international stability.

Coping with a changing Soviet Union will be a challenge of the highest order. But the security challenges we face today do not come from the East alone. The emergence of regional powers is rapidly changing the strategic landscape.

In the Middle East, in South Asia, in Latin America, a growing number of nations are acquiring advanced and highly destructive capabilities -- in some cases, weapons of mass destruction, and the means to deliver them. And it is an unfortunate fact that the world faces increasing threats from armed insurgencies, terrorists, and (as you in the Coast Guard are well aware) narcotics traffickers -- and, in some regions, an unholy alliance of all three.

Our task is clear: We must curb the proliferation of advanced weaponry, check the aggressive ambitions of renegade regimes, and build up -- by means of economic and security

assistance -- the ability of friendly nations to defend themselves. Our review shows that we have not yet mastered this complex challenge -- that we and our allies must construct a common strategy for stability in the developing world.

How we and our allies deal with these diverse challenges depends on how well we understand the key elements of defense strategy. Let me focus today on three points in particular.

o First, the need for an effective deterrent, one that demonstrates to our allies and adversaries alike American strength and resolve;

o Second, the need for a dynamic and durable alliance structure;

o Third, we must maintain an approach to arms reduction that promotes stability at lower levels of armaments.

Deterrence is central to our defense strategy. The key to keeping the peace is convincing our adversaries that the costs of aggression against us are simply unacceptable.

Conventional capability is crucial. We must be able to defend our interests well forward of our own shores, and to project power when and where we need to, to protect American citizens and interests.

But our nuclear forces remain our ultimate deterrent. My decision to move ahead on a rail-mobile ~~MX~~ Peacekeeper force -- and beyond that to develop and deploy the mobile single-warhead ~~Midgetman~~ Small ICBM missile -- will provide the survivable land-based deterrent that will help us keep the peace well into the next century. And maintaining a credible deterrent means moving forward on SDI as

well, to strengthen our deterrent by relying increasingly on defense, and less on the threat of retaliation.

In addition to an effective deterrent, our defense strategy depends upon strong alliances. Coalition defense has been the cornerstone of our security strategy for the past four decades. With the growing trend towards economic interdependence, now is no time for the U.S. to adopt a "go it alone" security policy.

But let me make equally clear that we view our alliances as true partnerships. The United States expects its alliance partners -- many now major economic powers in their own right -- to contribute their fair share to our common defense.

Those who think we've outgrown our alliance system are wrong. A strong security partnership among the democracies of the world will be the key to peace in the 21st Century.

But as our alliances mature, we must make sure our expectations remain realistic. Alliances of sovereign democratic nations will never be free of controversy. But we must never forget that disagreements between democracies are "family quarrels" -- differences that don't obscure the common aims and enduring interests we share.

Finally, we must seek to strengthen our security through significant arms reductions, both nuclear and conventional.

But reductions alone are not enough. Even deep reductions in strategic nuclear arsenals would leave the U.S. and USSR with enormous destructive power. Our aim must be strategic stability: a balance in which neither side can hope to destroy the forces of

the other without bringing destruction on itself. Any agreement that fails to pass that test is not in our national interest.

Next month, our negotiators will be back at the table in Geneva, working to hammer out a treaty that achieves real reductions, ensures stability -- and allows us to know with confidence that any agreement we sign is honored and observed.

In the area of conventional arms reductions, the U.S. and its NATO allies seek stability at lower levels of armaments -- and an agreement that eliminates the massive conventional superiority of the Warsaw Pact forces. President Gorbachev's promise to make a unilateral cut in Soviet conventional forces is a welcome first step -- but it's still a long way from the deep reductions in tanks, artillery and troop strength that will bring real stability to the nations of Europe.

The complex calculations and analysis that are constant factors in setting our course should not obscure the plain truths that guide our defense strategy:

If we remain strong, we remain safe. If we work in concert with our allies, we add their strengths to our own. If we seek stability as well as real reductions in the weapons of war, we make ourselves and our allies more secure.

I began today by speaking about the triumph of a particularly American idea: freedom. I know there will be people who think there's something presumptuous about that -- people who will think it boastful to talk about that triumph. But it's not, for one simple reason:

Democracy isn't our creation -- it's our inheritance.

We can't take credit for democracy -- but we can take the precious gift of freedom, preserve it and pass it on -- as my generation does to you, and you, too, will do one day. And perhaps -- provided we seize the opportunities open to us -- we can help others attain the freedom we cherish.

As I said on the Capitol steps the day I took this office, "There is but one just use of power, and it is to serve people." As your Commander in Chief, let me call on today's class to reaffirm with me that American power will remain always in service to the enduring ideals of democracy and freedom.

Inaug Address 1/20/89

status quo plus and Bush

McGroarty/Rice/Dooley
May 23, 1989
4:50 pm
Draft 8

PRESIDENTIAL REMARKS: COAST GUARD ACADEMY COMMENCEMENT
NEW LONDON, CONNECTICUT
MAY 24, 1989

Thank you, Admiral. I congratulate each member of this year's class on receiving your commission into such a proud service.

Mention the Coast Guard, and most people think about lives saved at sea, daring rescue operations. But those daily acts of heroism are just one part of vital work the Coast Guard performs. Right now, in Prince William Sound, the Coast Guard is working around the clock in a major environmental clean-up effort. Right now, off the Florida coast, Coast Guard patrols are chasing down drug smugglers -- and keeping drugs off our streets. That may be "all in a day's work" for the Coast Guard -- but it's absolutely vital to our national health, well-being and security.

((I spoke to your Superintendent earlier about what I'd be saying here today, and he asked me one favor. He said: "Whatever you do, please don't throw a scare into these new Ensigns by telling them the world is theirs."))

The truth is, that is what commencement is all about. The world <u>is</u> yours, and today's ceremony is really part of the change of command from one generation to the next. I'm sure on that long first day of Swab Summer, you never thought four years could pass so quickly. But they have. You've worked hard, Billet Night has come and gone.... You're ready -- "Semper Paratus" in

the words of your motto -- ready to enter the Coast Guard service, and the world.

Today, our world -- your world -- is changing, East and West.

We live in a time when we are witnessing the end of an idea: the final chapter in the evolution of the communist experiment. Communism is now recognized -- even by many within the communist world itself -- as a failed system: One that promised economic prosperity but failed to deliver the goods, a system that built a wall between the people and their political aspirations.

But the eclipse of communism is only one half of the story of our time. The other is the ascendancy of the democratic idea.

Never before has the idea of freedom so captured the imaginations of men and women the world over. Never before has the hope of freedom beckoned so many. Trade unionists in Warsaw. The people of Panama. Rulers consulting the ruled in the Soviet Union. And, most recently, the dramatic events in Tiananmen Square. Everywhere, those voices are speaking the language of democracy and freedom.

Today, we find ourselves at a turning point: at the end of one era, on the threshold of the next.

There's a world of difference between transition and transformation -- between a process in progress, and one that is final and complete. It is ironic that some think now is the time to deemphasize the very pillars of stability -- our alliances, our military forces -- that make our future so promising. That

would be a grave mistake. History will not forgive us if --in our haste to declare our work done -- we abandon course, and fail to lay a firm foundation, one step at a time, for the peace and freedoms we seek.

Our goals and values are clear and enduring. But our strategy must be flexible and adaptive -- ready to take advantage of opportunities that advance our interests. We have all the instruments of power at our disposal: a strong economy, unmatched technological prowess -- and a moral message that resonates around the world.

And yet, there is no substitute for strong and capable military forces. Make no mistake: we seek military superiority over no one. Our aim is to deter aggression -- to secure the peaceful and stable conditions essential to ~~the~~ realizing the hopes of a new era.

Communism may no longer be a moral force in the world, but the Soviet Union is still a military force of enormous strength. Over the past two decades, the Soviet Union has acquired extraordinary military power -- and it has used that power to conduct a foreign policy opposed to Western interests.

The price of containing Soviet military power in Europe and Asia has been high. I speak here not of dollars, marks or francs. The defense of freedom is always worth the cost. I speak of the fear two generations have faced; the specter of a military imbalance that seemed to invite war -- a fear deepened

by the secrecy surrounding the military preparations of the Warsaw Pact.

For decades, the U.S. sought -- without real success -- to convince the Soviet Union to transform the size and nature of its military forces through arms control. Today, for the first time in forty years, there is a possibility that the Soviet Union may be ready to significantly reduce and restructure its military forces.

The catalyst for change may well be the pressures of a failing economy -- one that can no longer bear the heavy costs of the excessive military build-up of the past two decades. But whatever the motivation of the Soviet leadership, I welcome the chance now before us -- the chance to transform the military balance, to create a world where the mission of military forces in Europe is clearly to deter aggression -- not to attack.

Let me be clear: a transformation of this magnitude will not happen overnight. A great deal is required of us, our allies, and the Soviet Union if we are to reach this goal. But we can succeed -- if we remain strong, if we resist utopian visions, and if we and our allies work with the Soviet Union to build the changes we want to see into solid agreements.

We must remember: Peace is born of strength. It is ironic that people think the long peace that Europe has enjoyed -- and the trend toward democracy evident elsewhere in the world -- is reason for us to relax our military strength. Developments in the Soviet Union remain uncertain. A strong military will

impress upon Soviet leadership that nothing can be gained by turning back to a more militaristic course. Our forces remain a reliable guarantee that we and our allies are safe and secure.

And we must recognize the plain truth that the preservation of peace rests upon modern nuclear forces. Conventional forces alone cannot prevent war. Two destructive world wars are proof enough of that. The paradox of our time is that nuclear weapons themselves ~~that~~ have made the prevention of war imperative. World war today is deterred by the certain knowledge that no nuclear aggressor can himself escape destruction.

Over the last generation, the Soviet Union has been building ever-more menacing strategic nuclear forces -- large, modern missles, each carrying many warheads. Those forces appeared to be designed for a devastating first strike against U.S. forces.

Our goal is to maintain a deterrent that no aggressor dares attack -- no matter how important the interests, or how high the stakes. We are drawing on some of the brightest minds in science and exploring our most advanced technologies to bring us closer to the day when we can defend ourselves against nuclear attack. My direction on SDI is clear -- vigorous development will continue, and I will deploy strategic defenses when they are ready. Effective defenses will enhance deterrence.

For now, the cornerstone of security and stability remains a nuclear arsenal that can survive attack. This is important because the more survivable our forces are, the less tempted an aggressor may be -- even in times of crisis -- to launch a first

strike. And the less the temptation, the greater the stability of the nuclear balance.

That is why I have decided to enhance the survivability of our own land-based missiles. We will move Peacekeeper ICBMs out of vulnerable silos and make them mobile -- harder to target and more survivable. Taking our most modern silo-based missiles and redeploying them in a mobile mode is the best near-term solution to strengthen strategic stability by increasing survivability.

Looking to the longer-term, I have directed the development and deployment of a new mobile single-warhead missile, the Midgetman. This new missile will be able to survive an attack with only minutes of warning. Because a Midgetman force will be so highly survivable, there is no conceivable reason -- no matter how grave the crisis -- for the Soviets to try to attack it. These systems, along with our bomber and submarine-based forces, give us the sturdy triad of nuclear forces no aggressor can attack with impunity.

To accompany our military programs we need an arms control strategy that will enhance survivability -- and create conditions for increased confidence and cooperation between the U.S. and USSR. That is why we've proposed a return to the table in Geneva next month, to resume talks on strategic nuclear forces, and nuclear testing.

The START Treaty we are negotiating will lead to significant reductions in the strategic forces of both sides. But reductions alone are not enough. Agreements that merely result in

reductions but do not reduce the risks of war do not serve our interests. Indeed, the deeper the cuts, the more care we must exercise to ensure that the remaining forces constitute a stabilizing, survivable, and effective deterrent. And the deeper the cuts, the more insistent we must be that the agreement meet demanding standards of verification.

So as we continue to work toward a START agreement, we will be looking at the problem of vulnerable silo-based missiles with multiple warheads. We also will be struggling with the dilemna posed by mobile missiles which are, at once, more survivable and much harder to count and verify. And if those mobile missiles are carrying multiple warheads, the problem -- and the penalty for failing to detect cheating -- is compounded.

We are working on these and other problems. And we will go to Geneva with new ideas on how best to build on the significant areas of agreement that already exist.

The principle of security through stability does not apply to the United States alone. Our security is bound to that of our allies. We cannot rely on rhetoric to deter a would-be aggressor. Our theater and tactical nuclear forces give substance to that reality -- a link that extends deterrence beyond our shores and serves to strengthen our common security.

The INF Treaty demonstrates our willingness to negotiate reductions in nuclear weapons when doing so strengthens alliance security and international stability. In the past decade, NATO has <u>unilaterally</u> removed 2400 warheads -- to a level 35% lower

than in 1979. But theater nuclear forces contribute to our stability no less than strategic forces. We do not want to find ourselves dependent solely on the threat of a strategic nuclear exchange to deter conflict in Europe.

So we are committed to maintaining modern, effective U.S. nuclear forces based in Europe -- forces that are militarily effective and permit no doubt that the U.S. is committed to the defense of its allies. Our vital interests, our fundamental goals, and our enduring values permit no less.

The conventional balance in Europe is every bit as important as -- and is linked to -- the nuclear balance. The Warsaw Pact's massive conventional force advantage has cast a shadow over Europe for more than forty years.

The unilateral reductions President Gorbachev has promised give us hope that we can now redress that imbalance -- not because they transform the balance of conventional forces: none of the promised reductions will seriously affect the significant numerical superiority the Soviets now enjoy. We welcome those steps because, if implemented, they will help reduce the threat of surprise attack. And they confirm what we've said all along: that Soviet military power far exceeds the levels needed to defend the legitimate security interests of the USSR.

The negotiations we are now engaged in offer a chance to transform the military landscape of Europe. The issues are exceedingly complex and the stakes enormously high -- but the

Soviets have been forthcoming, and I am genuinely hopeful that we will achieve the reductions we seek.

But as in the case of nuclear forces, numbers alone are not enough. Our aim is nothing less than removing war as an option in Europe. The USSR has said it is willing to restructure its forces. We want the Soviets to deploy a smaller force -- one less reliant on the tanks, artillery and personnel carriers that provide the Soviets' offensive striking power. A restructured Warsaw Pact -- one that cannot threaten a major offensive against the West -- would make Europe and the world more secure.

The same can be said for a movement toward more openness in military activities. In recent years, we have invited observers to each other's military exercises, and expanded the exchange of information on our military forces and their activities. Two weeks ago, I proposed an "open skies" initiative, to take the concept of openness one step further: a plan for both sides to allow territorial overflights that, together with satellite surveillance, will increase our security against sudden and threatening military activities. In the same spirit, we want to see openness extend to Soviet military expenditures as well. I call on the Soviets to do as we have always done: to publish, for the first time in Soviet history, an accurate defense budget.

This kind of restructuring and openness in the military sphere is the kind that can lead to lower tensions and greater trust between our two nations -- and a safer, more secure world.

Forging a global strategy for defense is made more difficult by the serious budget constraints that we face. The 12% reduction in real defense spending over the past five years has cut into our capabilities. Secretary Cheney has already made a number of tough choices, and more lie ahead. One is already made. I will not as Commander-in-Chief, preside over a return to the "hollow army" of the 1970s -- a force under-trained and ill-equipped to perform its missions. You who choose to serve in America's Armed Forces deserve better. You have my word: our military will be battle ready. You'll have the tools and training you need to do your job.

The reviews we are now completing address the full range of security problems before us. As a global power, it should not surprise us that our ingenuity will be tested in matching our security responsibilities with our resources in the years ahead. But as I go to Europe to celebrate the 40th anniversary of the Atlantic Alliance, I cannot help but notice how far we've come -- and how bright our future is.

I began today by speaking about the triumph of a particularly American idea: freedom. I know there will be people who think there's something presumptuous about that -- people who will think it boastful to talk about that triumph. But it's not, for one simple reason: America knows her place in democracy's unfolding drama.

Democracy isn't our creation -- it's our inheritance.

We can't take credit for democracy -- but we can take the

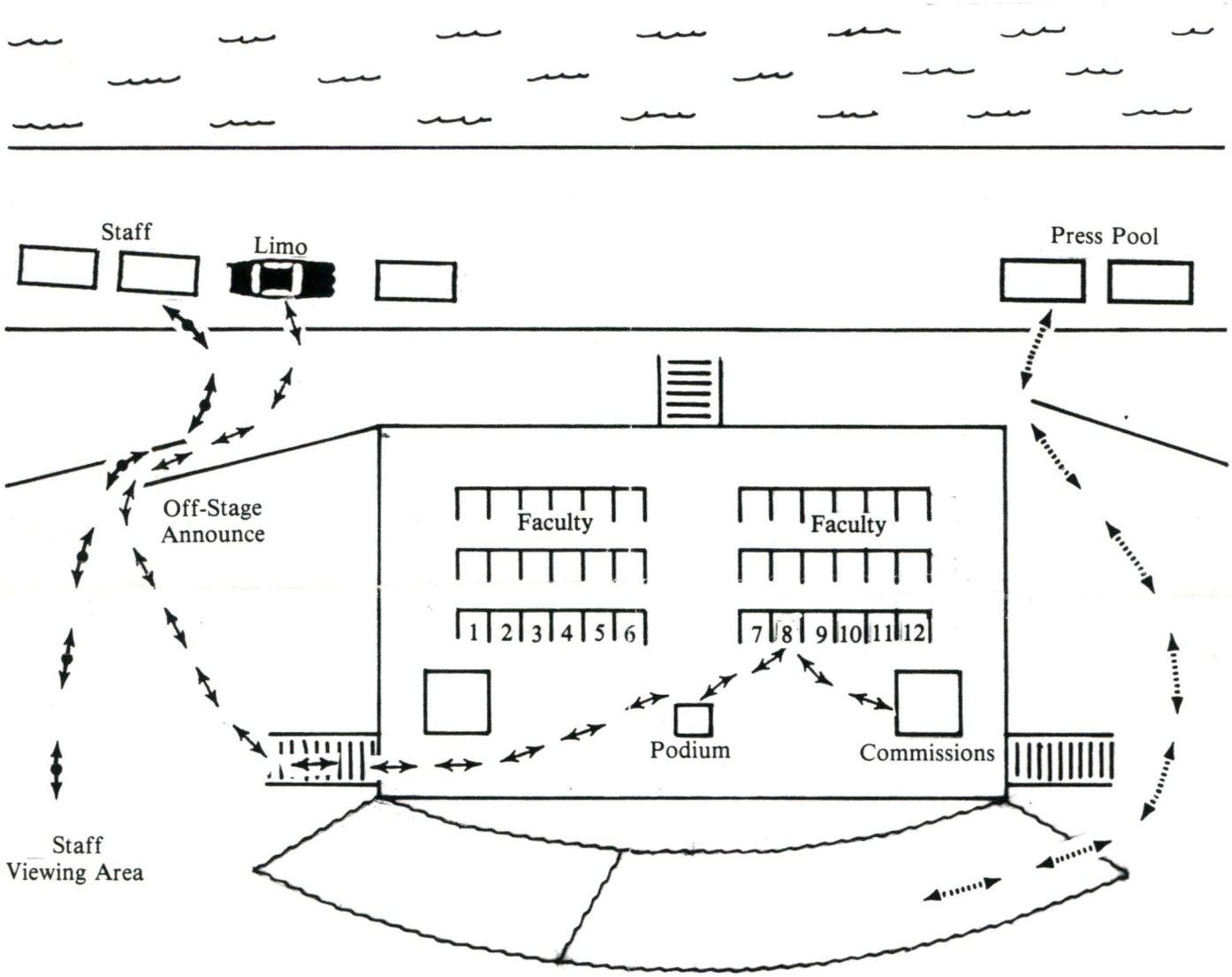
precious gift of freedom, preserve it and pass it on -- as my generation does to you, and you, too, will do one day.

As I said on the Capitol steps the day I took this office, "There is but one just use of power, and it is to serve people." As your Commander in Chief, let me call on today's class to reaffirm with me that American power will remain always in service to the enduring ideals of democracy and freedom. And let those who follow be able to say that in resisting the pressures of the moment, we delivered peace, freedom and prosperity -- lasting and secure.

# # #

TAB D

NEW LONDON, CONNECTICUT
U.S. Coast Guard Academy
Commencement Ceremony
Dais Diagram
Wedenesday, May 24, 1989



1. Dr. Sanders
   Dean, USCGA
2. Capt. Versaw
   Assit. Superintendant,USCGA
3. Prof. Gathy
4. Como. Pratt
   Comodore, USCG Auxiliary
5. Secretary Skinner
6. Admiral Yost
7. Rear Admiral Cueroni
   Superintendant, USCGA
8. THE PRESIDENT
9. Mr. Alex Haley
10. Ambassador Juarez
    Costa Rica
11. Capt. Ashworth
    Commandant of Cadets
12. Capt. McCoy
    Catholic Chaplain

12:15

KEY:
- → THE PRESIDENT
- ⇢ PRESS
- ⇢ GUESTS & STAFF

U.S.C.G. Barque EAGLE

America's Tall Ship

THE U.S. COAST GUARD BARQUE EAGLE

The Coast Guard Barque *EAGLE* bears a name that goes back to the early history of the United States' oldest continuous seagoing service.

The first *EAGLE* was commissioned in 1792, just two years after the formation of the Revenue Marine, forerunner of today's Coast Guard.

Today's *EAGLE*, the seventh in a long line of proud cutters to bear the name, was built in 1936 by the Blohm & Voss Shipyard, Hamburg, Germany, as a training vessel for German Naval cadets. It was commissioned *HORST WESSEL,* and following World War II was taken as a war prize by the United States. On May 15, 1946, the barque was commissioned into U.S. Coast Guard service as the *EAGLE* and sailed from Bremerhaven to New London, Connecticut.

EAGLE serves as a seagoing classroom for approximately 175 cadets and instructors from the U.S. Coast Guard Academy located in New London, CT. It is on the decks and in the rigging of the *EAGLE* that the young men and women of the Coast Guard Academy get their first taste of salt air and life at sea. From this experience they develop a respect for the elements that will be with them throughout their lifetime. They are tested and challenged, often to the limits of their endurance. Working aloft they meet fear and learn to overcome it. The training the cadets receive under sail has proven to be an invaluable asset during their subsequent Coast Guard careers.

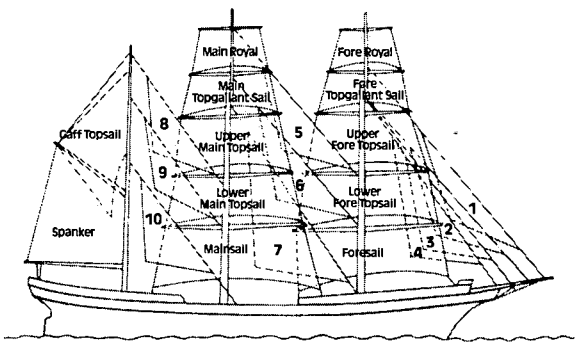
On *EAGLE,* cadets have a chance to practically apply the navigation, engineering and other training they receive at the Coast Guard Academy. As upperclassmen, they perform the leadership functions normally handled by junior officers. As underclassmen, cadets fill positions normally taken by the enlisted crew of a ship, including helm watches at the huge brass and wood wheels used to steer the vessel.

Sailing in *EAGLE,* cadets handle more than 20,000 square feet of sail and 20 miles of rigging. Over 200 lines must be coordinated during a major ship maneuver, so cadets must learn the name and function of each line.

The ship readily takes to the task for which it was designed. *EAGLE's* hull is built of steel, four tenths of an inch thick. It has two full length steel decks with a platform deck below and a raised forecastle and quarterdeck. The weather decks are three-inch thick teak over steel.

When at home, *EAGLE* rests alongside a pier at the Coast Guard Academy on the Thames River in New London. The Academy was originally founded in 1876 with a class of nine students on board the Revenue Cutter *DOBBIN.* In 1932 a permanent Academy was built on land donated by the New London community. Enrollment at the Academy numbers approximately 900 men and women, all of whom sail at one time or another on America's only active duty square rigger.

Length, overall	295 ft.
Length, at waterline	231 ft.
Beam, greatest	39.1 ft.
Freeboard	9.1 ft.
Draft, fully loaded	17.0 ft.
Displacement, fully loaded	1816 tons
Ballast (iron pigs)	344 tons
Fuel Oil	24,215 gals.
Water	56,140 gals.
Height of foretruck	147.3 ft.
Height of maintruck	147.3 ft.
Height of mizzentruck	132.0 ft.
Fore and Mainyard	78.8 ft.
Sail area	21,350.8 sq. ft.



Speed, under power	10 knots
Speed, under sail up to	17 knots
Anchors	3,860 lbs.

Sail Plan
1. Flying Jib
2. Outer Jib
3. Inner Jib
4. Fore Topmast Staysail
5. Main Royal Staysail
6. Main Topgallant Staysail
7. Main Topmast Staysail
8. Mizzen Topgallant Staysail
9. Mizzen Topmast Staysail
10. Mizzen Staysail

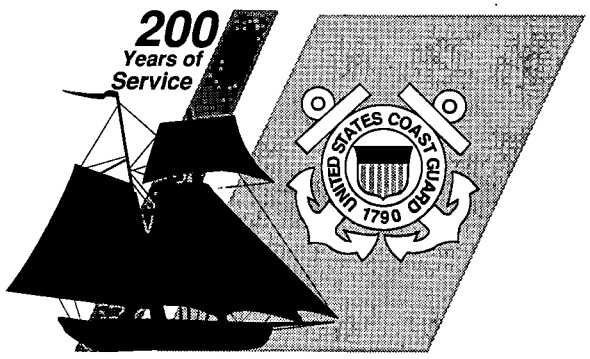


Photo on reverse by: Dan Nerney/DOT

U.S. Department of Transportation

REAR ADMIRAL RICHARD PAUL CUERONI
SUPERINTENDENT, COAST GUARD ACADEMY

Rear Admiral Cueroni assumed duty as Superintendent, U.S. Coast Guard Academy in June 1986.

A 1953 graduate of the Academy, Admiral Cueroni has served on seven ships in the Atlantic, Pacific, Caribbean and Alaska, commanding four of them. A former Chief of Personnel for the Coast Guard, his last assignment was as Commander, Seventh Coast Guard District, headquartered in Miami, Florida. While in Miami, he was the Vice President's coordinator of the Border Interdiction System engaged in the interdiction and prosecution of drug smugglers in the Caribbean.

Admiral Cueroni is a 1965 graduate of the Armed Forces Staff College and a 1976 Distinguished Graduate of the Industrial College of the Armed Forces.

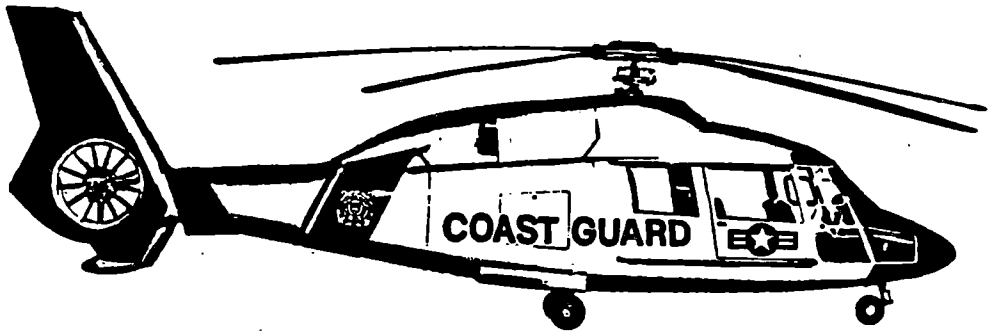
Among his military awards are the Distinguished Service Medal, Defense Superior Service Medal, and the Legion of Merit.

Admiral Cueroni is married to the former Elizabeth Hilborn of West Hartford, Connecticut. They have five children and two grandchildren.

U.S. Department of Transportation **Fact Sheet**

United States Coast Guard

Public Affairs Office, 2100 2nd St. SW, Washington DC 20593-0001 — 202-267-2304



THE DOLPHIN HH-65A

The United States Coast Guard is adding 96 short range HH-65A helicopters to its fleet to replace the aging HH-52A Sikorsky Sea Guard. The twin-engine Dolphins operate up to 150 miles off shore and will fly comfortably at 150 knots for three hours.

Though normally stationed ashore, the Dolphins can be carried on board medium and high endurance Coast Guard cutters. They assist in the missions of search and rescue, enforcement of laws and treaties including drug interdiction, polar ice breaking, marine environmental protection including pollution control, and military readiness. Helicopters stationed aboard ice breakers are the ship's eyes to find thinner and more navigable ice channels. They fly reconnaissance and air lift supplies to ships and to villages isolated by winter ice.

The HH-65A minimum equipment requirements exceed anything previously packaged into one helicopter weighing less than 10,000 pounds. HH-65As are made of corrosion-resistant, composite structure materials. The shrouded tail rotor is unique to the Dolphin. Up-to-date navigation equipment is integrated into a complete flight management system.

Also a unique feature of the Dolphin is its computerized flight management system which integrates state-of-the-art communication and navigation equipment. This system provides automatic flight control. At pilot direction, the system will bring the aircraft to a stable hover 50 feet above a selected object. This is an important safety feature in darkness or inclement weather. Selected search patterns can be flown automatically , freeing the pilot and copilot to concentrate on sighting the search target.

The Dolphin is manufactured by Aerospatiale Helicopter Corporation in Grand Prairie, Texas. Avco Lycoming builds the LTS 101-750B-2 turboshaft engines in Williamsport, New York and Rockwell International, Collins Avionics Group manufactures the electronics system in Cedar Rapids, Iowa.

DOLPHIN CHARACTERISTICS

Maximum Gross Weight: 8,900 lbs.
Empty Weight: 6,092 lbs.

Main Rotor Diameter: 39ft.

Overall Length: 38 ft. (blades folded)
Overall Height: 13 ft.
Overall Width: 11 ft. (blades folded)

Fuel Capacity: 291 gals.

Maximum Speed: 165 kts.
Cruise Speed: 125 kts.

Engines: Two LTS-101-750

Engine Rating: 742 HP Per Engine
Take Off: 690 HP

Maximum Range: 400 n.m.

Normal Endurance: 3 hours

Short Range Radius of Action: 150 n.m.

Cargo Sling Load: 2,000 lbs.

Crew: 1-2 Pilots, 1 Crewman

DOLPHIN LOCATIONS

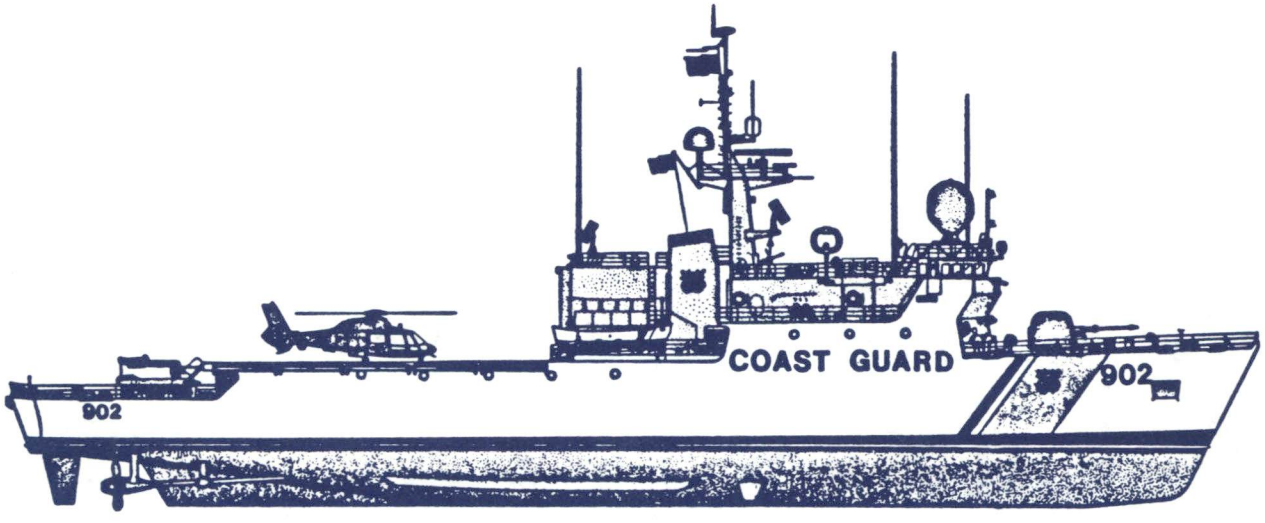
Borinquen, Puerto Rico
Corpus Christi, Texas
New Orleans, Louisiana
Miami, Florida
Mobile, Alabama
Brooklyn, New York
San Diego, California

By March 1988, all air stations
with HH-52 Sea Guards are
to have their Dolphin replacements.

U.S. Department of Transportation **Fact Sheet**

United States Coast Guard

Public Affairs Office, 2100 2nd St. SW, Washington DC 20593-0001 — 202-267-2304



THE FAMOUS CLASS CUTTERS (WMEC)

Thirteen 270-foot, medium endurance cutters make up the United States Coast Guard Famous Class. Each is named for a cutter prominent in Coast Guard history. They support Coast Guard tasks in enforcement of laws and treaties, search and rescue, marine science, defense operations, and coastal surveillance. The Famous Class replaces thirteen World War II and pre- World War II cutters.

While the Famous Class commemorates Coast Guard cutters of the past, it employs modern design and technology. New with the Famous Class is the electronics unit with advanced Navy equipment and "black boxes" designed for Coast Guard specifications. These Integrated Cutter Electronic Systems (ICES) include Command Display and Control (COMDAC). COMDAC collects, coordinates, and displays data on ten primary display screens to monitor the status of subjects being tracked, to develop maneuvering positions, to avoid collision, to create search and rescue patterns, and to locate persons in the water. COMDAC also is used for navigation, piloting, and internal communications.

For fishery patrols or drug interdiction, Famous Class cutters are able to travel 400 miles from home port, patrol for 14 days, and return with a 10% fuel reserve. For search and rescue missions, they can deploy at maximum speed, 19.5 knots, to a search area 400 miles away, search for five days, and return to port with a disabled vessel in tow.

Four of the cutters were built at the Tacoma Boatbuilding Company, Tacoma, Washington. The last nine are being constructed by Robert E. Derecktor of Rhode Island, Inc. in Middletown. COMDAC hardware is manufactured by Sperry Systems Management in Reston, Virginia and its software was developed by Vitro Corporation in Silver Spring, Maryland.

FAMOUS CLASS SUMMARY

PRINCIPAL

Length: Overall 270 feet
Waterline 255 feet

Beam: 38 feet

Draft: 14 feet

Displacement: 1,780 tons

Height of highest projection above load waterline: 94 feet 11 inches

Range: 19.5 knots - 3,850 n.m.
15 knots - 6,370 n.m.
12 knots - 10, 250 n.m.

Endurance: Fuel 14 days
Stores 14 days

MACHINERY

Configuration: 2 Shaft, 9 Foot Diameter, Controllable Pitch Propellers;

Main Engines: ALCO Geared Diesel 3,500 Horsepower Each Engine

Generators: Two 475 KW Caterpillar Ship Service

Potable Water: 8,250 Gallons

Evaporator Output: 6,000 Gallons A Day

ARMAMENT

MK 92 Fire Control System
MK 75, 76mm Gun
AN/SLQ - 32, Passive Electronics
SRBOC (Super Rapid Blooming Offboard Chaff)

HELICOPTER LANDING CAPABILITY

The cutter's flight deck is sized to land any existing or proposed Coast Guard helicopters.

ACCOMMODATIONS (Approximate)

Officers - 15
CPOs - 10
Enlisted - 84
109

THE FAMOUS CLASS

BEAR	WMEC 901	Portsmouth, VA	SPENCER	WMEC 905	Boston, MA
TAMPA	WMEC 902	" "	SENECA	WMEC 906	" "
HARRIET LANE	WMEC 903	" "	ESCANABA	WMEC 907	" "
NORTHLAND	WMEC 904	" "	TAHOMA	WMEC 908	New Bedford, MA
			CAMPBELL	WMEC 909	" " "

THETIS	WMEC 910	Long Beach, CA
FORWARD	WMEC 911	" " "
LEGARE	WMEC 912	" " "
MOHAWK	WMEC 913	" " "

U.S. Department of Transportation

News:

Office of the Assistant Secretary for Public Affairs
Washington, D.C. 20590

SAMUEL KNOX SKINNER
SECRETARY OF TRANSPORTATION

Samuel K. Skinner became the tenth U.S. Secretary of Transportation on February 1, 1989. He was nominated by President George Bush on December 22, 1988, and confirmed by the Senate on January 31, 1989.

From 1984 until his confirmation, he served as Chairman of the Regional Transportation Authority of Northeastern Illinois. Skinner also was a senior partner in the Chicago office of the international law firm of Sidley & Austin.

Skinner served in the office of the United States Attorney for the Northern District of Illinois, from 1968 to 1975, first as an Assistant United States Attorney and then as First Assistant to the U.S. Attorney. In 1975, Skinner was appointed United States Attorney for the Northern District -- at that time the first career prosecutor in the history of the Northern District of Illinois to have been named to the position.

During his tenure as U.S. Attorney, Skinner also was a member of the Department of Justice White-Collar Crime Committee and the United States Attorney General's Advisory Committee. Twice he received the Department of Justice Outstanding Service Award. In 1983, Skinner was appointed to the President's Commission on Organized Crime, where he served as Vice Chairman.

From 1961 to 1968, Skinner was employed in various marketing and managerial positions in the data processing division of IBM Corporation. In 1967, he was designated one of the company's outstanding salesmen in the United States.

Skinner has served as Chairman of the Illinois Capital Development Board, the Governor's Fraud Prevention Commission and the Governor's Task Force on Energy Conservation and Coal Conversion. He also has served on numerous boards and civic committees. Skinner has received numerous awards, and was named one of the Chicago Junior Chamber of Commerce's ten outstanding young citizens and chosen as one of the outstanding alumni of DePaul University.

Skinner received his undergraduate degree in accounting from the University of Illinois in 1960. He then served as an officer in the United States Army during 1960 and 1961. In 1966, he received his degree from DePaul University College of Law in Chicago, where he was a member of the law review.

He is 50 years old and has three children -- Thomas, a Chicago lawyer presently serving as Assistant to the Governor for Economic Development; Steven, a third-year law student at the University of Chicago; and Jane, a senior at Northwestern University.

# # # # #

Admiral Paul A. Yost, Jr.
Commandant
United States Coast Guard

Admiral Paul Alexander Yost, Jr. became the 18th Commandant of the United States Coast Guard on May 30, 1986. He was nominated to that position while serving as Commander Atlantic Area, Commander Maritime Defense Zone Atlantic and Commander Third Coast Guard District in New York City where he was assigned in 1984.

In these roles, the Admiral was responsible for Coast Guard operations in the Atlantic, Caribbean and Gulf of Mexico including drug interdiction, maritime law enforcement and search and rescue, as well as maritime coastal defense under the authority of the Commander in Chief, Atlantic Fleet, United States Navy. Prior to his Third District assignment, Admiral Yost was Chief of Staff at Coast Guard Headquarters in Washington for three years, where he managed planning, programming and budgeting for the service. He was promoted to flag rank in 1978 and served as Eighth District Commander in New Orleans for three years.

Admiral Yost's management and operational positions included Chief of Staff and Chief of Operations for Seventeenth Coast Guard District in Alaska in 1975 and Commander Task Group 115.3, a combat command in Vietnam, in 1969. In addition, he served as Special Assistant to the Deputy Secretary, Department of Transportation and as an Alternate Delegate on the U.S. Law of the Sea Delegation. Admiral Yost was Captain of the Port, Seattle, Washington in 1974, Special Assistant to the Chief Counsel, Coast Guard Headquarters in 1972 and Chief, Bridge Branch, Aids to Navigation Division, Headquarters in 1970. Seagoing duty included command of the Coast Guard Cutter RESOLUTE in San Francisco, California in 1966.

Admiral Yost was graduated from the Naval War College at Newport, Rhode Island in 1964. He received master's degrees in international affairs from George Washington University in 1964 and in mechanical engineering from the University of Connecticut in 1959. He also completed course work toward a master's degree in business administration. Admiral Yost received a Bachelor of Science degree from the U.S. Coast Guard Academy in New London, Connecticut in 1951.

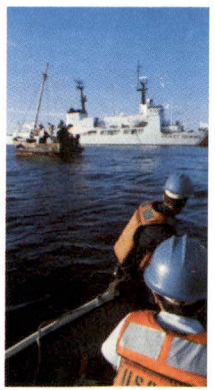
The Commandant's awards include two Distinguished Service Medals, Silver Star, Legion of Merit with combat "V" and a gold star, Meritorious Service Medal, Combat Action Ribbon, Korean Service Medal and United Nations Service Medal. He also received the Cross of Gallantry with Silver Star (RVN), Presidential Unit Citation, Navy Meritorious Unit Commendation and the Distinguished Service Medal (RVN).

A native of St. Petersburg, Florida, Admiral Yost is active in church, school and community affairs. He was awarded the Silver Beaver Award by the Boys Scouts of America.

Admiral Yost is married to the former Jan Worth of Wakefield, Massachusetts. Mrs. Yost earned a degree in communications from the University of Maryland. They have five children: Linda, Paul III, David, Lisa and Christopher. The Yosts reside in Chevy Chase, Maryland.

The United Coast Guard.

proud armed
Whether arresti
smugglers, findin
lost at sea or work
of the armed force
time defense, the v
warding. It gives y
of accomplishment



DEPARTMENT OF TRANSPORTATION
U.S. COAST GUARD
WASHINGTON, D.C. 20593

Official Business
Penalty for Private Use, $300

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 13057 WASHINGTON, D.C.

POSTAGE WILL BE PAID BY U.S. COAST GUARD

DIRECTOR OF ADMISSIONS
U.S. COAST GUARD ACADEMY (tp)
NEW LONDON, CONNECTICUT 06320-4195

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

The United States Coast Guard Academy.

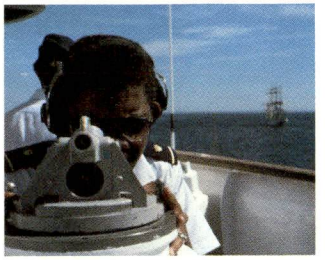
More than a college. Academic, athletic and leadership experiences during the four year program at the Academy will prepare you for becoming an officer in the Coast Guard and provide you the education for success.

Success at the Academy depends on you, your dedication and perserverence. Your performance academically and militarily determines your class standing at graduation.

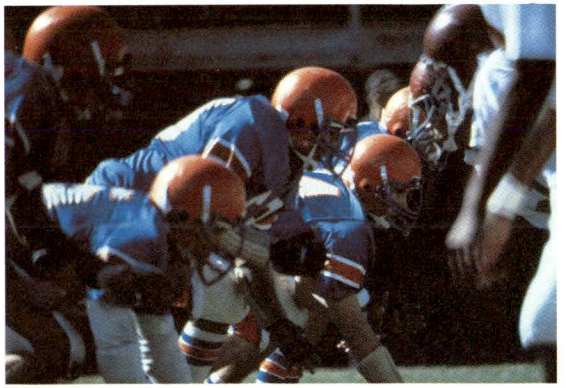
"I've really grown up throughout the four years here. I've been challenged but it's been worth every minute. My parents are so proud of me--I'm the first one in my family to go to college!"

---A Graduating Cadet

Is the Academy for you? No one can be completely sure until Academy life is experienced. However, we can assist you in making the important decision of where to get your college degree. **Our education could be yours.**



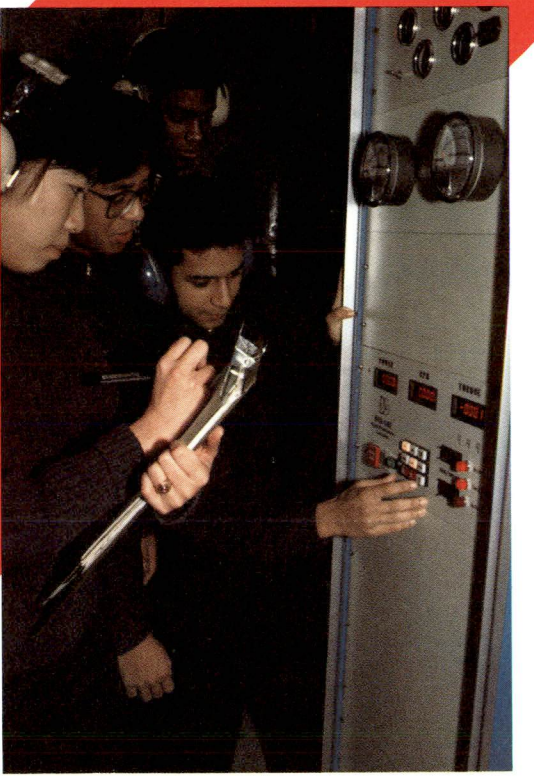
Fill out the postage paid postcard and send it in for more information. You may also call us collect on our Minority Candidate Hotline for details or at anytime during your application and admission process. We may also be able to arrange a visit to the Academy for you. Don't delay—you must apply by December 15th of your senior high school year.



DIRECTOR OF ADMISSIONS
U.S. COAST GUARD ACADEMY
NEW LONDON, CT 06320-4195

Minority Candidate Hotline
COLLECT: (203) 447-2897

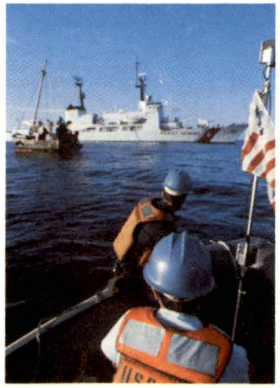
Opportunities for All



The U. S. Coast Guard Academy

New London, Connecticut

The United States Coast Guard. A small, proud armed service. Whether arresting drug smugglers, finding people lost at sea or working as one of the armed forces in maritime defense, the work is rewarding. It gives you a sense of accomplishment.



The Coast Guard gives men and women the chance to succeed. By helping others, they are helping themselves.

"I saved three people from a burning boat last month and recently seized 150 pounds of cocaine on a sailboat---nowhere else can you get satisfaction like that."

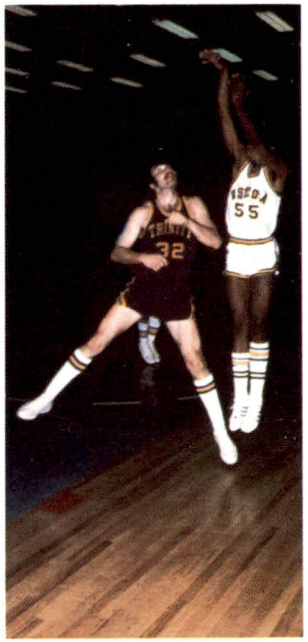
---A Coast Guard Lieutenant

OPPORTUNITIES

The Coast Guard Academy selects young men and women who will be the leaders of the future. Past graduates have been captains of ships, pilots, presidents of corporations, partners in law firms, White House aides and politicians. Someday, a Coast Guard Academy graduate might even be President of the United States. Could that person be you?

Your opportunities are endless. At the Academy, your appointment means a **full four-year scholarship and a guaranteed job after graduation**. The scholarship includes your Bachelor of Science Degree, monthly pay, free medical and dental care, the chance to participate in college athletics, and leadership and management experience. After graduation, your five-year commitment to the Coast Guard is spent in responsible positions which help prepare you for a career in an area of your choice.

It will be challenging. The military environment is disciplined and highly organized. Cadets wear uniforms and are required to attend classes. Participation in athletic and other activities is part of the daily schedule. Academy life is hard work but it can also be fun. Cadets have the chance to play sports on the various Coast Guard NCAA Division III teams. The social life is varied; there are opportunities to get involved in many extracurricular and social functions. Through the close-knit environment of the Academy, friendships are developed that last a lifetime. Cadets take pride and satisfaction in their many accomplishments.



FOR ALL

Committed describes the Coast Guard Academy's attitude toward its minority cadets. All cadets are treated fairly and the special needs of minority cadets are recognized. Each person's background and point of view are taken seriously. Cadets that are admitted are expected to graduate and the Academy faculty and staff are assigned to assist in the academic and personal guidance necessary for a cadet's success.

The Coast Guard Academy is taking an active role to increase the number of ethnic minorities who become cadets. Through programs such as MITE (Minority Introduction to Engineering) and Coast Guard NAPS (Naval Academy Preparatory School), minority students are exposed to cadet life and given a better chance for academic success at the Coast Guard Academy.

Because of the many cultural and religious backgrounds of our cadets, the Academy strives to heighten sensitivity in leadership for both minority and non-minority cadets. Our minority graduates serve as role models for other Coast Guard personnel and their civilian counterparts. We're looking for mature young men and women who want to be educated leaders.

You could make a difference!

YES! PLEASE SEND ME MORE INFORMATION ABOUT THE U.S. COAST GUARD ACADEMY.

NAME _____

ADDRESS _____ YEAR OF H.S. GRADUATION: ____

CITY _____ STATE _____ ZIP _____

tunities
All

l Academy
Connecticut

-Do you think you would like to major in engineering?

-Are you a high school junior?

-Have you completed at least two years of mathematics?

-Did you score a minimum of 110 on the PSAT or 900 on the SAT?

-Are you a member of a minority group?

If you answered **"yes"** to all of the above questions, then we encourage you to apply for the United States Coast Guard Academy **MITE, Minority Introduction to Engineering,** program. If selected we will provide you with transportation to and from home, lodging at the Coast Guard Academy, and meals for the duration of the week.

United States Coast Guard Academy

The United States Coast Guard Academy is a service academy which trains young men and women to be officers in the U. S. Coast Guard. Every appointee receives the equivalent of a full scholarship for four years of study. Appointments are offered based on a national competition. Applicants are evaluated on the basis of SAT/ACT scores, high school class rank and transcripts, and demonstrated leadership abilities. No congressional nominations are required.

Bachelor of Science degrees are offered in the following areas:

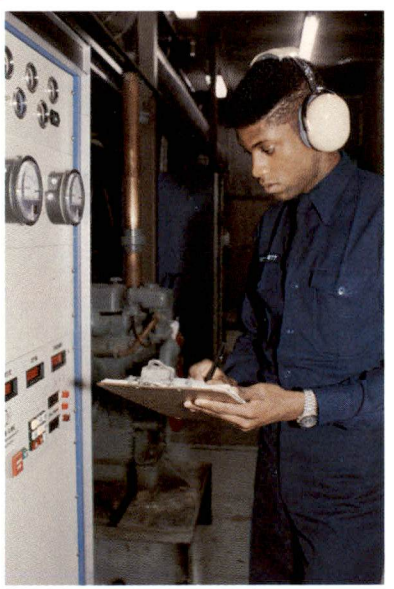
Marine Engineering
Electrical Engineering
Civil Engineering
Mathematics and Computer Science
Marine Science
Government
Management

For additional information:

DIRECTOR OF ADMISSIONS
U.S. COAST GUARD ACADEMY
NEW LONDON, CT 06320-4195

Minority Candidate Hotline:
COLLECT: (203) 447-2897

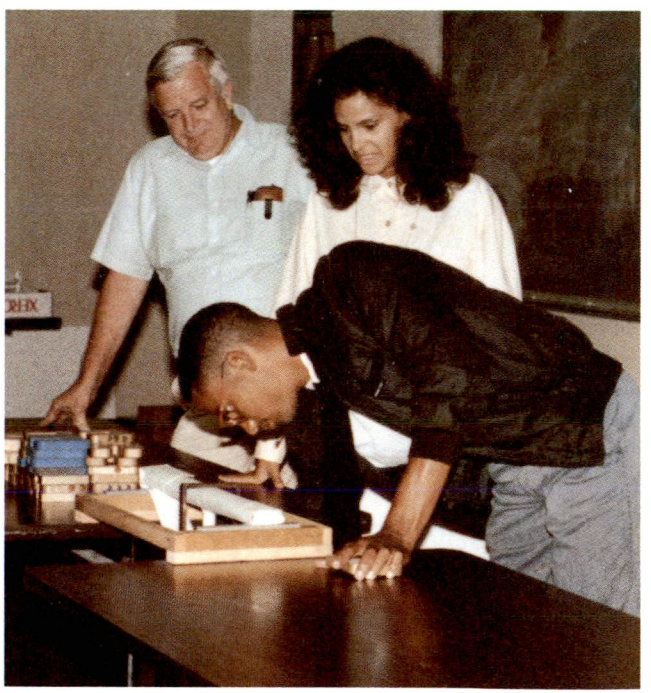
UNITED STATES COAST GUARD ACADEMY



Minority Introduction to Engineering

MITE

The Minority Introduction to Engineering (MITE) Program is a one week summer program offered by the United States Coast Guard Academy to familiarize high school students with the various fields of engineering and life at the Coast Guard Academy.



Testing Paper Beam Construction

For five days participants attend morning and afternoon sessions devoted to learning more about the engineering disciplines and career opportunities. Lectures, field trips and laboratory experiments are also part of the program.

Beginning and Advanced Computers

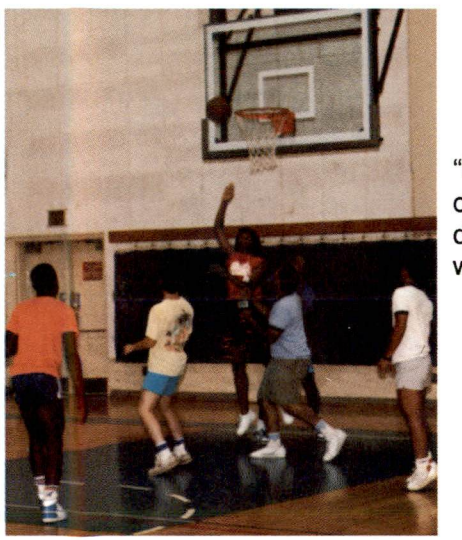
Evening sessions include tours of the Coast Guard Academy, involvement in athletic activities, and interaction with cadets.

Digital Electronics

"MITE helped me make some important decisions about my college plans."

Naval Architecture

Soil Mechanics



"I made a lot of new friends during the week."

The week finishes with an Awards Luncheon for MITE participants and their parents.

Awards Ceremony

CATALOGUE
OF COURSES
1988 - 1989

UNITED STATES COAST GUARD ACADEMY

NEW LONDON, CONNECTICUT

THE UNITED STATES COAST GUARD ACADEMY at New London, Connecticut, one of the four Academies of the Armed Forces of the United States, is maintained by the Federal Government and conducted within the authority of the Department of Transportation. Its purpose is to provide commissioned officers for the United States Coast Guard, a military service which in times of war becomes a service under the United States Navy.

Through a four year program of training and education on the college level, the United States Coast Guard Academy fulfills its stated mission:

"To graduate young men and women with sound bodies, stout hearts, and alert minds, with a liking for the sea and its lore, and with that high sense of honor, loyalty, and obedience which goes with trained initiative and leadership, well grounded in seamanship, the sciences, and the amenities and strong in the resolve to be worthy of the traditions of commissioned officers in the United States Coast Guard in the service of their country and humanity."

UNITED STATES COAST GUARD ACADEMY

1988 - 1989 Catalogue of Courses

RESERVATION OF RIGHTS

The statements set forth in this catalogue are for informational purposes only and should not be construed as the basis of a contract between a cadet and the U. S. Coast Guard Academy.

The Academy reserves the right to change programs of study, academic requirements, course offerings, regulations, teaching staffs, Critical Dates Calendar and other matters described in the catalogue without prior notice, in accordance with established procedures. It is the responsibility of each cadet to be aware of the current regulations, curricula, and graduation requirements for their class and chosen major.

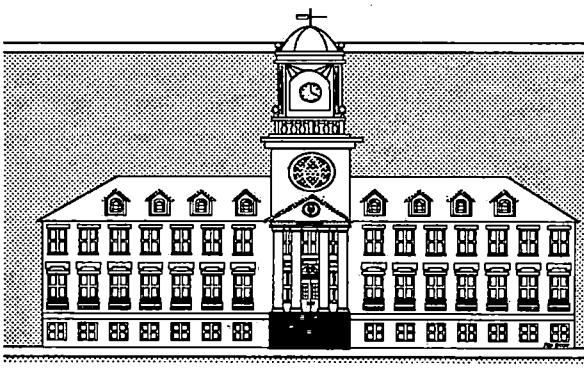
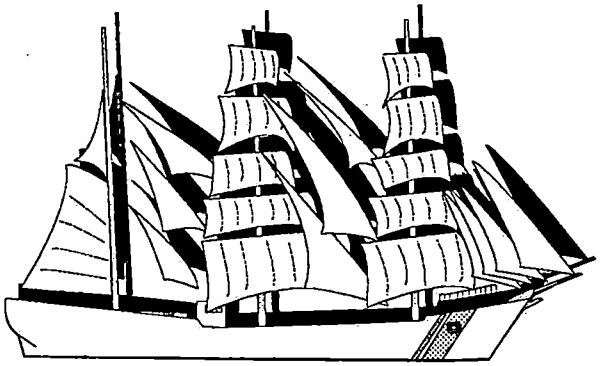
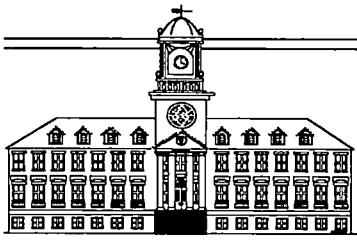


TABLE OF CONTENTS

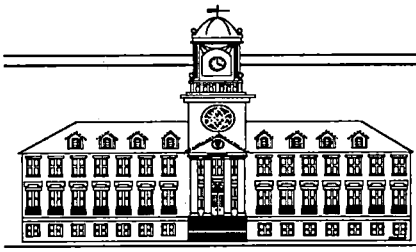




CRITICAL DATES CALENDAR

Academic Years

	88-89	89-90	90-91	91-92
Fourth Class Report	11 July	6 July	6 July	8 July
Summer Training Program Ends	26 Aug	22 Aug	21 Aug	20 Aug
Academic Year Admin Processing	29 Aug	23 Aug	22 Aug	21 Aug
Convocation (PM)	29 Aug	23 Aug	22 Aug	21 Aug
Classes Start	30 Aug	24 Aug	23 Aug	22 Aug
Labor Day	5 Sept	4 Sept	3 Sept	2 Sep
Homecoming	8 Oct	23 Sept	5-7 Oct	27-29 Sept
Columbus Day	10 Oct	9 Oct	8 Oct	7 Oct
Parents Weekend	14-16 Oct	20-22 Oct	12-14 Oct	18-20 Oct
Veterans Day	11 Nov	11 Nov	11 Nov	11 Nov
Thanksgiving Leave	23-27 Nov	22-26 Nov	21-25 Nov	20-24 Nov
Last Class Day	13 Dec	13 Dec	12 Dec	11 Dec
Study & Conference Day	14 Dec	14 Dec	13 Dec	12 Dec
Exam Period	15-21 Dec	15-21 Dec	14-20 Dec	13 -19 Dec
Christmas Leave	22 Dec-3 Jan	22 Dec-7 Jan	21 Dec-6 Jan	20 Dec-5 Jan
Add/Drop Day	4 Jan	8 Jan	7 Jan	6 Jan
Classes Start	5 Jan	9 Jan	8 Jan	7 Jan
Martin Luther King, Jr. Day	16 Jan	15 Jan	14 Jan	13 Jan
Presidents' Day	20 Feb	19 Feb	18 Feb	17 Feb
Spring Leave	10-19 Mar	9-18 Mar	8-17 Mar	7-15 Mar
Last Class Day	3 May	2 May	1 May	29 Apr
Study & Conference Day	4 May	3 May	2 May	30 Apr
Exam Period	5-12 May	4-11 May	3-10 May	1-8 May
Summer Training Program Begins	13 May	12 May	11 May	9 May
EAGLE Sails	15 May	14 May	13 May	11 May
Graduation	24 May	23 May	22 May	20 May



ACADEMY PROGRAM

Program Objectives

The U. S. Coast Guard Academy has three primary objectives: (1) to provide by precept and example an environment which encourages a high sense of honor, loyalty, and obedience; (2) to provide a sound undergraduate education in a field of interest to the Coast Guard; and (3) to provide training which enables graduates to assume their immediate duties as Junior Deck Officers afloat.

With these objectives as guides the present Academy curriculum has been developed. The program, fully accredited by the *New England Association of Schools and Colleges,* leads to a Bachelor of Science degree and a commission as Ensign in the U. S. Coast Guard. As the curriculum is constantly being reviewed to ascertain that it meets the needs of the Service, the pattern and content of the courses described in this catalogue may be revised at any time. The Civil, Electrical, and Marine Engineering Programs are accredited by the *Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).*

ACADEMIC DIVISION

The Academic Division, headed by the Dean of Academics, consists of the Library, Registrar, Academic Media Center and the following academic departments of instruction: Engineering, Humanities, Mathematics, Sciences, Nautical Science and Law, Computer Science, and Economics and Management. The teaching positions in these academic departments are staffed through the competitive appointment of rotating military, permanent military, and permanent civilian faculty.

GRADUATION REQUIREMENTS

In order to satisfy the requirements for the award of the Bachelor of Science degree a cadet must:

1. Satisfactorily complete all core courses.
2. Satisfactorily complete a minimum of 126 credit hours, excluding Physical Education courses, while at the Academy.
3. Attain a Cumulative Grade Point Average of 2.00 or better.
4. Be in residence at the Academy for at least four academic years.
5. Maintain a high sense of integrity.
6. Meet the minimum swimming standards.

GRADES AND HONORS LIST

The assigned grades for each course are based on the cadet's daily work over the 15-week semester and the individual's score on the final examination. The unit of credit is semester hours. One semester hour equates to 50 minutes of lecture or 100 minutes of laboratory per week.

At mid-semester and at the end of each term a Grade Point Average is determined with H = 4, A = 4, B+ = 3.3, B = 3, C+ = 2.3, C= 2, D = 1, and F= 0. A cadet must obtain at least a 2.0 Cumulative Grade Point Average to graduate.

Cadets are encouraged to strive for academic excellence by the prospect of attaining the Honors List and of receiving the additional privileges granted in conjunction with that achievement.

"Honors" are awarded to cadets who achieve not less than a 3.15 Grade Point Average, with no mark in any 3-hour course less than 2.0 (C).

INDIVIDUAL ASSISTANCE

A cadet who desires assistance may obtain this at any time during the semester. If a cadet's academic performance is deemed unsatisfactory, they are assigned additional instruction either in extra classes or in consultations with their instructor. Counseling on an individual basis is conducted throughout the year by faculty members, company officers, and counselors.

WRITING CENTER

Established to provide after hours instruction to anyone requesting assistance, the Cadet Writing Center is yet another valuable learning resource available to our students. The center is staffed by faculty from the Humanities, Coast Guard Academy and trained tutors from Connecticut College who offer additional individualized instruction to cadets at all levels.

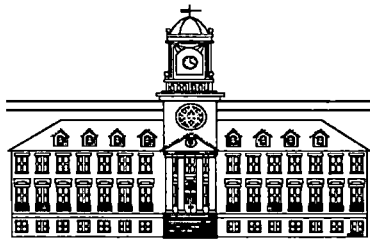
ACADEMY SCHOLARS PROGRAM

The Academy Scholars Program offers a special intellectual challenge to cadets in their fourth year who have demonstrated outstanding scholastic abilities.

Those selected are given special recognition and academic privileges which enable them to pursue, under faculty guidance, individually selected projects and special research.

PHYSICAL FITNESS AND MILITARY TRAINING

Realizing that extensive physical education and recreational sports programs are essential to the fulfillment of its education philosophy, the Academy insists upon a cadet's participation in some aspect of the athletic program during each of his four years. Also important to the education of the cadet is the experience they derive from living in and working for the brigade organization, which is along with the 4-year course in Military indoctrination, under supervision of the Cadet Administration Division.



COURSE DESCRIPTIONS

Engineering Department

Engineering Communication and Design 1112

Introduction to the techniques of engineering design and problem solution. Examination and practice of the design process through individual and group projects in engineering. Practice of idea generation, design process and project presentation via written reports and technical sketching.

Credit Hours: 1.5
Format: Class; Laboratory

Applied Engineering Design 1114

Basic engineering design topics are studied and used in the design process. The use of project management techniques and the study of safety, reliability, economics, and sociological considerations culminate in a project that is defined, specified, modelled, tested, and presented by the cadet.

Credit Hours: 1.5
Format: Class; Laboratory

Projects in Engineering 1395

Projects in Engineering under the direct supervision of a faculty member. The projects can be direct participation in laboratory projects, research, or individual projects requiring periodic instructor review. Specific projects can be construction of hardware, computer software, experimental work, or a paper study. A final written report is required. May be taken only as an overload.

Credit Hours: 1.0
Format: Project
Prerequisite(s): Approval of Academic Advisor and Approval of Major Coordinator

Civil Engineering

Statics and Strength of Materials 1202

An introductory study of the mechanics of rigid and deformable bodies. Application of equilibrium conditions to free body diagrams of rigid bodies. The study of deformation and geometric compatibility, to supplement equilibrium equations in the solution of statically indeterminate axial, torsional and beam structures. Supporting topics in stress, strain, elastic behavior, ductile and brittle fracture and stress concentrations. Laboratory exercises in tensile testing, beam stress, beam deflection and column buckling.

Credit Hours: 4.5
Format: Class; Laboratory
Prerequisite(s): 3117
Corequisite: 3117

Material Science for Marine Engineers 1204

Metallurgy with emphasis in solid state physics, crystallography, dislocation theory and phase diagrams related to the physical behavior of metals. Elevated temperature behavior, corrosion, alloying, heat treatment, grain growth and failure analysis. Effects of metal fabrication processes. Amorphous materials with emphasis on use, properties and limitations. Laboratory experiments: stress concentrations, corrosion, brittle fracture, cold working, annealing, heat treatment, precipitation hardening, x-ray diffraction.

Credit Hours: 3.7
Format: Class; Laboratory
Prerequisite(s): 1202 and 5106

Dynamics 1211

Kinematics and kinetics of particles and rigid bodies in two dimensions under the effects of unbalanced force systems; principles of work and energy; principles of impulse and momentum; free and forced vibrations of linear systems of one degree of freedom with and without damping.

Credit Hours: 4.0
Format: Class
Prerequisite(s): 1202

Projects in Engineering (Special) 1301

Special course in Material Science (CE) - concrete, asphalts, to accommodate transfers into CE major for cadets who have completed 1204.

Credit Hours: 1.0
Format: Laboratory
Prerequisite(s): 1204

Material Science for Civil Engineers 1302

A study of the material and engineering properties of steel, aggregates, portland cement concrete and asphalt cement (bituminous) concrete. Microscopic investigation of metals and the effects of fabrication, welding, heat treatment and corrosion. Investigations of the properties of aggregates, portland cement and asphalt. Proportioning of portland cement concrete mixtures, using associated admixtures and investigating the strength and curing characteristics of these mixtures. Proportioning of asphalt paving mixtures and investigating their strength, wearing and trafficability characteristics.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 1202 and 5106

Soil Mechanics and Foundation Design 1304

The origin and characteristics of soil and rock, fundamentals of soil behavior and its use as a construction material. The effective stress principle, one-dimensional settlement analysis, shear strength, bearing capacity of foundations, and stability of retaining walls and slopes. Design considerations for various types of foundations; footings, mats, piles.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 1202 and 1340

Steel Design 1313

Design of steel members; the behavior of steel beams, columns, beam-columns, and tension members. Design of bolted and welded connections.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 1319
or 1317 and Instructor Approval
Corequisite: 1319

Structural Analysis I 1317

Statically determinate structural analysis of plane structures including internal forces and moments of members and their deformations using virtual work, Castigliano's Theorem, and conjugate beams. Influence lines. Statically indeterminate structural analysis using consistent deformations and least work.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 1202

Structural Analysis II 1319

Statically indeterminate structural analysis of plane rigid frames using slope-deflection, moment distribution with/without sidesway, using both prismatic and non-prismatic members. Matrix algebra, methods for solving systems of simultaneous linear equations. Matrix formulation for analysis of plane/space trusses, plane rigid frames, grillages.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 1317

Planning and Design of Construction Projects 1402

Design and execution of civil engineering construction projects. Two phased course covering the design and construction process. Design process includes organization of the design team, evaluation of design alternatives, design standards/codes and specification writing. Construction process entails construction organization, cost estimating, contracting and project management.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): Approval of Major Advisor

Principles of Surveying 1408

Course directed to future officers in fields of Civil, Electronic Engineering, Surface Ops, Buoy Tending and Oceanography. All officers concerned with obtaining precise positioning, Mathematics of positioning applied to hyperbolic and circular systems. Science and art of determining relative positions of points on earth's surface. Principles of Electronic Distance Measuring. Theory and application of leveling (vertical alignment) and horizontal alignment. Utilization of compass and sextant for horizontal alignment. Use of photogrametry in surveying. Use of radio aids to navigation and satellites. Use of celestial observations.

Credit Hours: 3.0
Format: Class; Laboratory
Prerequisite(s): 6114 and 1211 and 1321
or 6114 and 1211 and 1220

Reinforced Concrete Design 1411

Fundamentals of reinforced concrete behavior and design. Covered in detail are the behavior and design of singly reinforced beams, Tee-beams, one-way slabs, columns and beam columns. Additional topics: reinforcement placing, bar cutoffs and bond. Design and detailing based on ACI code.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 1317
or 1202 and Permission of Instructor

Mechanical Vibrations 1413

Linear systems of one and two degrees of freedom, including free and forced vibrations of both damped and undamped systems. The tuned vibration absorber. Linear systems of many degrees of freedom using Stodola's, Rayleigh's, and Holzer's methods, and normal mode theory. Continuous systems such as vibrating strings, vibrating membranes, and the simpler cases of vibrating beams.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 1211

Water and Waste Water Engineering 1415

The fundamentals of fluid mechanics, hydraulics, and hydrology as applied to the environmental engineering considerations of water supply and water pollution control. The physical, chemical, and biological principles involved. Water, sewage and industrial waste treatment.

Credit Hours: 4.0
Format: Class
Prerequisite(s): 1340 and 5106
Corequisite: 1340

Interior Environmental Control 1417

Conditioning and control of the internal environment. Meteorology. Psychrometrics and fundamentals of thermodynamics and heat transfer. Application of principles and practices to the design of heating, air-conditioning and humidity control systems, including heat pump and solar applications.

Credit Hours: 4.0
Format: Class
Prerequisite(s): 5106 and 3211

Directed Studies in Civil Engineering 1419

Individual projects in Civil Engineering involving reading, design, analysis or applications.

Credit Hours: 3.0
Format: Directed Studies

Marine Engineering

Fluid Mechanics 1340

Fluid mechanics is the study of forces produced by fluids and their effects on bodies. This course is a basic engineering undergraduate course emphasizing the development of fundamental fluid mechanics principles. The topics covered are fluid properties, fluid statics, stability of floating and submerged bodies, fluid flow equations relating to the conservation of mass, momentum and energy, dimensional analysis, viscous effects as related to pipe and open channel flow, lift, drag, resistance, and fluid power applications.

Laboratory periods demonstrate classroom concepts and phenomena.

Credit Hours: 3.3
Format: Class; Laboratory
Prerequisite(s): 1202 and 3211

Principles of Naval Architecture 1342

An introduction to the fundamental principles of Naval Architecture. Lectures on: Basic ship geometry and nomenclature, hydrostatics and hydrodynamics of floating bodies, vessel stability and subdivision, and an investigation into resistance of marine vehicles. Laboratory exercises incorporate computer applications with hands on learning.
Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 1211 and 1340

Thermodynamics 1351

Fundamental principles of classical equilibrium thermodynamics. Use of ideal gas law and thermodynamic property diagrams and tables. Thermodynamic processes. Development and application of first law of thermodynamics to steady flow and nonflow processes. The second law of thermodynamics. Comprehension of power and refrigeration cycles, including variations from simple cycles.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 3211 and 5106 and 5262

Shipboard Energy Systems 1353

Principles of steam turbine, gas turbine, and diesel engine prime movers and their operating characteristics. Principles of thermodynamic power cycles, including variations from the simple cycles. Basics of heat transfer with emphasis on heat exchanger analysis. Determination of steam flow rate, fuel rate and auxiliary machinery sizes of a shipboard, regenerative steam system utilizing mass and energy balances.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 1340 and 1351

Ocean Wave Mechanics 1381

Investigation of the linear theory of ocean waves with deep and shallow water approximations, including superposition, reflection, refraction, shoaling and breaking of waves. Prediction of wave spectra at sea. Applied probability concepts develop spectral response prediction of fixed and floating structures in the ocean. Applied linear wave theory. Force and motion response of structures in the sea. Term projects and demonstrations utilizing the Academy's towing tank and computer.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 1340

Advanced Naval Vehicles 1440

Develop an understanding of the principles of waterborne and airborne advanced naval vehicles. Comprehend the impact of these principles on the design characteristics of various operational advanced naval prototypes, with emphasis on operational ability within Coast Guard Missions. Project research including a presentation and written paper is required.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 1342
or 1461

Principles of Ship Design 1442

The art and science of ship design, application of principles from other courses into ship design. Lectures on: Ship strength and structures by first principles and ABS rules, the design process, application of estimation procedures with emphasis on preliminary hull dimensions and weight estimates, comparative analysis of vessel and payload with application to figures of merit, hull vibrations and preliminary development of general arrangement. Initiation of a preliminary ship design project to be completed in Ship Design/System Integration with extensive computer applications.

Credit Hours: 4.0
Format: Class; Project
Prerequisite(s): 1342 and 1446
Corequisite: 1453

Ship Design/System Integration 1444

A capstone design course for Marine Engineering Majors. Lectures on ship resistance testing, electrical plant and auxiliary system design, CPM/PERT planning, trade off studies in design, shipbuilding and life cycle costing, HVAC and engineering economics. A significant design project for a ship which integrates pertinent technical areas, addresses trade-offs and systems aspects of ship design. Emphasis on integration of hull and machinery systems. Oral and written presentations.

Credit Hours: 4.0
Format: Class; Project
Prerequisite(s): 1442 and 1453

Engineering Experimentation 1446

Apply the fundamental principles of thermodynamics, fluid dynamics, mechanics and electrical science in the experimental analysis of engineering components and systems. Perform instrumentation for flow, pressure, temperature, force, torque, strain and vibration. Test planning, data point spacing and professional society standard test procedures. Data analysis utilizing uncertainty theory, statistical criteria, graphical and curve fitting techniques. The role of computer in data collection, analysis and display is stressed and computer techniques are used where possible. Weekly labs are designed to exercise the concepts on experimental design learned in class, as well as analyze various Engineering systems. The course culminates with a design project.

Credit Hours: 4.0
Format: Class; Laboratory; Project
Prerequisite(s): 1211 and 1220 and 1340 and 1351

Ship Propulsion Design 1453

An advanced Marine Engineering Design course requiring the application of sound judgement to engineering decisions in the design of an optimum mechanical system which meets specific operating specifications. Principles, characteristics and selection processes for the fixed and controllable pitch screw propeller. Principles of matching propeller characteristics to prime mover characteristics. Power transmission systems. Vibration considerations within the marine propulsion plant. Completion of a preliminary design of marine propulsion system.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 1353

Energy Conversion 1457

Conventional and alternate energy sources; forms, transformations; transfer and storage. Energy transformation, transfer and storage systems.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 1351

Heat Transfer 1459

Application of Fourier's law of conduction to one and two dimensional steady and non-steady state heat flow problems; Radiation laws of Stefen-Boltzman and Kirchoff to black and gray surface problems; Newton's law of cooling to problems of natural and forced convection. Analysis of heat transfer systems using basic laws of mass and energy continuity concepts.

Credit Hours: 3.0
Format: Class; Lecture
Prerequisite(s): 1351

Basic Naval Architecture 1461

The effects on the floating attitude of a ship of internal weight shifts, weight addition and weight removal. The static stability of ships for both the intact and damaged conditions. The dynamic stability of ships and dynamic stability criteria. Ship's motion during turns. Floodable length and its relationship to the compartmentation of ships. Basic shipboard damage control. Significance and use of the liquid loading and flooding effects diagrams.

Credit Hours: 3.0
Format: Class; Lecture
Prerequisite(s): 1st Class Cadets

Nuclear Power Systems 1463

The fission chain reaction. Particle interaction with matter. Shielding and health physics. Reactor structural, moderator, and fuel materials. Energy production and removal. Reactor kinetics. Reactor safety. Power reactor systems and characteristics.

Credit Hours: 3.0
Format: Class; Lecture
Prerequisite(s): 1351

Directed Studies in Marine Engineering 1469

Individual Projects in Marine Engineering involving reading, design, or applications.

Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): Approval of Academic Advisor and Approval of Major Coordinator

Underwater Acoustics 1470

Fundamentals of acoustics. Plane and spherical acoustic waves. Transmission phenomena; reflection and refraction at boundaries; transmission through layered media. Absorption of sound in fluids. Ultrasonic and sonar transducers propagation of sound in the ocean; ray theory and normal mode theory. The sonar equations.

Credit Hours: 3.5
Format: Class
Prerequisite(s): 1220 and 3215

Ocean Engineering Structures 1472

Stiffness method of structural analysis (finite element method) and the current design codes. Structural analysis program written involving matrix operations, solutions to simultaneous linear equations and element stiffness matrix formulation for truss, beam and grid type elements. The design codes are presented for exposure to the design/analysis cycle. Design project includes utilization of "packaged" programs laboratory periods utilized to develop the computer programs and the design project.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 1211 and 3215 and 7113

Ocean Engineering Design 1474

The capstone design course for Ocean Engineering Majors. Lectures on the design process, engineering economics, ethics, and PERT. Relevant design projects in ocean engineering. A major term project which integrates pertinent technical areas and addresses trade-offs and systems aspects of design. Oral and written presentations.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 1381 and 1446 and 1472

Directed Studies in Ocean Engineering 1489

Individual projects in Ocean Engineering involving reading, design, or applications.

Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): Approval of Academic Advisor and Approval of Major Coordinator

Electrical Engineering

Electrical Engineering I 1220

Circuit analysis using Ohm's and Kirchoff's laws; mesh and nodal analysis of dc and ac circuits. Examination of circuits with ideal, nonideal, dependent and independent sources. Basic operational amplifier circuits are studied. Solution of forced and natural responses in first and second order circuits. Use of phasors in the solution of ac circuits. Introduction to three-phase circuits, power, and transformers. Laboratory familiarization with basic instrumentation and measurement techniques.

Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 3111 and 5262
Corequisite: 3111

Electrical Engineering II 1222

The study of continuous and Discrete linear systems through signal analysis, singularity functions, Convolution, Fourier, Laplace transforms and Z-transforms. Formulation and solution of differential equations using transform techniques. Time and frequency domain analysis of linear systems.

Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 1220

Introduction to Electrical Engineering 1320

Basic electrical engineering: circuit theory, electric machinery, power distribution, and electronics navigation and communications systems. Laboratory in basic instrument usage and electronic device application.

Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 5266

Linear Circuits 1322

The design of active filters in both continuous and discrete time. Particular emphasis is placed on the relationship between the poles and zeros of transfer functions and the frequency response of the network. Computers are used extensively throughout the course for the design and analysis of filters, to automatically control laboratory instruments to measure the frequency response of the filters designed and constructed, and to implement the digital filters in real time.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 1222

Digital Design 1324

Principles of digital systems design. Numbering systems and codes, binary arithmetic. Use of Boolean Algebra and Karnaugh maps as minimization techniques. Implementation and design of circuits using mixed logic representations of TTL 74—series integrated circuits. Discussion and analysis of multiplexers, decoders, counters, flip flops, RWM, ROM, bus logic and tri-state outputs. Sequential control using Algorithmic State Machines. Introduction to microcomputer architecture using the 6502 microprocessor. Laboratory construction and analysis of digital SSI and MSI components. Design project required.

Credit Hours: 3.5
Format: Class; Laboratory; Project
Prerequisite(s): 1220
or 1320 and Major Coordinator's Permission

Electromechanics 1326

Principles and applications of electromechanical energy conversion. Induction motors, synchronous machines, D.C. machines, electrical power distribution, transformers. Laboratory experiments in transformers and rotating machinery.
Credit Hours: 3.3
Format: Class; Laboratory
Prerequisite(s): 1220

Antennas and Propagation 1420

Fundamentals of electromagnetic theory. Development of Maxwell's equations. Plane electromagnetic waves. Guided waves; transmission lines and waveguides. Antenna fundamentals. Performance of simple antennas, antenna arrays, horns, broadband antennas, and other types of antenna structures.
Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 1220 and 3211

Communication Systems 1422

Analysis and design of communication systems which employ any of various modulation techniques, including amplitude, phase, frequency, and pulse modulation. Analysis of noisy environment, effects through the mathematical representation of noise. Extensive use of spectral analysis. Demodulation. Sampling. Correlation. Random processes.
Related laboratory exercises use spectrum, wave, and Fast Fourier Transform analyzers, computers, and analog and digital oscilloscopes to study both time and frequency domain properties of filters and modulation.
Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 1222 and 3357

Automatic Controls 1424

Modern methods of automatic control theory and design. Time response of linear systems, error analysis and compensation methods; stability by Routh-Hurwitz; Root Locus, Bode state variable approach, discrete difference equation simulations; analog/digital computer laboratory.
Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 1222 and 1322

Systems Design/Synthesis 1426

Planning and completing an engineering design project. Lecture topics include engineering design techniques and methodologies, engineering proposals, technical report writing, project management, microprocessor structure and interfacing, and engineering ethics and economics. The main thrust of the course is a term design project required of each student. The project should make use of the good engineering design practices taught in the course. The project may be based in hardware, software or a combination of both. An oral presentation and project report is required. The project grade constitutes over half of the overall course grade.

Credit Hours: 4.0
Format: Class; Project
Prerequisite(s): 1220 and 1222 and 1322
or 1324

Digital Signal Process 1429

Survey of applications of digital signal processing. Topics covered include digital filters, Fast Fourier Transform techniques, spectral estimation, speech compression, recognition, modeling and synthesis, digital image processing, digital audio, electronic navigation applications and spread spectrum communications.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 3215 and 7302
or 3215 and 1322

Electronic Navigation Systems 1431

An engineering study of electronic navigation systems used through the Coast Guard. Topics will include Loran-C, Omega, Radar, Sonar, radio beacons, Global Positioning Systems (GPS), Navsat, and avionics. Comparative analysis of the systems will be covered in both the time and frequency domains. Other possible areas of interest would be propagation predictions, skywave effects, coverage diagrams and weather effects.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 1220
or 1320

Directed Studies in Electrical Engineering 1439

Individual or group study of topics involving design, analysis, or applications of electric and electronics devices, systems, or principles.

Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): 1220 and 1222

Humanities Department

Principles of Expository Writing 2101

Emphasis on training in grammar, punctuation, spelling, and paragraph writing. A number of short expository essays, some involving use of the library. Practice in fundamentals of persuasive writing and speaking.

Credit Hours: 3.0
Format: Class

English Composition and Speech 2111

Instruction in the principles of oral and written communication with emphasis on logical thinking, coherence, and clarity. Practice in writing expository and persuasive essays and research papers based on the gathering and use of evidence and proper documentation.

Credit Hours: 3.0
Format: Class

The Art of Effective Writing 2121

An intensive writing course with exercises in the major rhetorical modes (description, narration, exposition, persuasion). Emphasis on the relation of subject to style and structure in writing that "works." Papers discussed and revised in classes and individual conferences. Practice in debates.

Credit Hours: 3.0
Format: Class
Prerequisite(s): Advanced Placement in English Tests

Introduction to Literature 2123

An examination of the intellectual, philosophical, and spiritual ideas expressed in selected works of fiction, poetry, and drama. Introduction to the techniques and traditions of the major genres of literature and to concerns such as patterns of imagery and symbolic meanings. Several critical papers, an oral presentation, and a research paper based on the material covered are required.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 2101
or 2111
or 2121

French I 2231

Achievement of oral fluency in the language; utilization of language laboratory facilities; oral-aural method of instruction; appreciation of French culture and civilization.

Credit Hours: 3.0
Format: Class; Laboratory

French II 2233

Achievement of oral fluency in the language; utilization of language laboratory facilities; oral-aural method of instruction; appreciation of French culture and civilization.

Credit Hours: 3.0
Format: Class; Laboratory
Prerequisite(s): 2231 and Instructor Approval
or 1 Year High School French and Instructor Approval

Spanish I 2235

Achievement of oral fluency in the language; utilization of language laboratory facilities; oral-aural method of instruction; appreciation of Hispanic culture and civilization.

Credit Hours: 3.0
Format: Class; Laboratory

Spanish II 2237

Achievement of oral fluency in the language; utilization of language laboratory facilities; oral-aural method of instruction; appreciation of Hispanic culture and civilization.

Credit Hours: 3.0
Format: Class; Laboratory
Prerequisite(s): 2235 and Instructor Approval
or 1 Year High School Spanish and Instructor Approval

History of the United States 2241

A survey of the major social, economic, political, and diplomatic developments of the United States from the colonial period to the present.

Credit Hours: 3.0
Format: Lecture

Principles of American Government 2259

Evolution, organization, and functioning of our National Government, the Constitution, Congress, Presidency, Judiciary, Administrative Agencies and the role of political parties discussed in terms of their origins, theoretical underpinnings, and present applications.

Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2241 and Government Majors only

American Foreign Policy 2261

A study of the recent interpretative scholarship dealing with the diplomatic history and foreign policy of the United States from the American revolution to the present. The major focus of the course is on the foreign policy of the United States since World War Two.

Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2241

American Government 2263

Analysis of the foundation and current functioning of American national government including examination of political behavior, processes (electoral, legislative, decision making), organizations (political parties), and institutions (Congress, Presidency, Supreme Court, bureaucracy).

Credit Hours: 3.0
Format: Lecture
Prerequisite(s): 2241

Social Science Methodology 2265

Introduction to quantitative techniques in Social Science. Both theoretical and practical problems investigated. Emphasis on research design, measurement techniques, survey research methods, hypotheses formulation and data evaluation through computer statistical analysis packages.

Credit Hours: 3.0
Format: Lecture
Prerequisite(s): 3213

General Psychology 2281

Introduction to basic concepts, theories and methods of psychology with the objective of developing student awareness of the principles affecting human behavior. Topics include physiological psychology, learning theory, human development, motivation and emotion, personality theory, abnormal psychology, and various therapeutic procedures. Students are required to carry out original research.

Credit Hours: 3.0
Format: Lecture

Humanities in World Literature 2321

Anthology in the humanities for Government majors; e.g., the interdisciplinary study of literature, the fine arts, philosophy, history, and political theory and practice. Emphasis on the contemporary world, in particular, the cultural milieus of Europe, Africa, Asia, and the Americas. Important writings bearing upon the effects of modern science on society. The purpose will be to deepen cadet's awareness of the humanistic dimensions of today's world. Special attention given to developing skills for advanced level course work and professional research through a library-oriented tutorial program.

Credit Hours: 3.0
Format: Class

French III 233

Intensive grammar review, speaking and writing; selected readings in Frenc Literature; Exposure to French Nautical and Merchant Marine Terminology.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 2233 and Instructor Approval
or French II Equivalent and Instructor Approval

French IV 233

Intensive grammar review, speaking and writing; selected readings in Frenc Literature; exposure to French Nautical and Merchant Marine Terminology.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 2331 and Instructor Approval
or French II Equivalent and Instructor Approval

Spanish III 233

Intensive grammar review, speaking and writing; selected readings in Hispani Literature; exposure to Spanish Nautical and Merchant Marine Terminology.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 2237 and Instructor Approval
or Spanish II Equivalent and Instructor Approval

Spanish IV 233

Intensive grammar review, speaking and writing; selected readings in Hispani Literature; exposure to Spanish Nautical and Merchant Marine Terminology.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 2335 and Instructor Approval
or Spanish III Equivalent and Instructor Approval

Europe Since 1789 2341

A study of the recent interpretative scholarship dealing with the major political social, economic, intellectual and diplomatic developments in Europe from the French Revolution to the present.

Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2241

Modern Russia 2343

Collapse of Czarist Russia and the rise of the Soviet Union. Emphasis on the evolution of Communism from Marx to Gorbachev and the development of Soviet Foreign Policy. Seminar.
Credit Hours: 3.0
Format: Class; Project; Seminar
Prerequisite(s): 2241

Western Political Theory 2361

Historical development of political theory in the West. Analysis of origins of classical political theory (Plato, Aristotle, Luther, Calvin) leading to the study of Post-Medieval and modern writers (Machiavelli, Hobbes, Locke, Rousseau, Mill, Marx, Sorel, Lenin and other 20th century thinkers.)
Credit Hours: 4.0
Format: Seminar
Prerequisite(s): 2341

American Political Parties 2363

Analysis of the structure, function and roles of political parties and interest groups in the American political system. Topics include organization, staffing, financing, methods, points of contact with Governmental processes, measurable influence and representativeness.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2263

Comparative Politics 2365

Comparative analysis of foreign political systems: France, Brazil, and Poland; also others such as Britain, West Germany, Nigeria and USSR. Particular attention to the relationship of political institutions to the social and economic contexts.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2263

International Relations 2367

Discussion of theoretical frameworks for analysis of behavior of individual states and the international system. Nationalism, national power, diplomacy, international law, and economic interdependence included among topics.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2365

International Organizations 2369

Evolution of methods of international cooperation for attaining and preserving a peaceful world and for dealing with economic, social and political problems in the world community. Focus on the League of Nations and the United Nations but includes earlier and later manifestations.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2367

Social Psychology 2381

Introduction to behavior of the individual in society with particular focus upon the enduring principles of human contact. Exploration of social issues and concepts such as affiliation, attribution, values, authority, sexism, ethnicity, violence and aggression. Term paper.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2281

Cognitive Systems 2384

To present a comparative analysis of human/machine systems which emphasizes the processes of communication, understanding, decision making, learning, and the analysis of qualitative system factors. Cognitive systems provides the foundation for the following subjects; information systems analysis, knowledge and data base management systems, expert systems, and management decision support systems. Term paper and projects.
Credit Hours: 3.0
Format: Laboratory; Lecture
Prerequisite(s): 2281 and 7111 and 7306 and 7302

Directed Studies/Humanities 2421

Advanced tutorial concentrating on a specific topic in literature, philosophy, the arts or foreign languages. Intensive reading and consultation with a faculty member culminating with a major research paper. Limited to advanced students with previous significant course work in the humanities.
Credit Hours: 3.0

The Civil War 2441

Causes of the Civil War, its course, consequences, and the reconstruction of the nation. Seminar.
Credit Hours: 3.0
Format: Class; Project; Seminar
Prerequisite(s): 2241

Directed Studies in History 2459

Advanced tutorial concentrating on a specific research topic in history. A program of intensive reading and consultation with a faculty member culminating in a major research paper. Limited to advanced students who have completed significant course work in history.
Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): Instructor Approval and Department Head Approval

Congress and Presidency 2461

Examination of the institutions of the Congress and the Presidency within the context of the American political system. The course will focus upon the peculiar nature of each institution as well as their interrelation.
Credit Hours: 4.0
Format: Seminar
Prerequisite(s): 2263

U.S. Maritime History & Politics 2463

American maritime industry in its historical setting with emphasis on the changing role of maritime transport in American history, the evolution of sea lanes in wartime and the relationship of the Coast Guard to Maritime and Naval History. Seminar.
Credit Hours: 3.0
Format: Class; Seminar
Prerequisite(s): 2241

Military Policy 2465

War, society and the military profession in the United States and Soviet Union are addressed through an examination of the historical, cultural, and political roots of U.S. and Soviet military policy. Included in this examination is an introduction to just war theory and a contemporary case study of U.S. military policy.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2241 and 2261 and 2263 and 2361 and 2367

Global Policy Studies 2467

Interdisciplinary studies in basic factors in the global environment, such as population, food, energy and natural resources, and the implications for international relations and trans-national policy.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2365

National Security Policy 2469

Dimensions, dilemmas and current policies of American national security are addressed. Threats within the international environment, strategies, and tactics, are addressed with regard to present and future defense needs. Seminar.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2241 and 2263 and 2261 and 2367

Area Studies in Political Development 2471

The role of historic, social, economic and cultural forces in framing the political system of a nation or a geographic area. The area studied is based upon teaching resources in the department.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2241

Political Behavior 2473

Analysis of the political behavior of the American Electorate. The course examines the political socialization process, political participation, voting behavior, and the meaning of elections. The role of various political forces such as interest groups, political parties, and the mass media will be scrutinized.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2263

Directed Studies in Government 2479

Advanced tutorial concentrating on a specific research topic in government. A program of intensive reading and consultation with a faculty member culminating in a major research paper. Limited to advanced students who have completed significant course work in Government.
Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): Instructor Approval and Department Head Approval

Human Differences 2481

Surveys various aspects of human differences including differences in gender, age, race, and culture. Emphasis on critical evaluations of theory and research methodology. Term paper.
Credit Hours: 3.0
Format: Seminar
Prerequisite(s): 2281

Directed Studies in Psychology 2489

Advanced tutorial concentrating on a specific topic in psychology. A program of intensive reading and consultation with sponsoring faculty member with program culminating in a major research paper.
Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): 2281

Mathematics Department

Introduction to Calculus 3107

Study of college algebra, trigonometry and analytic geometry necessary for an understanding of calculus. Elementary differentiation and integration.
Credit Hours: 4.0
Format: Class; Project

Calculus I 3111

Fundamental concepts of functions, limits, differential and integral calculus; techniques and applications of differentiations; calculating areas as limits; computer projects.
Credit Hours: 4.0
Format: Class; Project

Calculus II 3115

Same topics as Calculus II and additional topics treated in more depth and at a pace consistent with the ability of the class.
Credit Hours: 4.0
Format: Class; Project
Prerequisite(s): Validation of 3111 and Department Head Approval

Calculus II 3117

Extension of fundamental concepts of differential and integral calculus; applications of the definite integral; logarithmic, exponential, inverse trigonometric, and hyperbolic functions; integration techniques; improper integrals; infinite series; computer projects.
Credit Hours: 4.0
Format: Class; Project
Prerequisite(s): 3111

Multivariable Calculus 3211

Introduction to differential and integral calculus for functions of several variables; topics in analytic geometry; polar coordinates and parametric equations; vectors; surfaces in three-dimensional space; partial differentiation; multiple integration; vector calculus; computer projects.

Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 3117
or 3115

Probability & Statistics 3213

An appreciation of statistics. Understanding of basic principles, development of familiarity with computation, probability theory, sampling distributions, statistical inference, regression and nonparametric statistics. Not open to those cadets who have passed Probability & Stat. Appl. (3357).

Credit Hours: 3.0
Format: Class
Prerequisite(s): 3117

Differential Equations 3215

Intermediate course in the methods of solving ordinary differential equations. First order equations, higher order linear equations with constant coefficients, Laplace transforms, systems of equations, power series solutions, numerical methods with computer solutions, and applications.

Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 3211

Linear Algebra 3231

Study of mathematical systems and emphasis on vector spaces, linear transformations and matrices. Systems of linear equations, vector spaces, linear mappings, matrices determinants and eigen value problems. Computer methods utilized.

Credit Hours: 3.0
Format: Class; Project

Advanced Calculus 3311

A rigorous approach to the concepts of limits, continuity, differentiation, integration and infinite series of a single variable.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 3211

Advanced Engineering Math 3315

Application of mathematical techniques to engineering problems. Solution of mechanical and electrical systems, simultaneous differential equations, Fourier Series and Integrals, Laplace Transform Solutions, the Convolution Integral. Residues and Contour Integration, Variable Coefficient Differential Equations.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 3215

Numerical Analysis 3351

Introduction to numerical quadrature and numerical interpolation techniques with emphasis on convergence and error techniques on the digital computer. Investigation of solutions of differential equations by numerical methods.
Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 3215 and 3231

Mathematical Modeling 3353

First course in the development of mathematical models with application to social science, life science, engineering, physical science and management. Emphasis on problem definition, creative mathematical formulation, identification of assumptions, and model validation. Includes deterministic and probabilistic models, Markov Chains, and simulation techniques.
Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 3211 and 3215 and 3213
or 3357

Mathematical Programming 3355

Theory and application of methods for determining the maximum and minimum of functions of many variables subject to constraints. Linear programming, gradient methods, simplex based methods, geometric programming, dynamic programming, integer programming and heuristic programming.
Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 3211 and 3231

Probability & Statistics Applied 3357

A rigorous development of probability theory necessary for advanced work in mathematics, statistics, operations research, physical sciences, and engineering. Sample spaces, probability measures, discrete and continuous random variables, functions of random variables, and the central limit theorem; some application to statistical inference and hypothesis testing.
Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 3211

Mathematical Statistics 3359

A mathematical development of statistical procedures such as point estimation, hypothesis testing, sampling, goodness of fit, and analysis of variance; with application to regression analysis and experimental design.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 3213
or 3357

Operations Analysis 3361

Application of mathematics and operations research techniques to operational missions of the Coast Guard (Search and Rescue, Law Enforcement and Aids to Navigation) using case studies of both existing models and development of new ones. Analysis of manpower planning models and game theory.
Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 3213
or 3357

Complex Variables 3421

Development of those parts of the classical theory of complex variable most prominent in the application of the subject. Residue and contour integrals and applications of conformal mapping to problems in potentials, steady temperatures, and flow of fluids.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 3211

Discrete Mathematics 3437

This course introduces topics and techniques of combinatorial reasoning and discrete methods. A careful analysis of structure is emphasized. Coverage of groups and rings will also provide an applied introduction to algebraic structures. Specific topics to be covered are: Enumeration in set theory, relations functions, language (finite state machines, Hasse diagrams etc.), the integers, rings and modular arithmetic, Boolean Algebra & switching functions, groups and coding theory.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 3117

Directed Studies 3479

Provides the more capable cadet an opportunity to pursue a semester or more of individual work on the project of his or a faculty member's choosing. Directed studies are usually taken as overloads.
Credit Hours: 3.0

Athletic Division

Physiology of Fitness & Wellness 4101

Introduction to the human body and its structure, physiology and limitations in relation to varying degrees of physical activity. Special emphasis on understanding and appreciating the development of physical potential and maintenance of satisfactory physical condition. Practical application of discussion material in an activity setting. Also an in-depth study of contemporary health issues related to nutrition and disease care and prevention.

Credit Hours: 0.7
Format: Laboratory

Intermediate Swimming 4102

Enjoyment in the water, and general recreational swimming skills and techniques to raise level of stamina for swimming, and to develop positive attitudes relative to general water safety. Emphasis is placed upon master of the intermediate Red Cross swimming skills. Course leads to certification in American Red Cross Intermediate Swimming.

Credit Hours: 0.7
Format: Laboratory

Gymnastics 4104

Major emphasis on gymnastics apparatus activities of all types. Gymnastics exercises in the six Olympic events for men: parallel bars, long horse, side horse, still rings, horizontal bar and floor exercise. Also trampoline exercises and advanced tumbling.

Credit Hours: 0.7
Format: Laboratory

Gymnastics For Women 4124

Major emphasis on gymnastics apparatus activities of all types. Gymnastics exercises in the four Olympic events for women: floor exercises, balance beam, uneven parrallel bars and vaulting. Also trampoline exercises and advanced tumbling.

Credit Hours: 0.7
Format: Laboratory

First Aid/CPR 4201

Phase One: Standard first aid curriculum leading to Red Cross certification. Phase Two: Standard Cardiopulmonary Resuscitation (CPR) curriculum leading to Red Cross certification.

Credit Hours: 0.7
Format: Laboratory

Survival Swimming 4202

Elements of competitive swimming, springboard diving, skin diving, water polo, and elementary forms of rescue. Importance of aquatic activities in cadet's life and Coast Guard career, with emphasis on development of courage, spirit, fitness, stamina, and positive attitude general water safety.
Credit Hours: 0.7
Format: Laboratory

Personal Defense I 4203

Fundamental defensive techniques in a variety of situations. Armed and unarmed defensive techniques is stressed.
Credit Hours: 0.7
Format: Laboratory

Personal Defense I For Women 4223

Fundamental defensive techniques in a variety of situations. Rape prevention as well as armed and unarmed defensive techniques.
Credit Hours: 0.7
Format: Laboratory

Advanced Lifesaving 4302

Instruction in lifesaving techniques applied to specific Coast Guard uses. Techniques of approaches, parrying, releases, and carrying a victim. Use of heaving lines and ring buoys, with special emphasis on resuscitation. Leads to Red Cross certification in advanced lifesaving.
Credit Hours: 0.7
Format: Laboratory
Prerequisite(s): 4102

Personal Defense II 4303

Advance defensive techniques in a variety of situations. Man to man, man to woman, and woman to woman encounters. Introduction to U.S. Coast Guard Marine Law Enforcement Techniques.
Credit Hours: 0.7
Format: Laboratory
Prerequisite(s): 4203

Lifetime Sports 4306

To help promote a lifetime of fitness through skill development in a variety of sports and physical activities such as golf, tennis and racquetball that are suitable for life long participation.
Credit Hours: 0.7
Format: Laboratory

Scuba Diving 4402

Heavy emphasis on physical fitness. Safety practices and attitudes for skin and scuba diving activities. Card, selection, use and maintenance of all types of sports diving equipment, as well as medical and theoretical aspects of diving.
Credit Hours: 0.3
Format: Laboratory
Prerequisite(s): 4102 and 4202 and 4302

Modern Dance and Jazz 4404

In-depth study of modern dance and jazz. Emphasis on development of technique grace, flexibility and rhythmic interpretations of physical conditioning.
Credit Hours: 0.3
Format: Laboratory

Advanced Racquetball 4405

An advanced course in racquetball with emphasis on proper court positioning, basic strokes, types of serves, playing shots off the walls and ceilings. Rules and tournament strategy stressed. Competition offered within the class in singles and doubles.
Credit Hours: 0.3
Format: Laboratory
Prerequisite(s): 4306

Advanced Golf 4406

An advanced course of golf instruction with stress on tournament play participating at nearby golf courses.
Credit Hours: 0.3
Format: Laboratory
Prerequisite(s): 4306

Water Safety Instructor 4408

Review of basic and advance swimming, diving, and lifesaving. Leadership experiences in organizing and conducting an effective program of water safety.
Credit Hours: 0.3
Format: Laboratory
Prerequisite(s): 4302

Ecology Sports I 4409

Physically demanding outdoors activities blended with deeper appreciation of nature and the interrelationships of living things. Rock climbing, wilderness camping, spelunking, mountaineering, orienteering, and wilderness navigation.
Credit Hours: 0.3
Format: Laboratory

Ecology Sports II 4410

Physically demanding outdoor activities blended with deeper appreciation of nature and the interrelations with living things. Course content includes: Cross country skiing, winter mountaineering, survival skills and wilderness emergency first aid, canoeing, whitewater canoeing and kayaking.
Credit Hours: 0.3
Format: Laboratory

Selected Sports 4411

Advanced sports skills and participation in a variety of lifetime sports skills. Individual conditioning programs are also emphasized.
Credit Hours: 0.3
Format: Laboratory
Prerequisite(s): 4306

Directed Studies in Physical Education 4412

Track I:
Provides an opportunity for selected skilled cadets to serve as faculty assistants in their specialized areas.
Track II:
Provides the opportunity for a directed study which researches selected areas of exercise physiology or sports study in which a final report is due.
Credit Hours: 0.3
Format: Laboratory

Skiing 4413

Spring semester elective at nearby ski area. Fundamental skiing including snow-plow turn, stem turn, stem christie turn, parallel turn, and short swing of wedel. Instruction geared to individual level of proficiency.
Credit Hours: 0.3
Format: Laboratory

Racquet Sports 4415

Advance course in all aspects of racquet sports including: racquetball, tennis, and badminton. Advance strategy stressed with intra-class competition offered in singles and doubles.
Credit Hours: 0.3
Format: Laboratory
Prerequisite(s): 4306

Science Department

Chemistry

Chemistry I 5102

Atomic and molecular structure, stoichometry, chemical equations, Bohr and wave model of the atom, electron configuration, molecular bonding stressing VSEPR, hybridization, molecular orbital theory (MOT) and Lewis structures. Descriptive chemistry, periodic table organic nomenclature. Ideal gas law, Kinetic theory of gases, colligative properties, acid-base reactions and redox reactions. Laboratory to parallel class discussion.

Credit Hours: 4.0
Format: Class; Laboratory

Chemistry I (Honors) 5104

Scope essentially the same as 5102, with greater emphasis on principles and applications. Develops mathematical skills more extensively than 5102. For students in any major with extra talent or interest in the sciences.

Credit Hours: 4.0
Format: Class; Laboratory; Project
Prerequisite(s): Instructor's Approval

Chemistry II 5106

Chemical Equilibrium, 1st, 2nd and 3rd Laws of Thermodynamics stressing enthalpy, entropy, Gibbs free energy and their relation to chemical reactions and equilibrium, electrochemistry, chemical kinetics and nuclear chemistry. Laboratory to parallel class discussion.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 5102 or 5104

Chemistry II (Honors) 5108

Topic areas covered: acid base theories, coordination compounds, descriptive chemistry, thermodynamics, equilibria and organic chemistry.

Credit Hours: 4.0
Format: Class; Laboratory; Project
Prerequisite(s): 5102 and Instructor's Approval
or 5104 and Instructor's Approval

Inorganic Chemistry 5201

Theoretical approach to atomic and molecular structure; acid-based theories; coordination chemistry; selected topics from the descriptive chemistry of the elements; organometallic chemistry.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 5106 or 5108

Organic Chemistry 5202

Chemical reactivity of organic compounds approached from a functional group viewpoint; hydrocarbons, alkyl halides, alcohols, carbonyl compounds, amines and aromatics, laboratory; introduction to important techniques of organic chemistry as well as the preparation of simple compounds and analysis using gas chromatography, nuclear magnetic resonance, and infrared spectroscopy.

Credit Hours: 3.5
Format: Class; Laboratory; Project
Prerequisite(s): 5106 or 5108

Physical Chemistry I 5312

Study of the states of matter and their properties, including: gases, ideal and real; laws of thermodynamics; changes of state and phase equilibria; equilibrium electrochemistry; introductory quantum theory.

Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 5106 and 3211
or 5108 and 3211
Corequisite: 3211

Chemical Engineering Principles 5319

An introduction to the basic principles of chemical engineering: stoichiometry, fluid flow, heat and mass transfer, technology, plant design and economics are covered. Typical chemical engineering "unit operations" are examined. Local chemical process industries are examined to reinforce principles introduced in class and to expose students to the practical side of chemical engineering.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 5106 or 5108

Physical Chemistry II 5322

Study of atomic and molecular structure; symmetry; determination of molecular structure by spectroscopic, resonance, and diffraction techniques; electric and magnetic properties of molecules; kinetic theory of gases; rates of chemical reactions; processes at solid surfaces; dynamic electrochemistry.

Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 5312

Chemistry Tutor 5401

Tutorial experiences for upper-level students with special interests in Chemistry and wanting to provide services to beginning-level students. Requires an individual to be available at mutually convenient times for extra help.

Credit Hours: 0.0
Format: Tutor
Prerequisite(s): Instructor Approval

Analytical Methods 5412

Theory behind various analytical techniques, investigation of the application of these techniques and methods for the analysis of the composition, structure, and properties of pure compounds and of mixtures. Emphasis on those techniques most useful for analysis problems encountered in Coast Guard applications; chromatography, atomic absorption, ultraviolet, infrared and nuclear magnetic resonance spectroscopy; wet chemical methods.

Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 5106/5108 and Instructor's Approval

Hazardous Materials 5415

A broad review and introduction to the Coast Guard's involvement and responsibilities in the field of Hazardous Material Transportation. Topics include: chemistry of Hazardous Materials, classes of chemicals and description of their hazards, chemistry of fire and fire extinguishment, toxicity of chemicals and effects on the human body, packaged and bulk transportation, regulations, cargo compatibility, vessel design, CG Strike Teams, CG responsibilities under FWPCA, means of controlling and removing Hazardous Materials spills. Field Trips to COTP New York, MSO Providence, and COTP New Haven. Guest speakers from pollution contractors and Strike Team.

Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 5202
or Instructor Approval

Advanced Organic Chemistry 5419

A course which treats modern concepts of synthesis and mechanisms of organic compounds. Topics include: substitutions and eliminations, aromaticity, orbital symmetry control of reactions, photochemistry.

Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 5202

Projects in Chemistry 5421

Projects in Chemistry involves assisting on a limited basis in ongoing research projects. The cadet is required to learn the goals, procedures and theory behind projects. This knowledge is used for "hands on" involvement as an assistant in data collection, reduction and/or analysis. The student meets periodically with the instructor to discuss progress and to provide a basis for evaluation. Taken only as overload.

Credit Hours: 1.0
Format: Project
Prerequisite(s): Instructor Approval
or Academic Advisor Approval
or Section Chief Approval

Research in Chemistry 5429

Individual project of advanced readings, project laboratories of combined team projects in the area of chemistry: arrangements to suit particular cadet or team and faculty involved with appropriate approval required from Section Chief.

Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): Instructor Approval
or Academic Advisor Approval
or Section Chief Approval

Physics

Physics I 5262

Basic concepts of Newtonian mechanics, vector algebra, particle kinematics and dynamics, conservation laws, wave motion.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 3111
Corequisite: 3111

Physics II 5266

Electrostatics, magnetostatics, circuit theory, motion of particles in fields, and electromagnetic waves.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 5262 and 3111

Modern Physics 5362

Theoretical and experimental studies of important modern physical concepts. Relativity, quantum mechanics.

Credit Hours: 4.0
Format: Class
Prerequisite(s): 5266 and 3215
Corequisite: 3215

Semiconductor Physics 5364

Properties of semiconductors. Crystalline structure, electron energy levels, impurity levels, electrical conduction. Application to p-n junctions.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 5266 and 3215
or Instructor Approval
Corequisite: 3215

Astronomy 5366

Introduction to topics in modern astronomy: The Solar System, stellar structure and evolution, galaxies and cosmology. Physical measurements in astronomy.
Credit Hours: 4.0
Format: Class
Prerequisite(s): 5262

Theoretical Mechanics 5377

Solutions to Newton's second law problems, conservation laws. Extensions of particle mechanics to systems of particles.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 5266

Quantum Mechanics 5379

Physical meaning of quantum mechanical wave functions. Energy, momentum, and angular momentum in quantum mechanics. Solutions of the Schrodinger equation for square well, harmonic oscillator, and Coulomb potentials.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 5266 and 3215
Corequisite: 3215

Directed Studies in Physics 5389

Individual program of advanced readings or laboratory projects in physics, chemistry or ocean science.
Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): 5266 and Instructor Approval

Nuclear Physics 5464

Nuclear reactions, conservation laws, radioactivity, alpha, beta and gamma decay, radiation detection and analysis.
Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 5266
or Instructor approval

Optics 5477

Reflection, refraction and application to lens systems. Wave propagation, interference, diffraction, polarization. Modern Optics.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 5266
or Instructor Approval

Electromagnetic Theory I 5479

Theoretical electrostatics and current theory. Coulomb's law, Gauss's law, Laplace's equation, Poisson's equation, Ohm's law.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 5266 and 3215
Corequisite: 3215

Electromagnetic Theory II 5481

Theoretical magnetostatics and electrodynamics. Ampere's law, Faraday's law, the wave equation.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 5479

Marine Science

Marine Biology 5232

Consideration of the marine biosphere and its environmental subdivisions, with emphasis on interaction in food chains and basic productivity. The divisions of both the plant and the animal kingdom are reviewed in terms of the adaptations and ecological adjustments for marine habitats, with specific forms given detailed examination in the laboratory. Limited consideration of fisheries biology.
Credit Hours: 4.0
Format: Class; Laboratory

Marine Geology 5234

Introduction to the concepts of marine geology with emphasis on plate tectonics. Topics include ocean basin morphology, sea floor spreading, rock formation, sediments, geophysical techniques and map interpretation.
Credit Hours: 4.0
Format: Class; Laboratory

Meteorology 5240

Examination of heat transfer and fluid motion in the atmosphere as it relates to simplified weather forecasting: atmospheric motion and stability; general, local and world wide circulation; weather phenomena from cold fronts to hurricanes; local and regional climatology. Laboratory experience in data collection, analysis and presentation of local and regional forecasts. Academy radiofacsimile weather station utilized.
Credit Hours: 3.5
Format: Class; Laboratory

Geoscience 5242

An introduction to the components of the lithosphere, hydrosphere and atmosphere and the interaction of these realms, with special emphasis on the basic geological concepts of plate tectonics and the geophysical circulation patterns for ocean systems and weather. Laboratory practice in daily and longer range weather forecasting from field data, also rock identification, sediment analysis and geological map interpretation.

Credit Hours: 4.0
Format: Class; Laboratory

Projects in Marine Science 5247

Projects in Marine Science involves assisting on a limited basis in ongoing research projects. The cadet is required to learn the goals, procedures and theory behind the research. This knowledge is used for "hands on" involvement as an assistant in data collection, reduction and/or analysis. The student meets periodically with the instructor to discuss progress and to provide a basis for evaluation. Taken only as an overload.

Credit Hours: 1.0
Format: Directed Studies
Prerequisite(s): Instructor's Approval

Oceanography 5330

Physical, chemical, biological and geological aspects of the ocean as they affect the mariner; meteorology; pollution ecology; fisheries regulation; coastal processes; currents; waves and tides; remote sensing of the marine environment.

Credit Hours: 3.3
Format: Class; Laboratory

Physical Oceanography 5338

Introductory presentation of forces affecting current flow and movement of water masses. Included will be geostrophic dynamics, thermohaline circulation, Ekman layer dynamics and, wind-driven surface motions. Airy wave theory and statistical approach to wave forecasting will be emphasized. Labs will stress field work, computer problem solving and modeling.

Credit Hours: 3.5
Format: Class; Laboratory

Vibrations and Waves 5340

Theoretical and experimental studies of oscillations (free and forced, damped and undamped), coupled oscillations. Mechanical, elastic, and electromagnetic waves, wave speed, propagation of momentum and energy.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 5266

Biological/Chemical Oceanography 5342

An ecological approach to life in the seas, with particular emphasis on energy flow through the food chain, as shown by evaluations of the productivity of both producers and consumers, also including a discussion of the data needed for mathematical modeling of specific ecosystems.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 5232
or Instructor's Approval

History of Science 5347

Development of western science from Greek Civilization to the present, special emphasis on important scientific revolutions (Copernican, Newtonian, Darwinian) and implications of an expanding technology.

Credit Hours: 3.0
Format: Class

Dynamical Oceanography 5350

Application of the basic principles of fluid dynamics to physical oceanography. The focus is on physical description and mathematical formulation of the fundamental concepts governing large-scale fluid motion. Specifically covered are: continuity; the equations of motion on a rotating frame of reference, with application to major currents; body and surface forces, including viscous and turbulent friction in relation to wind-driven currents. Labs emphasize study of ocean circulation models.

Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 3215 and 5338
Corequisite: 3215

Geophysical Fluid Dynamics 5351

Introduction to physical oceanography in which basic principles of fluid mechanics are related to oceanic applications. The focus will be on physical description and mathematical formulation of the fundamental concepts governing large scale fluid motion. Specifically covered will be continuity, the equations of motion on a rotating frame of reference with application to major currents, various body and surface forces, including viscous and turbulent friction, in relation to wind driven currents, and the vorticity equation as applicable to models of oceanic circulation.

Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 5338 and 3215
Corequisite: 3215

Advanced Dynamical Oceanography 5352

Analysis of more complex wind-driven circulation models, including the Ekman and Sverdrup Solutions to the equations of motion. The vorticity equation is examined, with application to the intensification of western boundary currents such as the Gulf Stream. An advanced physical description of wind waves is presented, as well as an introduction to internal waves and waves affected by the earth's rotation. Labs emphasize study of ocean circulation models and data analysis.
Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 3215 and 5240 and 5350

Remote Sensing 5430

Initial consideration of the physics and technology of remote sensing theory is followed by applications in geological, biological and oceanographic realms based on available imagery, with consideration of interpretation and meaning of the data.
Credit Hours: 3.0
Format: Class
Prerequisite(s): 5232 and 5234 and 5266 and 5338

Marine Fisheries 5434

Basic elements of fisheries biology: commercial equipments, methods and procedures for catching, preserving and processing fish: major commercial species: fisheries population dynamics, management and conservation.
Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): Instructor Approval

Coastal Oceanography 5436

Physical oceanography of the coastal regions. Physical descriptions of surf, breakers, wave refraction and resulting longshore sediment transport are presented, with application to beach formation and maintenance. Examines tidal theory and prediction. Analyzes estuarine circulation and pollutant dispersal. Students analyze the coastal zone of the region to which they will be assigned upon graduation. Labs emphasize computer and scaled hydrodynamic models of coastal circulation.
Credit Hours: 3.5
Format: Class; Laboratory
Prerequisite(s): 5352

Marine Pollution 5441

Consideration of the various marine environmental problems of concern to the nation, such as radioactive waste disposal at sea, sewage disposal methods, ocean dumping, oil spills and cleanup, with case histories and techniques for environmental monitoring. Government planning for coastal zone management at local, national and international levels examined for specific regions.

Credit Hours: 3.0
Format: Class
Prerequisite(s): Instructor Approval

Polar Oceanography 5447

The initial focus is on ice: physics, formation, terminology, mechanics, forecasting, and ice breaking. Then consideration is given to glaciers, icebergs, and the Marginal Ice Zone (MIZ). The second half deals with the geography, history, oceanography, resources and logistics of the Arctic and Antarctic regions. Experience is provided in the writing and presenting of a scientific paper.

Credit Hours: 3.0
Format: Class
Prerequisite(s): Instructor Approval

Research in Marine Science 5459

Individual programs of advanced reading, project laboratories or combined team projects in marine science; arrangements to suit particular cadet or team and faculty members.

Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): Instructor Approval and Section Chief Approval

Nautical Science and Law Department

Coastal Navigation 6112

Introduction to terrestial navigation, relative motion and the rules of the nautical road. Familiarization with piloting principles and techniques, and use of Aids to Navigation. Magnetic and gyro compass theory and problem solution. Theory of tides and tidal currents and problem solution. Introduction to theory and use of electronic navigation equipment such as radar, LORAN C, Omega and radio beacons, and their operational applications. Solution of relative motion problems involving change of Closest Point of Approach, Intercept, Stationing and Wind.

Credit Hours: 3.7
Format: Class; Laboratory

Celestial Navigation 6114

Introduction to celestial navigation. Theory of the celestial and navigational triangles and methods of solution for obtaining lines of position. Determination of gyro error by exact azimuth and amplitude. Identification of stars and use of starfinders. Accurate determination of time. Use of Universal Plotting Sheet and navigation publications such as the Nautical Almanac and Pub. 229. Determination of latitude by the Sun and Polaris. Emphasis on plotting proficiency and the complete celestial solution. Theory and use of the marine sextant.

Credit Hours: 3.7
Format: Class; Laboratory

Legal Systems 6345

Introduction to Law. Brief examination of fundamental nature of law and federal judicial system. Military Law, including jurisdiction, search and seizure, self-incrimination, non-judicial punishment and courts-martial procedure. Fact-finding in Coast Guard and preparation of an informal investigation report. Civil liability of U.S. arising from Coast Guard activities. Introduction to International law. Miscellaneous federal legal requirements, including freedom of information, Privacy Act, employee responsibilities and conduct.

Credit Hours: 4.0
Format: Class
Prerequisite(s): 2nd Class Cadet

The Deck Watch Officer 6416

Preparation for assignment as a junior officer aboard a Coast Guard Cutter. Shiphandling, CG voice communications and Piloting theory and practice. Rules of the Road, training culminating in the DWO exam. Classroom theory reinforced by practice aboard T-Boats and in the Radar and Ships Bridge simulators. Introduction to the many duties of officers aboard Coast Guard Cutters, shipboard organization, and Coast Guard administrative practice.

Credit Hours: 4.0
Format: Class; Laboratory
Prerequisite(s): 6112 and 6114

The Division Officer 6418

Preparation for first duty assignment as officer of the deck and division officer aboard a Coast Guard Cutter. Classroom portion emphasizes administrative aspects of division officer duties (Coast Guard organization, missions, supply, and personnel policies). Lab portion emphasizes officer of the deck skills (navigation, radar observation, communication, Navigation Rules) utilizing advanced radar and bridge simulators.

Credit Hours: 3.7
Format: Class; Laboratory
Prerequisite(s): 6112 and 6114 and 6416

Directed Studies in Nautical Science 6439

Program for cadets with an interest in advanced nautical science. Opportunity for intensive reading, research, and consultation with faculty members culminating in a major project or research paper in the field of nautical science.

Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): Department Head Approval
or Academic Advisor Approval

Maritime Law Enforcement 6447

Examination of law enforcement authority and activity with emphasis on maritime law enforcement role of Coast Guard. In-depth analysis of several law enforcement activities, including law of arrest, detention, search and seizure, examination, inspection, inquiry, interrogation (self-incrimination) and use of force. Law enforcement jurisdiction, including study of complex domestic law - international law interface. Concept of "federalism," as it applies to federal law enforcement activities. Review of several law enforcement program sanctions (criminal and civil) and introduction to administrative law and rule-making.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 6345
or 1st Class Cadet

Legal Affairs 6449

Introduction to civil law in a practical, personal, and business context. Examination of a variety of subjects, including contracts, federal income taxation, sale of goods under the UCC, real property, leases, insurance, wills, trusts, estate planning and consumer protection. Legal principles applicable to management of personal legal matters, administration, and counseling.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 6345

Constitutional Law 6459

Constitution and Supreme Court interpretation, including such concepts as: judicial review, separation of powers, federalism, civil liberties, inter-state commerce and transportation regulation. Approached in legal and historical contexts through selected readings, videotapes, analysis of Supreme Court cases, a visit to the Supreme Court, and a moot court exercise. In-depth research paper (in the form of a Supreme Court brief) required.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 6345
or Instructor Approval

Directed Studies in Law 6469

Advanced tutorial concentrating on specific legal topic related to Coast Guard's missions. Provides more capable cadet an opportunity for intensive reading, research and consultation with faculty member culminating in a major research paper. Work programmed jointly by student and faculty member.

Credit Hours: 3.0
Format: Project
Prerequisite(s): 6345
or Academic Advisor Approval
or Dept Head Approval

Computer Science Department

Introduction to Computing 7111

The algorithmic process and emphasis on computer-based productivity tools. Topics: selected support tools for engineering, communication and design with graphics, drawing, and programming. Elementary computer programming includes selection, iteration and sequence constructs with emphasis on careful design and correctness.

Credit Hours: 1.5
Format: Class; Laboratory

Programming Fundamentals 7113

Intensive presentation of programming topics with emphasis on top-down design, step-wise refinement, data abstraction and information hiding. Algorithm design and coding in a high-level structured language that supports modularity and correctness.

Credit Hours: 1.5
Format: Class; Laboratory
Prerequisite(s): 7111

Technical Programming 7201

Second level computer programming course, in-depth study of abstract data types and their use in various classic computer applications. Arrays, records, stacks, queues, lists, trees and graphs are defined and implemented in various ways and used in numeric and non-numeric applications.

Credit Hours: 4.0
Format: Class
Prerequisite(s): 7111 and 7113

Computer Science Tutor 7301

Cadets with a demonstrated B or better average in computer science courses assist other cadets with class and laboratory assignments. Good communication skills and mastery of the subject matter is required.

Credit Hours: 0.0
Format: Tutor
Prerequisite(s): 7111 and 7113

Computer Organization 7302

Basic microcomputer architecture and organization. Study of the basic logic design of digital computers, number representation and coding, assembly language programming, data structures, input/output, memory organization, and internal communication. Concentration is on assembly language program development and implementation.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 7111 and 7113

Systems Analysis 7304

Analysis, Design and Implementation of automated systems. Life cycle, organizational impact, personnel and equipment are considered using a case study approach and a semester project.

Credit Hours: 3.7
Format: Class; Laboratory; Project
Prerequisite(s): 7310

Data Structures 7306

Study of data structures and algorithms related to file processing and data base design. Capabilities and limitations of computers, data collection, data reduction, file handling and database management.

Credit Hours: 4.0
Format: Class
Prerequisite(s): 7201 and 7302

Programming Languages 7308

Syntax, semantics, structure and other features of programming languages. Selection criteria, advantages and disadvantages of high level languages used for scientific and commercial applications. Detailed study of several languages, and introduction to denotational and axiomatic semantics.

Credit Hours: 3.7
Format: Class; Laboratory
Prerequisite(s): 7302 and 7201

Software Engineering 7310

Life cycle model, development methodologies, programming environments, case, theoretical and practical issues, management concerns, team project.

Credit Hours: 4.0
Format: Class; Laboratory; Project
Prerequisite(s): 7306

Directed Studies in Computer Science 7401

Individual project. Work planned jointly by a cadet and a designated faculty member. Topics are selected to fit the interests and the capabilities of the cadet with the expertise of the faculty and often the needs of the Academy.
Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): 7302 and 7201

Computer Architecture 7402

Comprehensive study of computing machines with particular emphasis on overall software/hardware interaction. Hardware organization, interfacing, software and applications. Use of available microcomputers for laboratory and project work.
Credit Hours: 3.7
Format: Class; Laboratory
Prerequisite(s): 7306

Computer Simulation 7404

Design, implementation and validation of computer models of discrete and continuous systems. Statistics, random variate generation, experimental design and planning considerations are covered by example and by completion of a semester project. Use of general purpose and high-level simulation languages.
Credit Hours: 3.7
Format: Class; Laboratory; Project
Prerequisite(s): 7302 and 7201

Decision Support Systems 7408

Computer Hardware and Software as it is used to meet the decision making needs of a manager. Conversion of raw data into useful decision-information to support or enhance the manager's decision making ability. Overview of existing and proposed computerized Decision Support Systems. Study of Coast Guard standard terminal applications, district mini-computer network and local decision support systems.
Credit Hours: 3.7
Format: Class; Laboratory; Project
Prerequisite(s): 7304

Economics and Management Department

Economics

Macroeconomic Principles 8215

Basic concepts: methodology and fundamental problems of macroeconomics measurement and theoretical analysis of aggregate economic activity. Public policy for economic stability and growth. Money and banking. International trade and finance.

Credit Hours: 3.0
Format: Lecture

Microeconomic Principles 8217

Consumer behavior and theory of demand. Production cost, theory of supply and firm behavior in different market structures. Public policy to improve market performance. Resource markets.

Credit Hours: 3.0
Format: Lecture

Economics 8311

Survey of micro and macroeconomic principles. Analysis of consumer behavior and theory of demand; production cost and theory of supply; firm behavior in different market structures. National income accounting; analysis of macroeconomic performance; money and banking; monetary and fiscal policy; unemployment and inflation.

Credit Hours: 3.0
Format: Lecture

Managerial Economics 8313

Indifference curve theory and analysis of consumer behavior. Production theory, cost theory, and analysis of producer behavior in different market structures. Market performance and public policy. Welfare economics. Analysis of resource markets.

Credit Hours: 3.0
Format: Lecture
Prerequisite(s): 8217

Macroeconomic Theory 8315

Analysis of the determination of national income, price level, and rate of growth in a market economy. Basic theories of product, money, and labor markets and their interactions; inflation and unemployment; sources of economic instability; stabilization policies.

Credit Hours: 3.0
Format: Lecture; Project
Prerequisite(s): 8215

Money and Banking 8317

Introductory analysis of the monetary and financial systems in the United States. Structure and working of banking and nonbanking financial institutions; credit and capital markets; Federal Reserve System; monetary policy in relation to changes in domestic and international economic activity.

Credit Hours: 3.0
Format: Class
Prerequisite(s): 8215
or 8311

Econometrics 8321

Techniques of statistical inference applied to economic models; derivation of estimators and their statistical properties in the context of simple and multiple regression; model identification; dummy variables; distributed lag models; consequences of violating assumptions of classical model-multicollinearity, heteroscedasticity, serial correlation.

Credit Hours: 3.0
Format: Lecture; Project
Prerequisite(s): 3213
or 3357

International Trade and Finance 8323

Analysis of the basic theories and policy issues in international economic relations. Theories of trade; economic growth and trade; tariffs, quotas, and other barriers of trade; custom unions and common markets. Currency systems, exchange rate adjustments, balance of payments, balance of payments adjustments, and U. S. commercial policy. Major paper required.

Credit Hours: 3.0
Format: Class; Project; Seminar
Prerequisite(s): 8215

Consumer Economics 8413

Decision making in major consumer issues. Budgeting and financial planning. Time value of money. Risk analysis. Analysis of life insurance, consumer credit, contracts, mortgages and investment alternatives including home buying. Role of Coast Guard officer in financial counseling.

Credit Hours: 1.0
Format: Class; Project
Prerequisite(s): 1st Class Cadet

Directed Studies in Economics 8439

An in-depth, major research effort in an area of mutual interest to cadet and faculty member directing study; project proposal to be submitted in semester prior to that during which directed study shall be pursued.

Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): Academic Advisor Approval
or Department Head Approval

Management

Organizational Behavior 8245

Examine the relationship of individual and group behavior in organizations to organizational effectiveness. Uses case studies, classroom exercises, lecture and discussion to develop an understanding of motivation, group dynamics, leadership, organization design principles, communications and performance management with particular attention to the practical implications of current theory in these areas.

Credit Hours: 3.0
Format: Class; Project; Seminar

Financial Accounting 8347

Accounting process as a system for financial analysis, planning, and control. Fundamental accounting techniques related to the Balance Sheet, Income Statement, and Statement of Change in Financial Position. Accounting for current and long-term assets, current and long-term liabilities, and owner's equity related to corporations, partnerships and sole proprietorships. Accounting for sales, purchases, inventories, depreciation, and leases. Extensive problem solving.

Credit Hours: 3.0
Format: Class

Financial Management 8349

Decision making in managerial finance. The use of accounting information. Methods of planning, forecasting, and controlling. Analyzing financial activities of business or governmental organizations. Working capital management, capital budgeting, cost of capital, leasing, debt financing, use of leverage, funds flow analysis, and financial ratio analysis. Extensive problem solving.

Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 8347

Operations Research 8351

Applications of management science and operations research techniques to managerial decision making: linear programming, transportation and assignment algorithms, queuing models, simulation, inventory management, network analysis. Exposure to industrial engineering applications: facilities location and layout, line balancing, maintenance, scheduling, project management, quality control. Extensive probelm solving and computer applications. Term project.

Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 3213

Personnel Management 8357

Personnel/human resources management concepts: analysis of bureaucracy, recruitment, selection, performance evaluation, promotion, retention, EEO guidelines, federal regulations. Term paper. Seminar.

Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 8245

Transportation Economics and Policy 8361

Transportation planning and policy development. Consideration of topical intermodal and intramodal problems, conflicts, and issues. Extensive evaluation of U.S. maritime industry. Case studies of all modes of transportation. Research paper. Seminar.

Credit Hours: 3.0
Format: Lecture; Project
Prerequisite(s): 8215 and 8217

Quantitative Methods 8363

Introduction to techniques of quantitative analysis. Applications of probability and statistics analysis and matrix algebra. Applied decision theory, game theory, break-even analysis, marginal analysis and investment decisions. Use of econometric methods, simple and multiple linear regression models, curve-fitting and time series analysis. Coverage of some classical optimization techniques. Extensive problem- solving and computer applications. Term project.

Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 3213

Organizational Theory 8365

Design of organizations as open systems. Assessment of environment. Definition of mission and goals. Impact of technology on structure. Dynamic processes in organizations. Information and control, decision making, power, politics, intergroup relations, conflict. Strategy and the role of top management.

Credit Hours: 3.0
Format: Class; Project; Seminar
Prerequisite(s): 8245

Marketing 8443

Marketing concepts and their relationship to strategic management of private, public, and not-for-profit organizations. Marketing mix, market segmentation, product differentiation, demographics, advertising, promotion, distribution. Marketing of services and marketing's role in governmental organizations. Seminar. Case method.

Credit Hours: 3.0
Format: Class; Project
Prerequisite(s): 8217 or 8311

Organizational Development 8445

Emphasis on organizational change. Emphasis on organization development techniques: team building, structural change, conflict management, and process consultation. Role of change agent, combining theory with practical experience. Term paper.

Credit Hours: 3.0
Format: Class; Project; Seminar
Prerequisite(s): 8365 and 1st Class Cadets

Strategic Management 8447

Strategy and policy development in the private and public sectors. Emphasis on environmental analysis, strategic advantage profile; social responsibility, and ethics. The relationships of finance, personnel, and structure to policy decisions. Case studies.

Credit Hours: 3.0
Format: Lecture; Project; Seminar
Prerequisite(s): 1st Class Cadet and 8313
or 8349
or 8351

Directed Studies in Management 8469

An in-depth, major research effort in an area of mutual interest to cadet and faculty member directing study; project proposal to be submitted in semester prior to that during which directed study shall be pursued.

Credit Hours: 3.0
Format: Directed Studies
Prerequisite(s): Academic Advisor Approval
or Department Head Approval

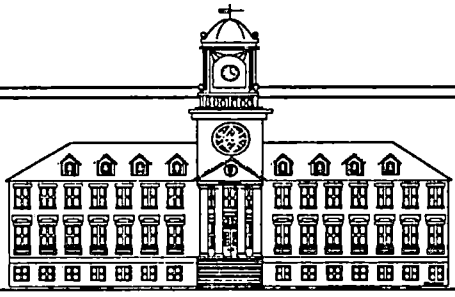
SPECIAL PROGRAMS

Connecticut College 0924

The Coast Guard Academy participates in an exchange program with Connecticut College. Enrollment is normally limited to First Class Cadets who have a CGPA of at least 3.00. All Connecticut College Courses are of 4.0 credit value. For more information refer to SUPTINST 1531.12
Credit Hours: 4.0

Scholars Project 0925

Program of independent study and research in an area of interest to the highly qualified cadet. Requires a major academic commitment of the scholar to problem definition, analysis and evaluation. Oral presentation and written report required.
Credit Hours: 0.0



PROJECTED COURSE OFFERINGS

Projected Course Offerings may be cancelled, modified and/or replaced by substitute courses because of insufficient course enrollment, lack of teaching resources, or changes in curricula.

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
0924	Connecticut College	√	√	√	√	√	√	√	√
0925	Scholars Project		√		√		√		√

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
1112	Engr Communications & Design	√		√		√		√	
1113	Engr. Communication & Design	√		√		√		√	
1114	Applied Engr. Design		√		√		√		√
1202	Statics/Strength of Mat	√	√	√	√	√	√	√	√
1204	Mat'l Sci Marine Engrs		√		√		√		√
1211	Dynamics		√		√		√		√
1220	Electrical Engineering I	√		√		√		√	
1222	Electrical Engineering II		√		√		√		√
1301	Projects in Engr (Special)	√				√			
1302	Material Science CE			√		√		√	
1304	Soil Mech/Foundations		√		√		√		√
1313	Steel Design		√		√		√		√
1317	Structural Analysis I	√		√		√		√	
1319	Structural Analysis II		√		√		√		√
1320	Intro to Electrical Engr	√	√	√	√	√	√	√	√
1322	Linear Circuits	√		√		√		√	
1324	Digital Design		√		√		√		√
1326	Electromechanics		√		√		√		√
1340	Fluid Mechanics	√		√		√		√	
1342	Principles of Naval Arch		√		√		√		√
1351	Thermodynamics	√		√		√		√	
1353	Shipboard Energy Systems		√		√		√		√
1381	Ocean Wave Mechanics	*	*	*	*	*	*	*	*
1395	Projects in Engineering	√	√	√	√	√	√	√	√

*Subject to sufficient demand and resource constraints

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
1402	Plng/Dsgn Const Projects		√		√		√		√
1408	Principles of Surveying	√		√		√		√	
1411	Reinforced Concrete Dsgn	√		√		√		√	
1413	Mechanical Vibrations		√		√		√		√
1415	Water/Wastewater Engr	√		√		√		√	
1417	Interior Environmental Control	√		√		√		√	
1419	Directed Studies in CE	√	√	√	√	√	√	√	√
1420	Antennas and Propagation	√		√		√		√	
1422	Communication Systems	√	√	√	√	√	√	√	√
1424	Automatic Controls Systems		√		√		√		√
1426	Systems Design/Synthesis	√	√	√	√	√	√	√	√
1429	Digital Signal Process		√		√		√		√
1431	Electronic Navigation Systems			√		√		√	
1439	Directed Studies in EE	√	√	√	√	√	√	√	√
1440	Advanced Naval Vehicles		√		√		√		√
1442	Principles of Ship Dsgn	√		√		√		√	
1444	Ship Design/System Integration		√		√		√		√
1446	Engineering Experimentation		√		√		√		√
1453	Ship Propulsion Design	√		√		√		√	
1457	Energy Conversion		√	√		√		√	
1459	Heat Transfer	*	*	*	*	*	*	*	*
1461	Basic Naval Architecture	√	√	√	√	√	√	√	√
1463	Nuclear Power Systems		√		√		√		√
1469	Dir. Studies/Marine Engr	√	√	√	√	√	√	√	√

*Subject to sufficient demand and resource constraints

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
1470	Underwater Acoustics	*	*	*	*	*	*	*	*
1472	Ocean Engineering Structures	*	*	*	*	*	*	*	*
1474	Ocean Engineering Design	*	*	*	*	*	*	*	*
1489	Dir. Studies/Ocean Engineering	*	*	*	*	*	*	*	*

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
2101	Prin of Expository Wrtng	√		√		√		√	
2111	English Composition and Speech	√		√		√		√	
2121	Art of Effective Writing	√		√		√		√	
2123	Introduction to Literature		√		√		√		√
2231	French I	√		√		√		√	
2233	French II		√		√		√		√
2235	Spanish I	√		√		√		√	
2237	Spanish II		√		√		√		√
2241	History of the U.S.	√	√	√	√	√	√	√	√
2259	Principles of Amer Gov't		√	√					
2261	American Foreign Policy		√		√		√		√
2263	American Government	√	√	√	√	√	√	√	√
2265	Social Science Methodology		√		√		√		√
2281	General Psychology	√	√	√	√	√	√	√	√
2321	Humanities in World Literature		√		√		√		√
2331	French III	√		√		√		√	
2333	French IV		√		√		√		√
2335	Spanish III	√		√		√		√	
2337	Spanish IV		√		√		√		√
2341	Europe Since 1789	√		√		√		√	
2343	Modern Russia			√				√	
2361	Western Political Theory		√		√		√		√
2363	Amer Political Parties	√				√			
2365	Comparative Politics	√		√		√		√	

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
2367	International Relations		√		√		√		√
2381	Social Psychology		√		√		√		√
2384	Cognitive Systems		√		√		√		√
2421	Dir. Studies/Humanities	√	√	√	√	√	√	√	√
2441	The Civil War	√				√			
2459	Directed Studies in History	√	√	√	√	√	√	√	√
2461	Congress and Presidency			√				√	
2463	U.S. Maritime History/Politics		√		√		√		√
2465	Military Policy				√				√
2467	Global Policy Studies		√				√		
2469	National Security Policy	√		√		√		√	
2471	Area Studies in Political Deve	√				√			
2473	Political Behavior		√						
2479	Directed Studies in Government	√	√	√	√	√	√	√	√
2481	Human Differences				√				√
2489	Directed Studies in Psychology	√	√	√	√	√	√	√	√

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
3107	Introduction to Calculus	√		√		√		√	
3111	Calculus I	√	√	√	√	√	√	√	√
3115	Calculus II (Validators)	√		√		√		√	
3117	Calculus II	√	√	√	√	√	√	√	√
3211	Multivariable Calculus	√	√	√	√	√	√	√	√
3213	Probability & Statistics	√	√	√	√	√	√	√	√
3215	Differential Equations	√	√	√	√	√	√	√	√
3231	Linear Algebra	√		√		√		√	
3311	Advanced Calculus	√		√		√		√	
3315	Adv Engring Math				√		√		√
3351	Numerical Analysis		√		√		√		√
3353	Mathematical Modeling		√		√		√		√
3355	Mathematical Programming	√			√		√		√
3357	Probability & Stat. Appl.	√		√		√		√	
3359	Mathematical Statistics		√		√		√		√
3361	Operations Analysis		√		√		√		√
3421	Complex Variables		√		√		√		√
3437	Discrete Mathematics	√		√		√		√	

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
4101	Physiology of Fitness & Wellne	√	√	√	√	√	√	√	√
4102	Intermediate Swimming	√	√	√	√	√	√	√	√
4104	Gymnastics	√	√	√	√	√	√	√	√
4124	Gymnastics For Women	√	√	√	√	√	√	√	√
4201	First Aid/CPR	√	√	√	√	√	√	√	√
4202	Survival Swimming	√	√	√	√	√	√	√	√
4203	Personal Defense I	√	√	√	√	√	√	√	√
4223	Personal Defense I For Women	√	√	√	√	√	√	√	√
4302	Advanced Lifesaving	√	√	√	√	√	√	√	√
4303	Personal Defense II	√	√	√	√	√	√	√	√
4306	Lifetime Sports	√	√	√	√	√	√	√	√
4402	Scuba Diving	√	√	√	√	√	√	√	√
4404	Modern Dance and Jazz		√		√		√		√
4405	Advanced Racquetball	√	√	√	√	√	√	√	√
4406	Advanced Golf	√	√	√	√	√	√	√	√
4408	Water Safety Instructor	√		√		√		√	
4409	Ecology Sports I	√		√		√		√	
4410	Ecology Sports II		√		√		√		√
4411	Selected Sports		√						
4412	Directed Studies in P.E.	√	√	√	√	√	√	√	√
4413	Skiing		√		√		√		√
4415	Racquet Sports	√	√	√	√	√	√	√	√

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
5102	Chemistry I	√	√	√	√	√	√	√	√
5104	Chemistry I (Honors)	√		√		√		√	
5106	Chemistry II	√	√	√	√	√	√	√	√
5108	Chemistry II (Honors)		√		√		√		√
5201	Inorganic Chemistry				√				
5202	Organic Chemistry		√			√		√	
5232	Marine Biology		√		√		√		√
5234	Marine Geology			√		√		√	
5240	Meteorology			√		√		√	
5242	Geoscience	√							
5247	Projects in Marine Science	√	√	√	√	√	√	√	√
5262	Physics I	√	√	√	√	√	√	√	√
5266	Physics II	√	√	√	√	√	√	√	√
5312	Physical Chemistry I	√		√					
5319	Chemical Engineering Principle		√			√			
5322	Physical Chemistry II		√		√				
5330	Oceanography	√	√	√	√	√	√	√	√
5338	Physical Oceanography	√		√	√		√		√
5340	Vibrations and Waves	*	*	*	*	*	*	*	*
5342	Biological/Chemical					√		√	
5347	History of Science	√							
5350	Dynamical Oceanography					√		√	
5351	Geophysical Fluid Dynamics		√		√				
5352	Advanced Dynamical						√		√

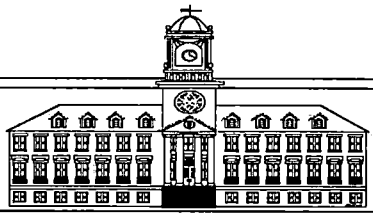
*Subject to sufficient demand and resource constraints

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
5362	Modern Physics	*	*	*	*	*	*	*	*
5364	Semiconductor Physics		√		√		√		√
5366	Astronomy			√				√	
5377	Theoretical Mechanics	*	*	*	*	*	*	*	*
5379	Quantum Mechanics	*	*	*	*	*	*	*	*
5389	Directed Studies in Physics	√	√	√	√	√	√	√	√
5401	Chemistry Tutor	√	√	√	√	√	√	√	√
5412	Analytical Methods	√		√			√		√
5415	Hazardous Materials		√		√		√	√	
5419	Advanced Organic Chemistry	√							
5421	Projects in Chemistry	√	√	√	√	√	√	√	√
5429	Research in Chemistry	√	√	√	√	√	√	√	√
5430	Remote Sensing								√
5434	Marine Fisheries	√		√		√		√	
5436	Coastal Oceanography							√	
5441	Marine Pollution	√		√		√	√		√
5447	Polar Oceanography		√		√		√		√
5459	Research in Marine Science	√	√	√	√	√	√	√	√
5464	Nuclear Physics	*	*	*	*	*	*	*	*
5477	Optics	*	*	*	*	*	*	*	*
5479	Electromagnetic Theory I	*	*	*	*	*	*	*	*
5481	Electromagnetic Theory II	*	*	*	*	*	*	*	*

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
6112	Coastal Navigation	√		√		√		√	
6114	Celestial Navigation		√		√		√		√
6345	Legal Systems	√	√	√	√	√	√	√	√
6416	The Deck Watch Officer	√		√		√		√	
6418	The Division Officer		√		√		√		√
6439	Directed Studies in Nautical S	√	√	√	√	√	√	√	√
6447	Maritime Law Enforcement	√	√	√	√	√	√	√	√
6449	Legal Affairs		√		√		√		√
6459	Constitutional Law	√		√		√		√	
6469	Directed Studies in Law	√	√	√	√	√	√	√	√

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
7111	Introduction to Computing	√		√		√		√	
7113	Programming Fundamentals		√		√		√		√
7201	Technical Programming		√		√		√		√
7301	Computer Science Tutor	√	√	√	√	√	√	√	√
7302	Computer Organization	√		√		√		√	
7304	Systems Analysis	√		√		√		√	
7306	Data Structures	√		√		√		√	
7308	Programming Languages	√				√			
7310	Software Engineering		√		√		√		√
7401	Directed Studies in CS	√	√	√	√	√	√	√	√
7402	Computer Architecture		√				√		
7404	Computer Simulation				√				√
7408	Decision Support Systems		√		√		√		√

Course Number	Short Title	88-89		89-90		90-91		91-92	
		F	S	F	S	F	S	F	S
8215	Macro Principles	√		√		√		√	
8217	Micro Principles		√		√		√		√
8245	Org Behavior	√	√	√	√	√	√	√	√
8311	Economics	√	√	√	√	√	√	√	√
8313	Mgrl Econ	√		√		√		√	
8315	Macro Theory		√		√		√		√
8317	Money & Banking			√				√	
8321	Econometrics		√		√		√		√
8323	Int'l Trade & Fin	√				√			
8347	Fin Acctg.	√		√		√		√	
8349	Fin Mgt.		√		√		√		√
8351	Ops Research		√		√		√		√
8357	Personnel Mgt	√		√		√		√	
8361	Transp Econ & Pol				√				√
8363	Quantitative Methods	√		√		√		√	
8365	Org Theory	√				√			
8413	Consumer Econ	√		√		√		√	
8439	Dir Studies Econ	√	√	√	√	√	√	√	√
8443	Marketing			√				√	
8445	Org Develpmt		√		√		√		√
8447	Strategic Mgt		√		√		√		√
8469	Dir Studies Mgt	√	√	√	√	√	√	√	√



PERSONNEL

ADVISORY COMMITTEE

Vice Admiral Clarence R. Bryan, USN (Ret.)
St. Leonard, Maryland
Mr. Red Cavaney, President
American Paper Institute, New York, New York
Ms. Nancy Jean Davis, Vice President
McArthur Management Co., Miami, Florida
Major General Jeanne M. Holm, USAF (Ret.)
Edgewater, Maryland
Mr. Richard H. Jones, Attorney at Law
Baker and Hostetler Law Firm, Washington, D.C.
The Honorable Owen H. Johnson, New York State Senate
West Babylon, New York
Vacancy

ADMINISTRATION

SUPERINTENDENT

R.P. Cueroni, Rear Admiral, USCG, B.S.

ASSISTANT SUPERINTENDENT

Paul E. Versaw, Captain,USCG, J.D.

DEAN OF ACADEMICS

William A. Sanders, Ph.D.

COMMANDANT OF CADETS

Robert L. Ashworth, Captain, USCG, M.B.M.

DIRECTOR OF ADMISSIONS

Thomas D. Combs, Jr., Captain, USCG, Ph.D.

DIRECTOR OF ATHLETICS

James E. Foels, Captain, USCG, M.A.

SENIOR MEDICAL OFFICER

Steven C. Pugh, Captain, USPHS, M.D.

SENIOR DENTAL OFFICER

Charles R. Warner, Captain, USPHS, D.D.S.

CHAPLAINS

Charles J. McCoy, Captain, CHC, USN, M.A.
Paul N.E. Teske, Lieutenant Commander, CHC, USN, M.D.I.V.

COMPTROLLER

Robert M. Acker, Jr., Commander, USCG, M.S.

CHIEF, PERSONNEL
Frank K. Cole, Commander, USCG
CHIEF FACILITIES ENGINEERING
William E. Kozak, USCG, M.S.C.E., P.E.
STAFF LEGAL OFFICER
Paul J. Bodenhofer, Commander, USCG, J.D.
PLANNING OFFICER
Edmund F. Labuda, Jr., Commander, USCG, B.S.
PUBLIC AFFAIRS OFFICER
Paul Preusse, Lieutenant, USCG, M.S.
CIVIL RIGHTS OFFICER
JoAnn P. Miller, B.S.
DIRECTOR, U.S. COAST GUARD BAND
Lewis J. Buckley, Lieutenant Commander, USCG, M.A.

ALUMNI ASSOCIATION
EXECUTIVE DIRECTOR
W.E. Smith, Captain, USCG (Ret.), B.S.
DIRECTOR OF PUBLICATIONS
J.R. Kelly, Captain, USCG (Ret.), B.S.

ADMISSIONS
DIRECTOR OF ADMISSIONS
Thomas D. Combs, Jr., Captain, USCG, Ph.D.
ASSOCIATE DIRECTOR OF ADMISSIONS
Bienvenido Abiles, Commander, USCG, B.S.
ASSISTANT DIRECTOR OF ADMISSIONS
Alex O. Simonka, Lieutenant, USCG, B.S.
ADMISSIONS OFFICERS
Christopher E. Roberts, Lieutenant, USCG, B.S.
Randy C. Scott, Lieutenant, USCG, B.S.
Cari K.B. Thomas, Lieutenant (jg), USCG, B.S.

CADET ADMINISTRATION
COMMANDANT OF CADETS
Robert L. Ashworth, Captain, USCG, M.B.M.
ASSISTANT COMMANDANT OF CADETS
James Ingham, Commander, USCG, J.D.
COMMANDING OFFICER COAST GUARD CUTTER EAGLE
David V.V. Wood, Captain, USCG, M.A.
OPERATIONS AND TRAINING BRANCH
Terrence C. Julich, Lieutenant Commander, USCG, B.S.

Kirk A. Davis, Lieutenant Commander, USCG, M.A.
Rex J. Blake, Lieutenant, USCG, M.A.

CHIEF, WATERFRONT BRANCH

Patrick L. Schuck, Lieutenant Commander, USCG, B.S.

CHIEF, ADMINISTRATION BRANCH

Oke S. Thorngren, Jr., Chief Warrant Officer, USCG

CADET LOGISTICS BRANCH

David W. Sprunt, Jr., Ensign, USCGR, B.A.
Thomas Flora, Chief Warrant Officer, USCG

COMPANY OFFICERS

Lance W. Carpenter, Lieutenant, USCG, B.S.
Eric K. Chapman, Lieutenant, USCG, B.S.
Thomas S. Fullam, Lieutenant, USCG, B.S.
Steve How, Lieutenant, USCG, B.S.
Mary E. McCaffrey, Lieutenant, USCG, B.S.
Fred M. Midgette, Lieutenant, USCG, B.S.

CADET COUNSELOR

Richard E. Slimak, Ph.D., Associate Professor

CADET MUSICAL ACTIVITIES

Robert G. Newton, Ph.D., Assistant Professor

CADET SOCIAL DIRECTOR

Brenda J. Fullmer, A.A.

DIRECTOR, CADET BANDS AND CEREMONIES

George King, III, Senior Chief Musician, USCG

ACADEMIC FACULTY AND STAFF

DEAN OF ACADEMICS

William A. Sanders, Ph.D., Supervisory Professor

ASSOCIATE DEAN (COLLATERAL)

Earl H. Potter III, Commander, USCG, Ph.D., Associate Professor

ASSISTANT DEAN (COLLATERAL)

Timothy W. Hylton, Lieutenant Commander,USCG, M.S.,Assistant Professor

REGISTRAR

G. Phillip Boeding, M.S., Professor, Registrar
Soledad A. Rodriguez, Assistant Registrar

LIBRARY AND MUSEUM

Paul H. Johnson, M.A., M.A.L.S., Associate Professor, Librarian and Curator
Patricia A. Daragan, M.L.S., Head, Technical Services
Pamela A. McNulty, M.L.S., Reference & Document Librarian
Sheila Lamb, Assistant Technical Services/Reference Librarian

EDUCATIONAL MEDIA CENTER

Blaine Bateman, Director

ENGINEERING DEPARTMENT

PROFESSORS

Bruce C. Skinner, Captain. USCG. NAVE. P.E. Department Head
Robert G. Boggs. Ph.D., P.E
Howard C. Dunn, Ph.D., P.E.
Bruce S. Gathy. Ph.D., P E.

ASSOCIATE PROFESSORS

William T. Hegenberger, M.S.M.E., M.S.M., P.E.
Benjamin B. Peterson Commander, USCG., Ph.D.
Edmond P. Thompson, Commander, USCG, M.S.E.N.A&M.E.; M.S.E.AeroE.

ASSISTANT PROFESSORS

Robert L. Griffin, Lieutenant Commander, USCG, M.S.E.E.
David M. Keen, Lieutenant Commander, USCG, M.S.E.N.A.& M.E.
Michael E. McKaughan, M.S.E.E
Gerald L. Timpe, Lieutenant Commander, USCG, Oce.E., M.S.O.E., P.E.
David J. Visneski, Lieutenant Commander, USCG, M.S.E.N.A & M.E.
James E. Whiting, Lieutenant Commander, USCG, M.S.E. N.A.& M.E.

INSTRUCTORS

Tony J. Barrett, Lieutenant, USCG, M.S., Mech. E., M.S.N.A.& M.E.
Kurt J. Colella, Lieutenant, USCG, M.S., O.E.
Paul S. DalSanto, Lieutenant, USCG, M.S.E.E.
Richard J. Hartnett, Lieutenant, USCG, M.S.E.E.
Virginia Holtzman-Bell, Lieutenant, USCG, M.S.C.E.
William H. Jones, Lieutenant, USCG, M.S.E.E., P.E.
Gregory A. Kmiecik, Lieutenant, USCG, M.S.E., Comp.E.
Bruce R. Mustain, Lieutenant, USCG, M.S.N.A & M.E., P.E.
Jonathan C. Russell, Lieutenant, USCG, M.S.C.E

HUMANITIES DEPARTMENT

PROFESSORS

Irving H. King, Ph.D., Department Head

ASSOCIATE PROFESSORS

Attilio E. DeFilippis, M.A.
Jordon L. Pecile, M.A.
Faye J. Ringel, Ph.D.
Gwendolyn Stevens, Ph.D.

ASSISTANT PROFESSORS

Richard Davis, Ph.D.
Joseph B. Egan, Lieutenant Commander, USCG, Ph.D.
John D. Pendegraft, Lieutenant Commander, USCG, M.A.

INSTRUCTORS

Robert C. Ayer, Lieutenant, USCG, M.A.
Jack N. Dujmovic, Lieutenant, USCG, M.A.
Lucretia A. Flammang, Lieutenant, USCG, M.A.

Stephen E. Flynn, Lieutenant, USCG, M.A.
Steven E. Vanderplas, Lieutenant, USCG, M.A.

ADJUNCT PROFESSOR

Kenneth Duncan, U. S. Department of State

MATHEMATICS DEPARTMENT

PROFESSORS

Ernest J. Manfred, D.A.,Department Head

ASSOCIATE PROFESSORS

John R. Donnellan, M.S.
Joseph J. Wolcin, Ph.D.

ASSISTANT PROFESSORS

Leonard J. Kelly, Lieutenant Commander, USCG, M.S.
Dwight G. Hutchinson, Lieutenant Commander, USCG, M.S.E.

INSTRUCTORS

Mark B. Case, Lieutenant, USCG, M.S.
Timothy Henry, Lieutenant, USCG, M.S.
Timothy J. Leahy, Lieutenant, USCG, M.S.
William J. McHenry, Lieutenant, USCG, M.S.
Drew Rambo, Lieutenant, USCG, M.S.
George J. Rezendes, Lieutenant, USCG, M.S.
Kenneth H. Sherwood, Lieutenant, USCG., M.S.

PHYSICAL EDUCATION DEPARTMENT

PROFESSORS

Nelson W. Nitchman, A.B.
Hallie E. Gregory, E.Ed.

ASSOCIATE PROFESSORS

Geoffrey A. Cardinali, M.S., Department Head
Raymond Cieplik, Ph.D.
Charles Dennis, M.S.
Stephen Eldridge, M.S.
Don C. Pinhey, M.S.
Larry E. Rutledge, M.A.

INSTRUCTORS

Debra K. McCulloch, M.S.

SCIENCE DEPARTMENT

PROFESSORS

Douglas S. Tolderlund, Ph.D., Department Head
J. Richard Christman, Ph.D., Physics Section Chief
Saul Krasner, Ph.D.
David A. McGill, Ph.D., Marine Science Section Chief
Sherman S. Weidenbaum, Ph.D.

ASSOCIATE PROFESSORS

Wayne R. Gronlund, Commander, USCG, M.A.L.S., Chemistry Section Chief

ASSISTANT PROFESSORS

Robert J. Fuller, Lieutenant Commander, USCG, M.S.
Thomas J. Haas, Lieutenant Commander, USCG,Ph.D., C.I.H.I.T.
Richard D. Kassler, Lieutenant Commander, USCG, M.S.
Theodore L. Mar, Lieutenant Commander, USCG, B.S.
Thomas R. Riley, Lieutenant Commander, USCG, M.S.

INSTRUCTORS

David W. Alley, Lieutenant, USCG, M.S.
James H. Candee, Lieutenant, USCG, B.S.
Thomas J. Chuba., Lieutenant, USCG, B.S.
Philip T. Daniels, Lieutenant, USCG, M.S.
Michelle Fitzpatrick, Lieutenant, USCG, M.S.
Joesph V. Pancotti, Lieutenant, USCG, M.A.L.S.
Joseph W. St. Martin, Lieutenant, USCG, M.S.
Bruce E. Viekman, Lieutenant, USCG, M.S.

NAUTICAL SCIENCE AND LAW DEPARTMENT

PROFESSORS

Ernst M. Cummings, Captain, USCG, B.S., Department Head
Davey Jones, Captain, USCG, B.S.

ASSOCIATE PROFESSORS

Dennis G. Beck, Commander, USCG, J.D.
Richard B. Cole, Commander, USCG, J.D.

ASSISTANT PROFESSORS

Robert G. Blythe, Lieutenant Commander, USCG, J.D.
Ivan T. Luke, Lieutenant Commander, USCG, B.S.

INSTRUCTORS

Mark J. Campbell, Lieutenant, USCG, B.S.
Thomas D. Criman, Lieutenant, USCG, B.S.
Kathleen French, Lieutenant, USCG, B.S.
Mary J. Morrissey, Lieutenant (jg), USCG, B.S.
F. X. O'Byrne, Lieutenant, USCG, B.S.
Robert V. Palombo, Lieutenant, USCG, B.B.A
Wayne C. Parent, Lieutenant, USCG, B.S.
R. Preston, Lieutenant, USCG, B.S.
Bruce M. Ross, Lieutenant, USCG, B.S.
Michael J. Sobey, Lieutenant, USCG, B.S.
George H. Teuton, Lieutenant, USCG, B.S.

COMPUTER SCIENCE DEPARTMENT

PROFESSORS

Richard T. Close, Ph.D.

ASSOCIATE PROFESSORS

Kelly S. Callison, Commander, M.S., Department Head
Raymond A. Kambeitz, M.S.
Ronald A. Nilsen, Lieutenant Commander, USCG, M.S.E.E.

INSTRUCTORS

Gerard D. Massad, Lieutenant, USCG, B.S.

ECONOMICS AND MANAGEMENT DEPARTMENT

PROFESSORS

Philip I. Mathew, Ph.D.
David W. Weber, Ph.D.

ASSOCIATE PROFESSORS

Earl H. Potter III, Commander, USCG, Ph.D., Department Head

ASSISTANT PROFESSORS

Timothy W. Hylton, Lieutenant Commander, USCG, M.S.
Robert D. Williamson, Lieutenant Commander, USCG, M.B.A.

INSTRUCTORS

Robert R. Albright II, Lieutenant, USCG, M.B.A.
William L. Zack, Lieutenant, USCG, M.B.A.

INTERCOLLEGIATE ATHLETICS

DIRECTOR OF ATHLETICS

J.E. Foels, Captain, USCG, M.A.

ASSISTANT ATHLETIC DIRECTOR AND BUSINESS MANAGER

David J. Radachy, Lieutenant Commander, USCG, B.S.

SPORTS INFORMATION DIRECTOR

Shawn W. May, B.A.

BASEBALL

Don Pinhey, M.S., Head Coach
Thomas J. Haas, Lieutenant Commander, USCG
Raymond Cieplik, Ph.D.
Robert Ayer, Lieutenant, USCG, M.A.

BASKETBALL (MEN)

Hallie E. Gregory, Ed.D., Head Coach
Joel Beason
Patrick L. Shuck, Lieutenant Commander, USCG, B.S.
Robert Petko, Lieutenant Commander, USCG, M.A.
Robert Gaines, Lieutenant, USCG, M.S.
Timothy Leahy, Lieutenant, USCG, M.S.
Alex Simonka, Lieutenant, USCG, B.S.

BASKETBALL (WOMEN)

Debra K. McCulloch, M.A., Head Coach

CREW (MEN)

James W. Dietz, B.S., Head Coach
David Bibeau, B.S.
Sean Fedak, M.S.
William Zack, Lieutenant, USCG, M.P.P.M.

CREW (WOMEN)

Donald Tower, Head Coach
Anne Flammang, Lieutenant, USCG, M.A.

CROSS COUNTRY (MEN)

Stephen Eldridge, M.A., Head Coach
Kenneth Sherwood, Lieutenant, USCG, M.S.

CROSS COUNTRY (WOMEN)

LeRoy Falconi, Head Coach

FOOTBALL

Thomas H. Bell, M.A., Head Coach
Stephen Hackett, M.S.
John Iovino, M.S.
Gerald Romberg
Don Pinhey, M.S.
Thomas Hinch
Leonard Kelly, Lieutenant Commander, USCG, M.S.

PISTOL

Ivan T. Luke, Lieutenant Commander, USCG, B.S., Head Coach
Mark Campbell, Lieutenant, USCG, B.S.

RIFLE

B. G. Mann, CWO4, USCG
Scott Davis, GM1, USCG

SAILING

Larry White, Captain, USCG (Ret.), M.S., Head Coach
James Ingham, Commander, USCG, J.D.
Michael Alles, M.S.T.C., USCG
William Jones, Lieutenant, USCG, B.S.
David Keen, Lieutenant, USCG, M.S.E.-N.A. & M.E.
T.C. Rice, Captain, USN(Ret.), B.S.
Mary Pullan, M.A.
David Alley, Lieutenant, USCG, B.S.
Tucker Bragdon, B.A.
M.J. Lewandowski, Lieutenant Commander, USCG, B.S.
Michelle Fitzpatrick, Lieutenant, USCG, B.S.O.E., B.S.

SOCCER

Raymond Cieplik, Ph.D., Head Coach
Attillio DeFilippis, M.A.
James Whiting, Lieutenant Commander, USCG, M.S.E.N.A. & M.E.

Thomas Criman, Lieutenant, USCG, B.S.
John Pendegraft, Lieutenant Commander, USCG, M.A.
David Visneski, Lieutenant, USCG, M.S.E.N.A. & M.E

SOFTBALL

Thomas J. Haas, Lieutenant Commander, USCG, Ph.D., Head Coach
Mark Case, Lieutenant, USCG, M.S.

SWIMMING

Charles Dennis, M.S., Head Coach
Terrence Julich, Lieutenant Commander, USCG, B.S.
Rick Kassler, Lieutenant Commander, USCG, M.S.
Gregory Kmiecik, Lieutenant, USCG, M.S.
Robert Brooks

TENNIS

Charles Lavarini, M.S., Head Coach
Joseph Egan, Lieutenant Commander, USCG, Ph.D.
Richard Cole, Commander, USCG, J.D.
Richard Hartnett, Lieutenant Commander, USCG, M.S.E.E.
Duncan Welch, B.S.

TRACK (MEN)

Larry Rutledge, M.A., Head Coach
John Acosta, B.A.
Eric Chapman, Lieutenant, USCG, B.S.
Richard Close, Ph.D.
Albert Darling, B.A.
Carl Reichard, B.S.
David Coney, B.S.
Chris Roberts, Lieutenant (jg), USCG, B.S.

TRACK (WOMEN)

Geoffrey A. Cardinali, M.S., Head Coach
Susan Prentis, M.S.

VOLLEYBALL

Debra K. McCulloch, M.A., Head Coach

WRESTLING

Stephen Eldridge, M.S., Head Coach
George Rezendes, Lieutenant, USCG, M.S.
Robert Albright, Lieutenant, USCG, M.B.A.

Notes:

Notes:

Notes:

Notes:

Notes:

Notes:

Notes:

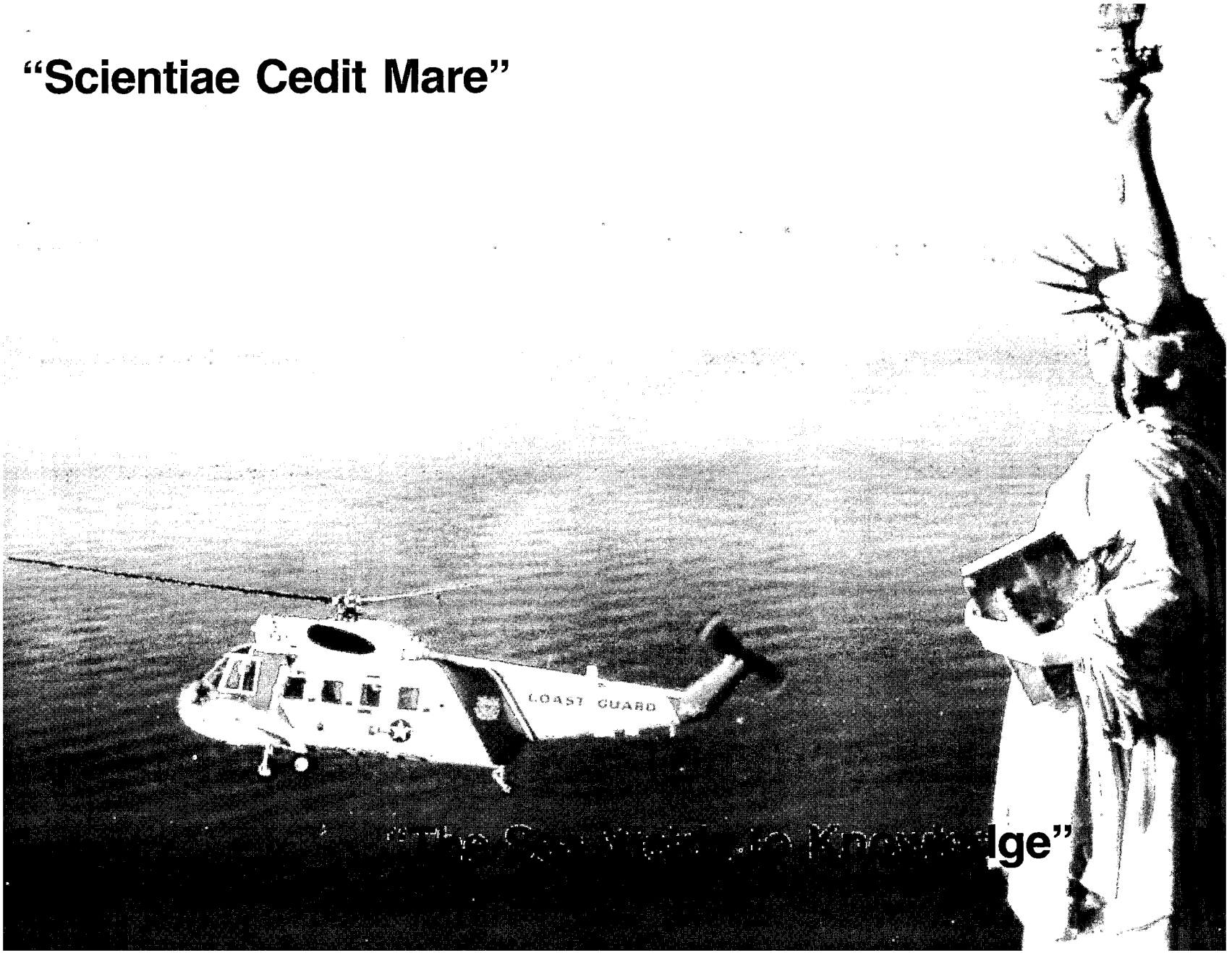
Notes:

1988–89 Bulletin of Information

The U.S. Coast Guard Academy

New London, Connecticut

"Scientiae Cedit Mare"



"...ge"

Semper Paratus — Always Ready

The Coast Guard Academy prepares young men and women for service in the United States Coast Guard—the armed service that serves humanity.
The Academy is a quality educational institution where high premiums are placed on mental toughness, physical fitness and moral strength. It provides an outstanding education to those who commit themselves to succeeding in the difficult environment of a military academy.

We offer curricula primarily in the sciences, engineering, government and management. In addition, courses in seamanship, military leadership, and physical education are mandatory for all cadets.

Please study the information in the bulletin very carefully before you apply. You must be prepared to accept the commitment at the Academy and the five year obligation incurred upon graduation as an officer in the U.S. Coast Guard.

Can you meet our challenge?

R. P. CUERONI
Rear Admiral, U.S. Coast Guard
Superintendent

TABLE OF CONTENTS

MISSION OF THE U.S. COAST GUARD ACADEMY

"To graduate young men and women with sound bodies, stout hearts, and alert minds, with a liking for the sea and its lore, and with that high sense of honor, loyalty, and obedience which goes with trained initiative and leadership, well grounded in seamanship, the sciences, and the amenities and strong in the resolve to be worthy of the traditions of commissioned officers in the United States Coast Guard in the service of their country and humanity."

THE ACADEMY PHILOSOPHY

The Coast Guard Academy. *Unlike any other college or university*. Its graduates are well rounded professional men and women whose jobs are as diverse as their backgrounds. As qualified leaders, Coast Guard officers are often responsible for entire ships, aircraft and the lives of their coworkers. Each one possesses the ability to make decisions. For many, that training started at the Academy.

The educational philosophy of the Academy has three basic objectives:

1. To provide a broad based undergraduate degree in a field of interest to the Coast Guard and the individual.
2. To provide the professional knowledge, skills, and experience for a cadet to assume duties as a Coast Guard officer upon graduation.
3. To provide an environment which encourages integrity, loyalty and obedience to each other and to the service.

Using these principals as guidelines, the four year curriculum has been designed to prepare the Academy's men and women for life in today's society. Each graduate earns a Bachelor of Science degree in one of the seven technical or professional areas and a commission as an Ensign in the United States Coast Guard.

"You get more than a college education here. It's tough, so you better be prepared to accept it mentally, physically, and spiritually."

A Cadet

After commencement, all new ensigns are assigned aboard Coast Guard cutters as deck watch officers or engineers with a variety of collateral duties. Their work might involve drug or alien interdiction, saving lives at sea or the defense of our country's maritime regions. During their second and third tours of duty, Coast Guard junior officers might command patrol boats, attend flight school or postgraduate school. Staff officer assignments are also important support elements of the Coast Guard.

In any task, Coast Guard officers are expected to perform to the best of their abilities. They are leaders who make management and personnel decisions which impact policy. For many officers, the basic foundation of their abilities was built at the Academy.

We want mature, sensible young men and women who want to be educated leaders. Through the Academy's education and training programs, we develop qualities that insure success in both the military and civilian worlds. **Success for your future.**

HISTORY OF THE ACADEMY

What is known today as the U.S. Coast Guard Academy had its origin in legislation dated 31 July 1876. However, it was not until May of 1877, when nine cadets reported aboard the U.S. Revenue Cutter J.C. DOBBIN, that the first cadet training program was literally underway.

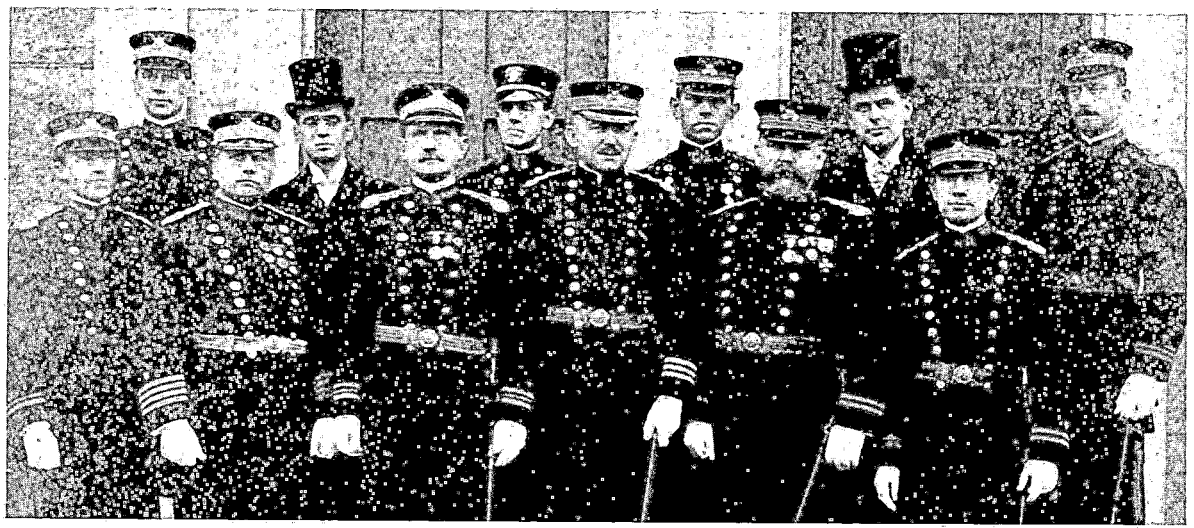
The home port of DOBBIN was New Bedford, Massachusetts. Using the Mitchell Boat Company for classes, the Academy then was called the Revenue Cutter School of Instruction. As today, physical fitness and the study of math and the sciences were emphasized. The primary professional training was the summer cruise.

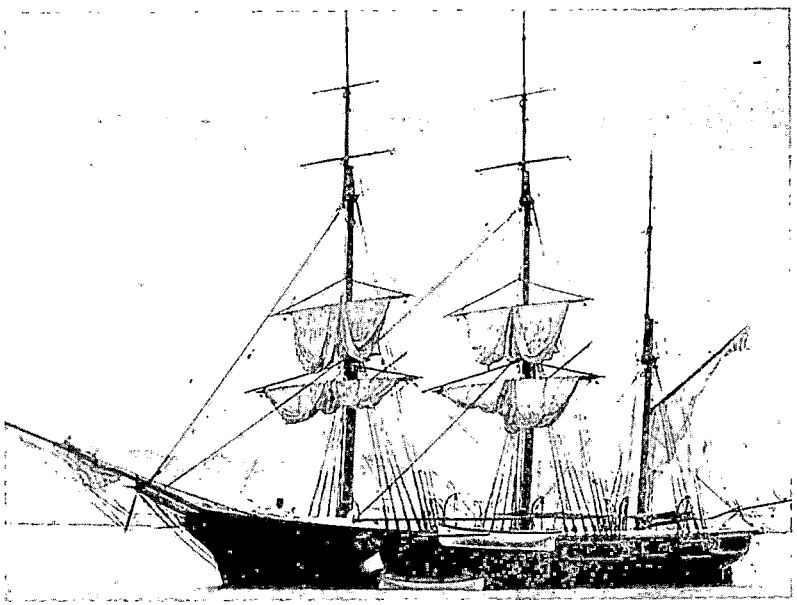
In 1878 SALMON P. CHASE replaced DOBBIN as the cadet training ship. After several unsuccessful attempts by the Secretary of the Navy to transfer the Revenue Marine to his department, the Revenue Cutter School was shut down in 1889. It remained closed until resurrected by President Cleveland in 1894.

The years 1894 to 1900 could be called the gypsy years because the School of Instruction consisted solely of underway training aboard the cutter CHASE. Not until 1900 did CHASE find a permanent homeport at Arundel Cove, Maryland, the site of the present Curtis Bay Coast Guard Yard.

Arundel Cove was the second site of a land-based Academy. There the Academy expanded to a three-class system. However, because of a need for better facilities, it was decided to look for another site. One was found in Fort Trumbull, located in New London, Connecticut.

The move to Fort Trumbull was completed in 1910. However, a third try to eliminate the Revenue Cutter Service was launched in 1911 by the Cleveland Commission; again unsuccessfully. Nonetheless, a bill was passed barring appointment of additional cadets to the Revenue Cutter School. By 1914, there were only five cadets at Fort Trumbull.





In 1914, with the outbreak of World War I, the Academy once again revived. A year later, the Life Saving Service and the Revenue Cutter Service merged as the U.S. Coast Guard, and the Academy received its present name.

By 1922 the Academy needed to move again to accommodate the increased size of the corps. However, it was not until 1929 that money was appropriated to build the present Academy.

From 1931 to the present, the Academy continued to grow. In 1946, EAGLE was acquired. The chapel was built in 1952. The Sixties saw Chase Hall being enlarged to accommodate 1200 cadets. Johnson and Munro Halls were also built during this period. In 1967, Roland Field House was constructed, and in 1973, Waesche, Dimick and Smith Halls were added. The Visitor's Pavilion was built in 1977 and a major renovation was completed to modernize McAllister Hall in 1982. The addition of the Crew Rowing Center in 1981 and the Seamanship Sailing Center in 1984 completed the recent expansion of the Academy.

While the Academy has changed locations a number of times in its history, two things have not changed. One, cadets from the beginning were selected solely on the basis of merit. Two, honor, courage, devotion to duty, and high standards of professionalism have always been emphasized throughout the Academy's history.

"Yes sir! No, sir! Aye, Aye sir!"

. . . Fourth Classman's answer to everything

ADMISSION REQUIREMENTS

The Coast Guard Academy is the only federal service academy which tenders appointments solely on the basis of an annual nationwide competition. There are no congressional nominations, state quotas or special categories. All applicants, civilians or members of the Armed Forces, participate on an equal basis.

The competition for appointment as a cadet is based on high school class rank, performance on standardized tests (SAT or ACT), and leadership abilities and motivation as demonstrated by participation in high school extracurricular activities, community affairs, part-time employment and athletic abilities.

The competition is designed to select, on a fair and equally competitive basis, those students who are best qualified and most likely to succeed as cadets and officers in the Coast Guard. Graduation from the Academy and success as an officer depend on:

1. an adequate educational background.
2. being well-read and well-spoken in technical, social and cultural areas.
3. a sincere interest to serve in the Coast Guard.
4. personality and physical characteristics which enhance military adaptability.

HOW TO BECOME A CADET

A. APPLICATION PROCESS

1. The Application for Appointment as Cadet, U.S. Coast Guard is enclosed in this bulletin. It should be filled out completely and sent to:

DIRECTOR OF ADMISSIONS (tp)
U.S. COAST GUARD ACADEMY
NEW LONDON, CONNECTICUT
06320-4195

This form must be postmarked no later than **December 15** in order to be considered for the class entering the following July. Write to the above address if an application is not enclosed.

2. Upon receipt of the application form, the Admissions office will send you the following forms which must be completed and returned prior to January 15:

a. request for transcript (grey)
b. school officials evaluations (blue)
c. coach evaluation (red)
d. candidate record and essay (pink, purple)

3. All candidates for the Coast Guard Academy must take either the Scholastic Aptitude Test (SAT) or American College Testing Assessment (ACT). To register for either test, see your school counselor or write:

Registration Department
College Board Admission Testing Program (SAT)
Box 592
Princeton, New Jersey 08540

Registration Department
American College Testing Program (ACT)
Box 414
Iowa City, Iowa 52243

You must bear all expenses connected with taking these examinations. The examination must be taken by December of the year you are applying. The Coast Guard Academy should be named as one of the colleges to receive the test scores. Our code number for SAT is 5807; the code number for ACT is 0600. Non-stop SAT or ACT exams, which allow the student additional testing time or the use of resource aids, will not be accepted for our admissions purposes.

NOTE: Be certain that you have taken the exam or have registered prior to the deadline established by the testing agency for the December test administration. Scores from subsequent exam dates will not be accepted.

VISITING THE ACADEMY

Because of the unique environment at the Academy, we encourage all applicants to visit the campus and meet with faculty and cadets. Through exposure to cadet life, candidates can better know what to expect if appointed and will ultimately have a better chance for success.

Each Friday afternoon at 1:15 P.M., Admissions sponsors a presentation which includes a film, question and answer session and a tour of the grounds. Appointments for the program may be obtained by writing to the Director of Admissions or by calling (203)444-8503 between 8 AM and 4 PM EST.

B. APPOINTMENT AS A CADET

Candidates for the Academy must possess qualities of honesty, dependability and perseverance. Additionally, physical stamina, coordination, courage, and self-confidence characteristics are evaluated in the selection process. Other personal qualities necessary in a candidate include emotional stability, alertness and the ability to live and work closely with others. The appointment process measures the extent to which a candidate can meet these requirements.

QUALIFYING FOR APPOINTMENT

Selection for the Academy is divided into two parts. The first part, the academic competition, comprises 60% of a candidate's total score while part two, the evaluation of the candidate's total file by the cadet candidate evaluation board, is the remaining 40%. Applicants whose scores on required tests fall below the prescribed minimum test level will be eliminated from further consideration.

1. Academic Qualification - 60% (4800 point possible)

a. High school class rank
(2400 points possible)

b. SAT/ACT scores
(2400 points possible)

Determination of points:

SAT: Math × 2	—	1600 max
Verbal × 1	—	800 max
Total		2400 max

Minimum scores: 500 Math
950 Math + Verbal

ACT: Math × 3, Natural Science × 2, English × 1 (converted to a 2400 point scale by formula)
Minimum scores: 21 Math
40 Math + English

NOTE: To become a FINALIST and continue in the competition, you must have at least 3100 points. You are encouraged to take the SAT/ACT more than once. Point totals are determined from the highest scores achieved.

2. Cadet Candidate Evaluation Board - 40% (3200 points possible)

The Cadet Candidate Evaluation Board (CCEB) convenes each year in October. The Superintendent designates officers to evaluate candidates who have become finalists. The board members consider all the factors known to influence success as a cadet and officer. The Board's decision will be based on factual, objective information such as the following:

a. Motivation - the candidate's willingness to make the commitment and effort required to successfully complete the academic and military training requirements of the Academy.

b. Leadership - the candidate's demonstrated ability to effectively direct others in the accomplishment of important tasks through extra-curricular activities, part-time employment, community involvement, etc.

c. Personal Perspective - the candidate's reasons for pursuing an appointment. In addition, the Board looks to see if the applicant has revealed a thorough knowledge of the Academy programs, and if his/her educational and career goals match the opportunities offered through the Academy.

d. Academics - the difficulty level of courses taken by the applicant during high school studies, including a full program of college-bound math and science programs.

e. Physical Fitness - the candidate's ability to deal with the stressful environment and rigorous physical standards of the Academy.

f. Evaluations/Recommendations - how instructors, employers, coaches, and others rate the applicant as a prospective cadet and future Coast Guard Officer.

A candidate may add as much information in his/her application file as deemed necessary. This insures the most thorough evaluation possible by the Board. The Board's judgement will be final and subject to review only by order of the Commandant.

3. Offering Appointments

	High school class rank score	2400
+	SAT/ACT score	2400
+	CCEB score	3200
	PRINCIPAL SCORE	8000
		(total points possible)

Generally, a principal score of around 6400 is required for a Coast Guard Academy appointment. A 6100-6400 principal score usually qualifies an applicant for the alternate appointment list.

Candidates will be offered appointments in the order of their final scores until the vacancies for the year have been filled. An applicant who fails to receive an appointment may compete again in subsequent years without prejudice, provided the age and physical requirements are met.

The number of appointments tendered each year is determined by the Commandant of the Coast Guard and is based on the projected needs of the service.

NO WAIVERS OF EDUCATIONAL OR PHYSICAL REQUIREMENTS ARE GRANTED TO APPLICANTS.

ELIGIBILITY REQUIREMENTS

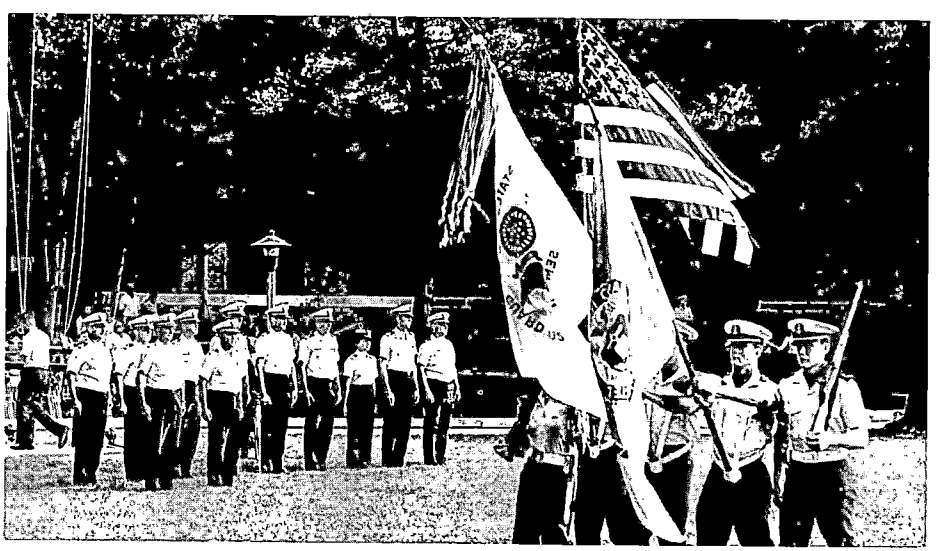
In order to be eligible to compete for an appointment, you must fulfill the following requirements:

AGE: You must have reached the age of 17, but must not have reached the age of 22, by July 1 of the year you are to be admitted as a cadet. If under 18 years of age, you will be required to furnish the written consent of parent or guardian before admission to the Coast Guard Academy.

CITIZENSHIP: You must be a citizen of the United States at the time of entry into the Academy. Foreign Nationals nominated by mutual agreement between the United States and their native country are exempt from this requirement.

MARITAL STATUS: A candidate must be unmarried at the time of appointment and have no legal obligation resulting from a previous marriage. Cadets are not allowed to be married while attending the Academy. If found to be so at any time before final graduation, that cadet shall be required to resign. Refusal to resign will result in dismissal.

CHARACTER: You must satisfy the Commandant of the Coast Guard as to your good moral character and standing in the community. Your background must demonstrate positive evidence of responsibility, trustworthiness, and emotional stability.



No person who has been dismissed or compelled to resign from any federal service academy for improper conduct is eligible for appointment as a cadet in the Coast Guard. No person whose discharge from any branch of the military service was under conditions other than honorable is eligible for appointment as a cadet.

"I tried to explain Academy life to my friends from high school but I couldn't"
. . . Third Class Cadet to roommate

SCHOLASTIC REQUIREMENTS: A candidate must be a graduate of an accredited high school or preparatory school or be in actual attendance in senior year at an accredited preparatory school or high school and have already completed three years' work at such a school. A candidate indicating prospective graduation from a preparatory school or high school must, as a condition of admission, satisfactorily complete the course of study no later than June 30. With the exception of courses completed by correspondence, for which credit has been granted by an accredited school, correspondence schools do not meet the requirements for "Accredited Schools." Certificates issued by correspondence schools will not be accepted. A total of 15 units obtained in high school, preparatory school, or college must be submitted.

The definition of a unit and of the ground covered by the designated subjects is as follows: A unit represents a year's study in any subject in secondary school. A 4-year secondary school curriculum should be regarded as representing 16 units of work. This statement is designed to afford a standard of measurement for the work done in secondary schools. It takes the 4-year high school course as a basis, and assumes that the length of school year is from 36 to 40 weeks, that a period is from 40 to 60 minutes in length, and that the study is pursued for 4 or 5 periods a week; but, under ordinary circumstances, a satisfactory year's work in many subjects cannot be accomplished in less than 120 sixty-minute periods or their equivalent.

Schools organized on any other than a 4-year basis can, nevertheless, estimate their work in terms of this unit.

Required courses; The subject listed below, comprising 6 units, are mandatory and are required for eligibility:

Mathematics (1), algebra to quadratics 1
Mathematics (2), quadratics and beyond 1
Mathematics (3), plane geometry 1
English 1,2,3 3
Total 6

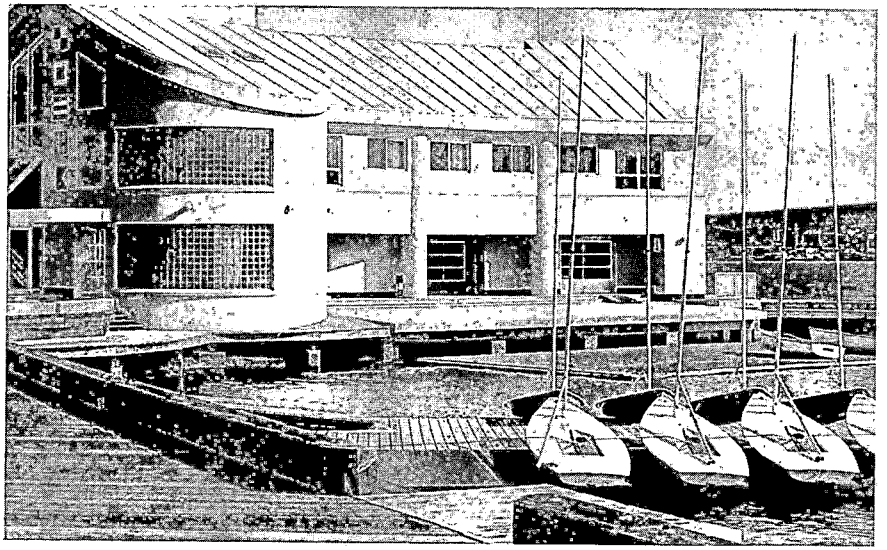
Optional: Further evidence of adequate preparation, amounting to 9 units of optional subjects is required and may be offered from the following groups:

Mathematics
English 4
Social Studies (history, civics, sociology, citizenship, government)
Biological Science (biology, botany, physiology)
Physical Science (physics, chemistry, general science, geology, astronomy)
Foreign Language

A total of not more than 2 units credit will be accepted from any or all of the following groups:

Agriculture
Commercial Arithmetic
Commercial History
Commercial Law
Driver Education
Drama
Fine Arts
Industrial Problems
Journalism
Manual Training
Mechanical Drawing
Music
Occupations
Public Speaking

While not required, Solid Geometry, Trigonometry, Physics, Chemistry, Typing, and a fourth year of English are strongly recommended courses.



Academy Sailing Center

You must submit both high school and college transcripts. Because of the great variation in academic standards and credit requirements among schools, the Commandant reserves the right to evaluate each academic record on its individual merit. In general, college credits and high school credits from accredited institutions will be given the same weight for the same amount of work, and in no case will one semester of college work be considered equivalent to more than one unit of high school work.

The Commandant reserves the right to reject any applicant whose assigned grades create doubt as to his or her ability to successfully pursue the Academy course.

PHYSICAL APTITUDE: You must, by the last week of swab summer and semi-annually thereafter, qualify in physical aptitude as determined by a two-part examination. This examination measures neuro-muscular coordination, muscular power, speed and strength, cardiovascular endurance, and flexibility. The examination will consist of a number of tests such as: pull-ups, sit-ups for two minutes; long jump; 300 yard shuttle run; 1.5 mile run. Candidates are advised to condition themselves physically by participation in a wide range of physical activities prior to arrival at the Academy. See Appendix V for more details.

DEPOSIT: A deposit of $1000 is required to defray initial clothing and equipment costs. Three hundred dollars of this sum is required at the time a candidate accepts a full appointment. The remainder is paid when the candidate reports to the Academy. The deposit or any portion of it may be waived in hardship cases.

INTERNATIONAL CADETS: Pursuant to Public Law 94-468, the Coast Guard Academy may admit up to 36 international cadets for training. The candidates must be nominated by their native country through the U.S. State Department. For further information on the admission of international cadets, please write to the Director of Admissions.

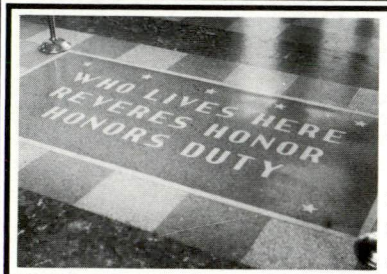
CADET LIFE

One of the primary goals of the Academy is to develop leadership qualities and skills in all cadets that are necessary to assume the responsibilities and duties of commissioned Coast Guard officers. To achieve this goal, the Academy trains its cadets in all aspects of life. Thus, the environment at the Academy is more than pure academics and the teaching of professional skills. It is a living laboratory designed to develop an increased sense of honor, integrity, concern for fellow man and devotion to duty, which are expected of all commissioned officers.

During the first summer and academic year, you will be introduced to living and performing in a very regulated, supervised, and strenuous environment. As you advance in rank in the Cadet Regiment, your opportunities to lead other cadets increase. Of course, with the opportunity and authority to lead come added responsibilities. Your formal professional and leadership training includes a mix of academic courses, athletic activities, training lectures, summer programs and day-to-day interaction with seniors, peers and subordinates. One of the first hands-on leadership experiences occurs during 2/c (junior year) summer. You will be the leader and teacher for the new entering class of cadets, and have the opportunity to put into practice those skills and concepts presented in class.

In addition to formal classroom work, leadership programs are conducted by Academy officers and senior enlisted staff members. During these programs, case studies are discussed with instructors who have worked in the Coast Guard and have firsthand knowledge of the challenges and responsibilities that await you upon graduation. The summer training cruises provide extensive practical experience as you work in roles of petty officers or officers.

During your four years, you will also participate in varsity, junior varsity, intercompany sports, or other extracurricular programs. These activities offer another opportunity for displaying and developing sound leadership traits. The entire four years will be spent in a military environ-



HONOR CONCEPT

Underlying the overall concept of military discipline is the Honor Concept. It is a basic, vital force in cadet life; cadets at the Academy are men and women of honor who neither lie, cheat, steal, nor attempt to deceive.

Training in the honor concept begins during swab summer and continues throughout the four years. Violations of the concept often result in severe punishment or disenrollment which teaches the importance of integrity. Through the honor concept, graduates are expected to develop trust among themselves and their coworkers.

ment—one of accountability for your own actions, as well as for the cadets under your command. The total Academy experience is one which instills those traits and skills so necessary to be a leader in today's Coast Guard and in a rapidly changing, technically oriented society.

Cadet life is tough; make no mistake about it. The Academy is a military academy where you and every other cadet are subject to the Uniform Code of Military Justice, as well as an administrative disciplinary system prescribed in Cadet Regulations.

The nature of any military organization requires that each individual and each unit be responsive to orders from superiors. Learning to follow orders is absolutely essential to the smooth operational efficiency of the military organization. The discipline inherent in Academy life trains you for effective leadership and obedience to authority. You learn the meaning and spirit of leadership from both the point of view of receiving orders and giving them.

A DAY IN THE LIFE

It's a full life.

Your typical day begins at the crack of dawn, 6 AM, with reveille. You prepare for daily personnel inspection and breakfast. Daily inspections assure that your room is clean and orderly. Morning classes begin at 7:55 and continue until 11:45. Personnel inspection is held at the noon formation. Lunch is next, followed by afternoon classes from 12:50 to 3:35 PM. The hours between 3:35 and 6:45 are spent in intramural or varsity sport, extracurricular activities and extra academic instruction for those cadets who need additional help. Dinner is at 6:45. Time between 7:00 and 8:00 is set aside for personal use, during which cadets may study or attend to personal matters. Study time is set between 7:00 and 10:00. Taps is at 10:00, but cadets may continue to study until midnight.

Saturday mornings are spent in professional training and indoctrination. During the fall and spring months, formal regimental parades and inspections are held on Friday afternoons.

Liberty, which means permission to leave the Academy grounds, is granted on Saturday afternoons and evenings, and again on Sunday. First class (senior) cadets are given liberty on Wednesday afternoons at 4:00 and all cadets, except fourth class (freshman) cadets, are granted liberty on Friday afternoons at 4:00. Civilian clothes are authorized on liberty for first and second class cadets. Cars may be maintained at the Academy by first class cadets only.

All cadets live on campus at the Academy. You share a room with another cadet and you are responsible for its cleanliness and neatness. Not every day in the life of a cadet is spent at the Academy. During the year, a cadet is usually granted 6 weeks of leave and long weekends which may be spent away from the Academy if he or she has no other military responsibilities.

THE ACADEMIC PROGRAM

The United States Coast Guard Academy recognizes that the majority of Academy graduates must have an engineering or scientific background to meet the needs of the Coast Guard. Present goals are to graduate at least fifty percent in the technical majors; engineering, sciences, and mathematics.

The Academy academic program, responsive to both the needs of the Coast Guard and the interests of the Corps of Cadets, currently consists of the following majors:

Civil Engineering
Electrical Engineering
Marine Engineering
Marine Science
Mathematical/Computer Science
Government
Management

During the first summer, all cadets are assigned to an academic advisor in their major interest area. On occasion, enrollment in a specific major may be limited. When such a condition arises, selection of those students desiring admittance into a major is made by the Dean of Academics based largely on the student's past academic performance. Throughout the four year academic program, the majors normally require a cadet to pass a core program in addition to those required by the major. As cadets progress in their four year sequences, they may select additional electives which allow them to pursue individual academic interests further.

Extensive postgraduate opportunities exist within the Coast Guard after three to five years of active service as a commissioned officer. Postgraduate training is available in a wide variety of fields, based on the needs of the service. See page 44 for the listing of all programs currently available.

"I developed good study skills in high school which has helped me do well here academically. Many of my classmates are struggling, though."
2/c Cadet on Dean's List

THE ACADEMIC DIVISION

The Academic Division consists of seven departments under the direction and supervision of the Dean of Academics: Engineering, Science, Computer Science, Mathematics, Nautical Science and Law, Economics and Management, and Humanities.

These departments are staffed by Coast Guard officers and civilian faculty members. The faculty of the Academy is unique. Collectively, it not only possesses the skills of the traditional college faculty, but also possesses the special skills needed for the training of cadets in the military and seagoing aspects for their careers as Coast Guard officers.

The courses presented by these experienced educators assure Academy graduates of a broad foundation in engineering, physical science, liberal arts and social sciences, and in those professional studies which specifically prepare graduates for their careers in the Coast Guard.

GRADUATION REQUIREMENTS

In order to satisfy the requirements for the award of the Bachelor of Science degree, a cadet must:

1. Satisfactorily complete all core courses.
2. Complete a minimum of 126 credit hours, excluding physical education courses, while at the Academy.
3. Attain a cumulative grade point average of 2.00 or better.
4. Be in residence at the Academy for at least four academic years.
5. Maintain a high sense of integrity.
6. Meet the minimum swimming standards.

WHAT CLASSES ARE LIKE

The methods of instruction at the Academy are quite varied. Usually classes for core courses consist of 18–22 students, major required courses have as few as 12. Occasionally, the members of an entire year group will meet together for general lectures. In order to supplement its classroom instruction, the Academy faculty makes considerable use of pertinent audiovisual aids, laboratory exercises, a computer center, and library resources.

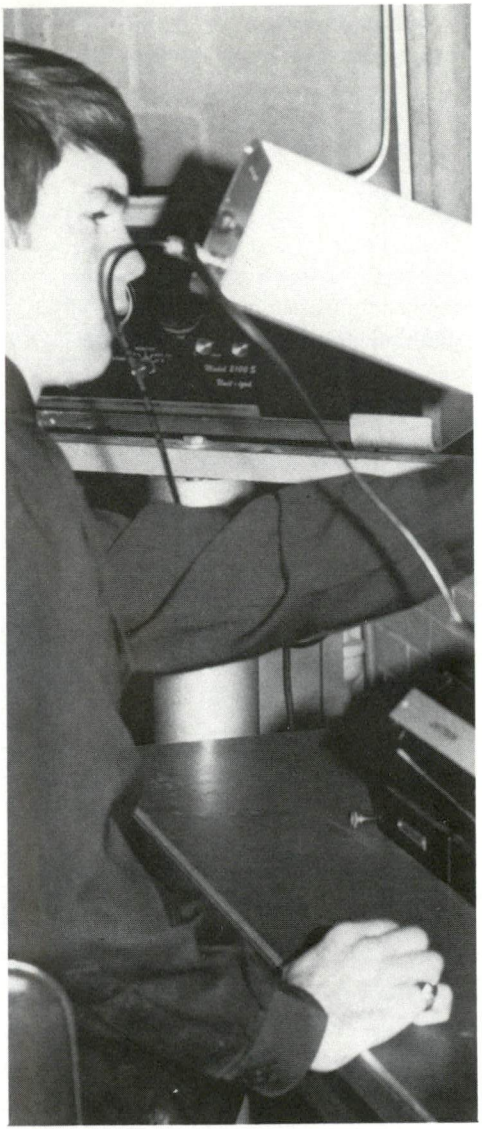
The normal periods of instruction are 50 to 75 minutes, with the lab periods extending from 2 to 3 hours, depending upon the subject. On Monday, Wednesday and Friday, there are four 50 minute morning periods and three 50 minute afternoon periods. The remainder of the morning is used for 50 minute exam periods or military drill. Tuesdays and Thursdays are devoted primarily to exams and laboratory time with 75 minute periods.

STANDARDS OF PERFORMANCE

All cadets are expected to maintain a satisfactory academic performance level. The minimum acceptable level is a cumulative grade point average of 2.00. Cadets falling below this minimum standard are, at the end of the semester, placed in a probationary status which depends on the specific performance level of the cadet.

The status of Academic Warning states that the cadet is in difficulty; that his or her performance is below what is expected and requires immediate and definite improvement.

The status of Academic Probation informs the cadet that he or she has failed academically, but has one semester to recover. He or she is relieved from any requirement to participate in intercollegiate or intercompany sports. Further,



extracurricular activities are curtailed for first, second, and third class cadets and eliminated for fourth class cadets.

The status of Academic Deficiency informs the cadet that he or she had failed academically and will normally be disenrolled from the Academy.

GRADES AND HONORS STANDARDS

The assigned grades for each course are based on the cadet's daily work over the 16-week semester and the individual's score on the final examination.

At mid-semester and at the end of each term, a grade point average is determined with H = 4, A = 4, B+ = 3.3, B = 3, C+ = 2.3, C = 2, D = 1 and F = 0. All cadets must obtain at least an average of 2.0 to graduate.

Many cadets strive for academic excellence because of the prospect of attaining the Honors or Dean's List and of receiving the additional privileges granted in conjunction with that achievement. "Honors" are awarded to cadets who achieve not less than a 3.15 grade point average, with no mark in any three credit hour course less than a C.

INDIVIDUAL ASSISTANCE AND ADVISING

The Academy has an extensive program of individual assistance and counseling to help each student achieve academic success. Each cadet is asigned an academic advisor in his or her major to assist the cadet in laying out his or her academic program and to advise the student as necessary.

Additional instruction is available whenever required. Academic assistance and guidance on an individual basis are provided by instructors and other staff members.

Counseling is available for the cadet to assist in understanding personal, vocational, educational and spiritual concerns. It is available at all times for the cadet to relate those concerns or problems which need to be resolved. Counseling, which is completely confidential, is provided by two full-time professional counselors who comprise Cadet Counseling and by the Academy's two Chaplains. Psychotherapy and counseling are also available through the Academy psychiatrist, a member of the Health Services Division.

what privileges?
extra weekends - overnights

FACILITIES

pronounce: Way-shee

COAST GUARD ACADEMY LIBRARY

The library, together with the U.S. Coast Guard Museum, is housed in Waesche Hall, which was opened in 1973. The library provides ample reading and study space for cadets and faculty.

The library's collection numbers close to 150,000 volumes, 715 current periodical subscriptions, and more than 40,000 units of Microfiche and microfilm. In addition; an Audiovisual Study Center, with a collection of nearly 1500 video cassettes, recordings, and other media, provides a comfortable environment for the use of course related and recreational AV materials. A partial depository for U.S. government publications, the library maintains a separate collection of federal documents and law materials.

Subjects represented in the library's holding reflect the strengths of the Academy curriculum, with particular emphasis on marine studies and engineering. Specialized indexes are maintained to provide access to technical as well as to more general journals. Professional staff offer bibliographic instruction in the use of the library as needed and provide reference service six days a week, including five evenings. They also perform on-line literature searches for faculty and eligible upper class cadets. Reciprocal agreements with nearby libraries considerably expand the material available to cadets and faculty. To obtain needed material not held locally, the inter-library loan service taps a national database of holdings in other libraries.

SCANTS

The Department of Nautical Science and Law incorporates SCANTS (Ship Control and Navigation Training System) into their nautical science curriculum. SCANTS uses classroom lectures, navigational plotting labs, 65 foot training vessels, a radar trainer, and a Bridge/Combat Information Center simulator to enhance all levels of the courses taught.

The radar trainer consists of eight Raytheon AN/SPS-64 radars, two of which are RAYCAS V automated radar plotting aid (ARPA) units. The radar trainer is used by first and fourth class cadets in their respective nautical science courses. The fourth class learn to apply the basic concepts of relative motion while first class learn rapid radar plotting, radar navigation and bridge team training.

The Bridge/CIC simulator consists of a 182 degree visual scene surrounding a life size ship's bridge. It was designed to simulate the shiphandling characteristics and hydrodynamics of high and medium endurance Coast Guard cutters. Fourth class cadets learn visual navigational lines of position and the effects of wind and current on a vessel's position. First class practice their acquired visual piloting skills and apply the Rules of the Road employed by deck watch officers.

WRITING CENTER

Established to provide after hours instruction to anyone requesting assistance, the Cadet Writing Center is yet another valuable learning resource available to our students. The center is staffed by Academy faculty and trained tutors from Connecticut College who offer additional individualized instruction to cadets at all levels of ability.

ACADEMIC MAJORS

As previously discussed, the Coast Guard Academy curriculum has been developed to graduate educated and professionally trained young men and women officers. The Academy Academic Council frequently reviews and updates the curriculum as trends in education and the needs of the Coast Guard change. The Coast Guard Academy is accredited by the New England Association of Schools and Colleges. In addition, all engineering majors offered are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Graduates who successfully complete the core program, major requirements, major area electives and related area elective of a selected major shall receive a Bachelor of Science in that discipline. Those cadets who do not complete major course requirements but who do pass the core program receive an undesignated Bachelor of Science.

Please note that the major programs and course descriptions listed are illustrative and are intended to apply specifically to the Class of 1992. Programs are dynamic and changes may occur without prior notification. Certain courses are offered selectively, based on sufficient enrollment and faculty availability. Each academic major program contains at least one free elective. There is a heavy emphasis on the quantitative courses in the areas of science, mathematics, and engineering. During the first three semesters, much of the academic emphasis is in these areas.

CORE PROGRAM OF REQUIRED COURSES

The following courses or their authorized substitutes must be completed successfully (or validated) in order to receive a degree:

1112	Engineering Comms and Design	5262	Physics I
1114	Applied Engineering Design	5266	Physics II
1320	Intro to Electrical Engineering	5330	Oceanography
1461	Basic Naval Architecture	6112	Coastal Navigation
2111	English Comp and Speech	6114	Celestial Navigation
2123	Introduction to Literature	6345	Legal Systems
2241	History of the U.S.	6416	The Deck Watch Officer
2263	American Government	6418	The Division Officer
2281	General Psychology	6447	Maritime Law Enforcement
3111	Calculus I	7111	Intro to Computing
3117	Calculus II	7113	Programming Fundamentals
3213	Probability & Statistics	8245	Organizational Behavior
5102	Chemistry I	8311	Economics
5106	Chemistry II		

Authorized substitutions for core courses

The following substitutions for core courses are authorized for any major:

Course		Substitution	
1320	Intro to Electrical Engr	1220	Electrical Engineering
1461	Basic Naval Architecture	1342	Principles of Naval Architecture
8311	Economics	8215	Macroeconomic Principles

1. Other substitutions can be made only when the substitution is specifically authorized or required in a major program. Honors Calculus, Physics, and/or Chemistry may be substituted for the core requirement.
2. Directed studies may be substituted for any major requirement, major area elective, or related area elective with the approval of the major coordinator.
3. Major Area Electives offered for other year groups in the same major may also be used to meet the Major Area Elective requirements for this year group. However, the same course cannot be used in both the Major Requirement and Major Area Elective categories.

FIRST YEAR PROGRAM (generally the same for all cadets)

Fall Semester		Spring Semester	
1112	Engineering Comms and Design (1/2 semester)	1114	Applied Engineering Design (1/2 semester)
2111	English Comp and Speech	2123	Introduction to Literature
3111	Calculus I	3117	Calculus II
5102	Chemistry I	5106	Chemistry II
6112	Coastal Navigation	6114	Celestial Navigation
7111	Intro to Computing (1/2 semester)	7113	Programming Fundamentals (1/2 semester)
	Physical Education		Physical Education

CIVIL ENGINEERING

The Civil Engineering major is an educational program that provides a diverse background for officers in a variety of Coast Guard missions. It also offers an excellent technical base to meet the challenges of a changing technology. The cadet who follows this program will be especially well prepared for professional practice and further study in civil engineering as well as many other related fields of engineering and management.

The Civil Engineering major gives a general background in mathematics and the basic engineering sciences. In addition, it requires in-depth study in areas of special interest to civil engineers; structural analysis, water resources, construction and environmental engineering. All courses within the major consider social relevance, developing a sensitivity to the problems of society and how the technical product will meet with community standards.

I. CORE REQUIREMENTS. The following substitutions must be made:

Electrical Engineering (1220) for Intro to Electrical Engineering (1320)
Interior Environmental Control (1417) for Oceanography (5330)
Probability and Statistics Applied (3357) may be substituted for Probability and Statistics (3213)

II. MAJOR REQUIREMENTS.

1202	Statics/Strength of Materials
1211	Dynamics
1302	Material Science for CE
1304	Soil Mechanics/Foundations
1312	Structural Analysis I
1313	Steel Design
1319	Structural Analysis II
1326	Electromechanics
1340	Fluid Mechanics
1402	Planning/Design Constr Projects
1411	Reinforced Concrete Design
1415	Water/Wastewater Engr
3211	Multivariable Calculus
3215	Differential Equations

ELECTRICAL ENGINEERING

The Electrical Engineering major is a program which provides a technical and professional background for the future officer through various Coast Guard missions. Graduates are able to understand basic engineering aboard ship and can opt for further study in electrical engineering if desired.

This program emphasizes design, analysis and applications of electronic systems. A thorough background in the latest solid state devices and techniques, together with an abundance of mathematics and science courses, prepares students with the tools to pursue various interesting design and synthesis projects in electronics or interdisciplinary areas. Additionally, the program permits considerable latitude for postgraduate study in electrical or electronics engineering and related engineering fields.

I. CORE REQUIREMENTS. The following substitutions are required:

Electrical Engineering I (1220) for Introduction to Electrical Engineering (1320)
Probability and Statistics Applied (3357) for Probability and Statistics (3213)

II. MAJOR REQUIREMENTS.

1202	Statics/Strength of Materials
1222	Electrical Engineering II
1322	Linear Circuits
1324	Digital Design
1326	Electromechanics
1420	Antennas and Propagation
1422	Communication Systems
1424	Automatic Controls Systems
1426	Systems Design/Synthesis
3211	Multivariable Calculus
3215	Differential Equations
5364	Semiconductor Physics

III. MAJOR AREA ELECTIVES. Select two of the following engineering courses:

1204	Material Science for ME
1211	Dynamics
1340	Fluid Mechanics
1351	Thermodynamics

MARINE ENGINEERING

The Marine Engineering major provides an undergraduate educational program with an excellent technical base to meet the challenges of changing technology. It furnishes a broad background for Coast Guard officers in many fields such as Ship and Boat Design, Ship Construction and Repair, Merchant Marine Safety, Boating Safety, Marine Environmental Protection, Ocean Engineering, Research and Development, Ocean Operations, and Aids to Navigation.

The program focuses on ships and their design; therefore graduates are especially well prepared for professional practice in the fields of Naval Architecture, Marine Engineering, Mechanical Engineering, and Ocean Engineering. The major also provides a sound background for further study in other fields of engineering, management, aviation, and in other areas.

I. CORE REQUIREMENTS. The following substitutions must be made:

Electrical Engineering I (1220) for Introduction to Electrical Engineering (1320)
Principles of Naval Architecture (1342) for Basic Naval Architecture (1461)
Probability and Statistics Applied (3357) may be substituted for Probability and Statistics (3213)

II. MAJOR REQUIREMENTS.

1202	Statics/Strengths of Material
1204	Material Science for ME
1211	Dynamics
1326	Electromechanics
1340	Fluid Mechanics
1351	Thermodynamics
1353	Shipboard Energy Systems
1442	Principles of Ship Design
1444	Ship Design/System Integration
1446	Engineering Experimentation
1453	Ship Propulsion Design
3211	Multivariable Calculus
3215	Differential Equations

III. MAJOR AREA ELECTIVE.

Select one additional engineering course of 200 level or higher (other than Intro to Elec Engr)

MARINE SCIENCE

The Marine Science major provides a specifically structured curriculum that provides a thorough undergraduate program in the environmental sciences. Its graduates will have a solid, well-balanced foundation for post-graduate study in any marine-related area or virtually any other discipline which would be enhanced by a technical background.

Course topics deal with meteorology and the various physical aspects of the ocean. Specific topics include the study of tides, winds and waves and their effects on oceans and coastal areas, biological productivity and the problems and types of marine pollution. Search and rescue problems, environmental protection, and marine fisheries are emphasized especially as they apply to the Coast Guard's statutory missions. Laboratory hours are devoted to studying such subjects as seawater chemistry, the methods of collection and analysis of data, ocean sediments, estuarine circulations, the physiology of marine organisms, and mathematical computer modeling of the marine environment.

I. CORE REQUIREMENTS. The following substitutions must be made:

Physical Oceanography (5338) for Oceanography (5330)

II. MAJOR REQUIREMENTS.

3211	Multivariable Calculus
3215	Differential Equations
5232	Marine Biology
5234	Marine Geology
5240	Meteorology
5430	Remote Sensing
5447	Polar Oceanography

III. MAJOR AREA ELECTIVES. Select two of the following three groups:

PHYSICAL	
5351	Dynamical Oceanography
5352	Adv. Dynamical Oceanography
5436	Coastal Oceanography
BIO-ENVIRONMENTAL	
5342	Bio-chemical Oceanography
5441	Marine Pollution
5434	Marine Fisheries
CHEM-ENVIRONMENTAL	
5202	Organic Chemistry
5412	Analytical Methods
5415	Hazardous Materials

MATHEMATICAL/COMPUTER SCIENCES

The Mathematical and Computer Sciences major provides a broad based education for its graduates. In this major, the relationship of mathematics to computing and to computers is emphasized. The Coast Guard has, and will continue to have, a need for officers who have a thorough understanding of mathematics and computer techniques, and of their use in technical, managerial and military application.

In conjunction with such related areas as engineering, physical science, psychology, information science, and management, this program will provide an excellent undergraduate education and will be especially suited for post-graduate education in these fields.

The required courses in mathematics and computer science provide a foundation and breadth of education, while concentration and elective courses establish depth of learning and allow specialization in either area.

I. CORE REQUIREMENTS.

Probability and Statistics Applied (3357) may be substituted for Probability and Statistics (3213)

II. MAJOR REQUIREMENTS.

3211	Multivariable Calculus
3215	Differential Equations
3231	Linear Algebra
3437	Discrete Mathematics
7201	Technical Programming
7302	Computer Organization
7306	Data Structures
7310	Software Engineering

III. MAJOR CONCENTRATION REQUIREMENTS. Select either Group A or Group B:

Group A		Group B	
3311	Advanced Calculus	2384	Cognitive Systems
3351	Numerical Analysis	7304	Systems Analysis
3359	Mathematical Statistics	7408	Decision Support Systems

IV. MAJOR AREA ELECTIVES. Select three courses from level 300 or 400 mathematics or computer science courses, or the following:

1324	Digital Design
1426	Systems Design/Synthesis
8351	Operations Research
8363	Quantitative Methods
8365	Organizational Theory

GOVERNMENT

The Government major is a program which provides a well-rounded undergraduate education. Graduates of this major will be prepared for advanced study in law, public administration, public and international affairs, and other related fields of interest to the Coast Guard.

This program is intended to provide future officers with an opportunity for extended study of both western and non-western historical backgrounds, governmental political institutions, political processes, and public and international affairs.

"The faculty is among the finest in the nation. They make learning fun and really care about the cadets."

2/c Cadet in an interview

I. CORE REQUIREMENTS.

No substitutions are necessary.

II. MAJOR REQUIREMENTS.

2261	American Foreign Policy
2265	Social Sciences Methodology
2321	Humanities in World Literature
2341	Europe Since 1789
2361	Western Political Theory
2365	Comparative Politics
2367	International Relations
2463	U.S. Maritime History & Politics
2469	National Security Policy

III. MAJOR AREA ELECTIVES. Select two courses from the following listing:

2343	Modern Russia
2363	American Political Parties
2461	Congress and Presidency
2465	Military Policy

IV. RELATED AREA ELECTIVES. Select a two course related sequence which will complement the major. Recommended areas include: Foreign Languages, History, Literature, Law, Psychology, Management, Economics, and Computer Science.

MANAGEMENT

The Management Major provides excellent preparation to meet the demanding and varied roles of Coast Guard officers. All of the career fields and officer assignments within the Coast Guard require personnel, financial and material management. It also prepares cadets for their future supervisory and managerial roles by building upon the disciplines of economics, the behavioral sciences and mathematics. The program prepares graduates for further study in financial management, operations research, personnel management, law, economics, transportation, business administration and public administration.

I. CORE REQUIREMENTS. The following substitution must be made:

Macroeconomic Principles I (8215) for Economics (8311)
Probability & Statistics Applied (3357) may be substituted for Probability and Statistics (3213)

II. MAJOR REQUIREMENTS.

8217	Microeconomic Principles
8313	Managerial Economics
8315	Macroeconomic Theory
8347	Financial Accounting
8349	Financial Management
8351	Operations Research
8357	Personnel Management
8363	Quantitative Methods
8321	Econometrics
8447	Management Policy

III. MAJOR AREA ELECTIVES. Select three courses from the following listing:

8317	Money and Banking
8323	International Trade and Finance
8361	Transportation Econ and Policy
8365	Organizational Theory
8443	Marketing
8445	Organizational Development

THE MILITARY PROGRAM

When you enter the Academy, you become a member of the Corps of Cadets, which provides you the opportunity to develop leadership qualities in preparation to becoming a commissioned officer.

Under the supervision of company officers, the Corps of Cadets is self-governing with cadets given responsibility and authority. The Regimental Commander, under the direction of the Commandant of Cadets, administers the daily routine of inspections, formation, watches, military appearance, and performance of the Corps of Cadets.

Experience in military command is gained daily by the three upper classes in the exercise of their individual responsibilities within the regiment. Additional experiences in leadership are gained through extracurricular activities and during summer cruises. The variety of situations experienced prepares cadets for life as junior officers aboard ship.

Unlike students at colleges, Coast Guard cadets must participate in a program of military training and discipline administered by upperclass cadets and officers. Prompt obedience to orders is required; cadets are subject to the Uniform Code of Military Justice at all times.

The way cadets budget their time is extremely important. In addition to maintaining satisfactory grades in all subjects, they must demonstrate by their conduct and participation in cadet corps activities, that they have the qualities of character and leadership required of future officers.

Obviously, the Coast Guard Academy is not for everyone. Many highly qualified young men and women are well advised to go elsewhere for higher education. If you are thinking of trying for appointment, you should be honest with yourself concerning your motives and your abilities to undertake a program which includes rigorous physical conditioning and a strenuous environment.

THE MILITARY LIFESTYLE

The Academy provides a four year program of training and education. The four class system, which increases your authority and responsibilities each year, is the basis for a pyramidal chain of command.

The first of these years, fourth class or "swab" year, is probably the most difficult. You carry a full academic load, undergo intensive military indoctrination, and you learn to follow orders from commissioned officers and upperclass cadets.

There are a number of rules for behavior which help you make the transition from civilian to military life. These rules teach self-control, discipline and respect for authority, which is essential to a successful career as an officer. To make this transition as effective as possible, you report to the Academy, for the period known as Swab Summer, seven weeks prior to the start of the fall academic semester.

Each class thereafter is given increased authority and command responsibility. Cadets are evaluated periodically on their military adaptability and performance.

The top 25% of each class are recognized by being placed on the Commandant of Cadets List. With this recognition comes additional privileges and honors. Eventually, a select few cadets in each class will serve as the Regimental Commander.

PROFESSIONAL TRAINING

Professional and military training does not end with the academic courses and Saturday morning orientation period. Between Commencement Day and Labor Day, with time out for a few weeks leave, you will spend your summers putting what you have learned during the academic year to practical use. Training cruises may take you to many historic ports of the world, a fabulous experience not many young people receive during their college years.

You'll get professional training at various service training centers and work with operating units to enhance your professional competence. Learning to navigate, give commands, and become an integral member of a ship's crew are all a part of what each cadet experiences during the variety of summer programs.

One of the training ships making summer cruises is the three-masted barque EAGLE. Cadets normally sail a minimum of six weeks on EAGLE prior to graduation. EAGLE has a diesel engine, electricity, an evaporator, air conditioning, the latest electronic devices for navigation and operation, and all the conveniences of modern ships.

"...when EAGLE's under full sail, and the wind's crackling every line, you realize the importance of each person and you wouldn't trade places with anyone in the world . . ."
A Cadet's letter after a summer cruise

Also participating in training cruises are several of the larger Coast Guard cutters. Cadets augment the regularly assigned crews and participate in all of the missions of the cutter, from search and rescue to the enforcement of drug and fisheries laws. You will stand watches on the bridge, in the engineroom, in combat information center and will have an opportunity to qualify to fill various positions held by crewmembers. You'll receive hands-on training in gunnery and firefighting procedures; all learning experiences which are designed to enhance your ability and knowledge as a junior officer.

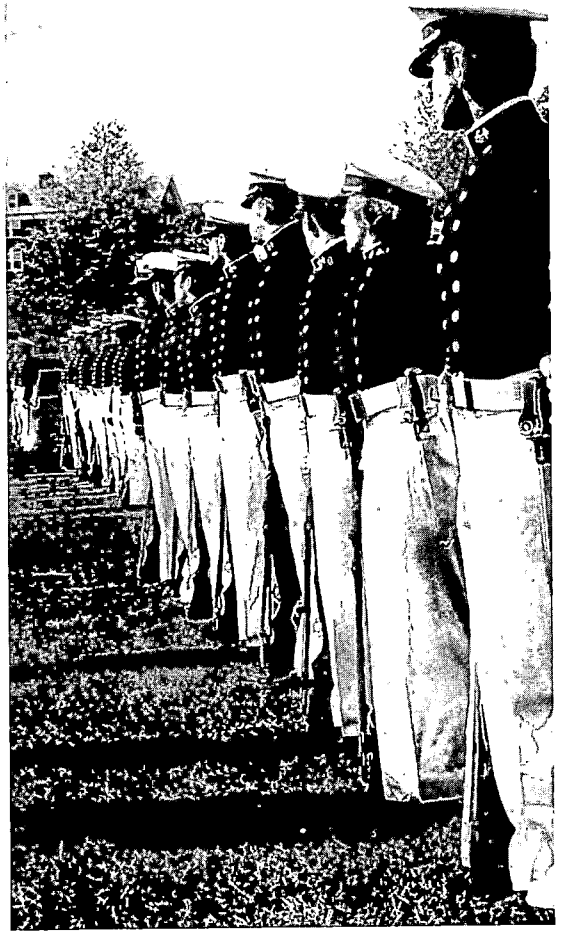
During your first summer as a fourth class, known as the Swab Summer, the emphasis is on indoctrination. In a sense, it is similar to boot camp. You take courses in all phases of military activity. You will be required to pass a physical fitness and swimming test. If you are not in shape when you arrive for swab summer, you will find

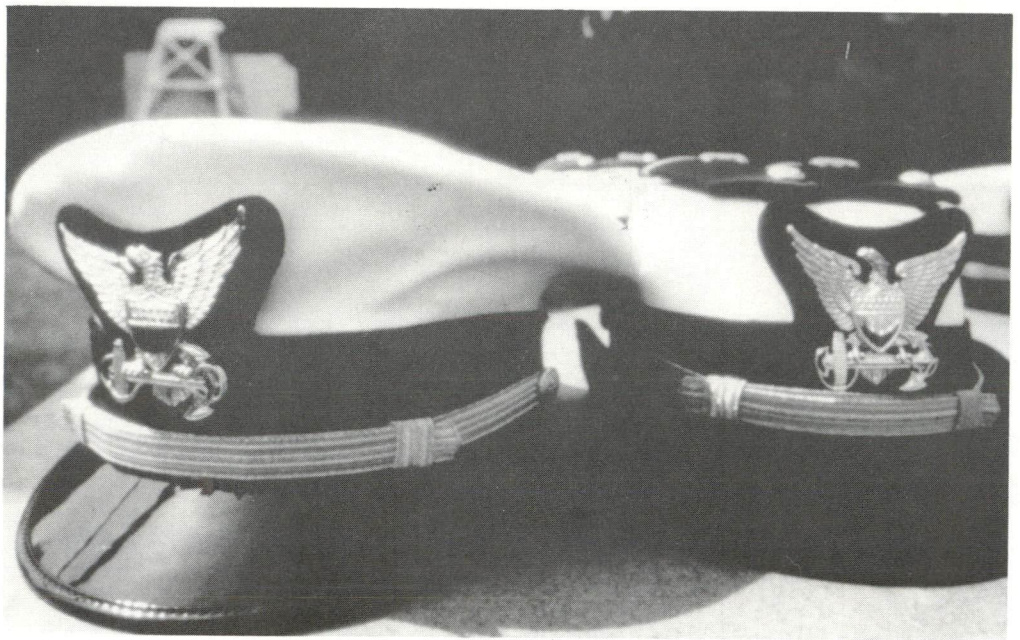
the summer even more difficult. Heavy stress is placed on physical fitness and competitive sports. The highlight of this first summer is a one-week cruise aboard EAGLE.

As a third and second class cadet, your summers will be spent at sea, aboard EAGLE and operational Coast Guard cutters. You will be filling the role of a junior or senior petty officer as a functioning member of the crew. You may have the opportunity to travel to many American, Caribbean or other exciting ports around the world. You will also be trained in seamanship, navigation, damage control and firefighting procedures. Second class cadets help in the training of the incoming fourth class cadets, or participate in Boys and Girls State programs throughout the country. Assignments at an operational Coast Guard search and rescue station are also possible.

Two weeks of Coast Guard aviation orientation are one of the highlights of either the 3/c or 2/c summer programs. Cadets study basic theory of flight and operational employment of aircraft. You have an opportunity to actually handle the controls, navigate aircraft, visit the "dunker" and experience the problems faced by pilots first-hand.

During the first class summer program, you will spend ten weeks aboard a Coast Guard cutter, where your role will be as a junior officer afloat, in addition to helping train third class cadets aboard your ship. This participation in actual Coast Guard operations will help prepare you for your duties after graduation.





"This is the best day of my life. I was honored to shake hands with the Vice President—I can't wait to report to my ship and use what I've learned here!"
A New Ensign after Graduation

COMMENCEMENT

The day which every cadet looks forward to. It is the time when the men and women replace their cadet shoulder boards with Ensign shoulder boards. After thirty days of well deserved leave, each newly commissioned officer reports aboard his or her first afloat duty station. Selection of the first duty station is based on class rank, a combination of academic and military performance evaluations. Junior officers continue to learn from other Coast Guard personnel, enlisted and officer alike; the ability to comprehend and act quickly started at the Academy.

THE ATHLETIC PROGRAM

Athletic competition is a daily part of cadet life. Physical strength, endurance, agility, and competitive spirit are as important as academic study and military training for future Coast Guard officers. Because of this, the physical education program at the Academy is designed to ensure that cadets are "young men and women with sound bodies, stout hearts and alert minds."

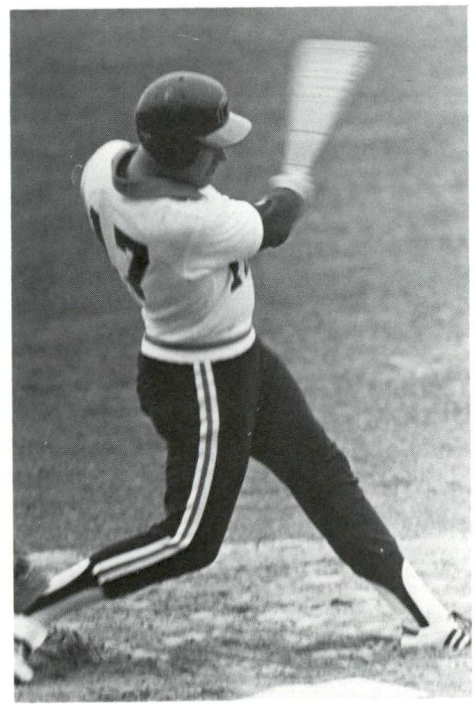
Three requirements define the objectives of the physical education program. First, all cadets must satisfy the established physical fitness standards. Second, a comprehensive academic program in physical education is required. Finally, each cadet must participate in intercompany and/or intercollegiate sports competitions two of three sports seasons.

PHYSICAL FITNESS

Swimming and fitness evaluations will be administered upon entry and weekly throughout swab summer. Additionally, cadets are required to pass a physical fitness examination semi-annually. Minimum swimming standards must be met prior to graduation.

Most appointments to the Academy are presented to students who have participated on organized athletic teams in high school. However, some students do not continue to stay in shape prior to reporting to the Academy. Many injuries occur during Swab Summer to cadets who are not physically prepared for the grueling physical exertions demanded.

The Coast Guard Academy athletic staff recommends you come to the Academy in top notch physical condition. Take the physical fitness test listed in Appendix V to see where you fit in. Strengthen your upper body and your cardiovascular system. Design a workout program and stick to it. It increases your chance for success at the Academy.



"Playing sports at CGA provides me a chance to let off steam and get to know other cadets in an informal atmosphere."
4/c Cadet

PHYSICAL EDUCATION

Every cadet, as part of the prescribed curriculum, is required to take physical education courses each semester. Courses are offered in developmental, recreational, and professionally oriented subjects. Courses offered include:

- Survival at Sea
- Advanced Swimming
- Advanced Lifesaving
- Physiology of Fitness
- Fundamentals of Conditioning
- Gymnastics
- Personal Defense I
- Personal Defense II
- First Aid/CPR
- Golf
- Tennis
- Racquetball

FACILITIES

Roland Hall, a five-story field house, is equipped with three basketball courts, a six lane swimming pool with both high and low diving boards, five racquetball courts, over an acre of enclosed space in which track meets, tennis matches, and preseason baseball and softball practices are held, and a fully equipped and professional staffed training room.

Connected to Roland Hall is a second athletic building, Billard Hall, which has a wrestling room, weight room, basketball court, gymnastics area, swimming pool, and saunas.

Cadet Memorial Stadium, which seats 4500 was built in 1932 and renovated in 1980. It has excellent lighting and is used for football and night soccer games.

The campus grounds are equipped with eight tennis courts, various lined fields for outside sports, outdoor track and field facilities, pistol and rifle ranges, and baseball and softball fields.

The waterfront facilities are among the finest in the nation. The Rowing Center, constructed in 1982, has a 16 person practice rowing tank and houses a complete inventory of racing shells. The Seamanship-Sailing Center, completed in 1984, has fully equipped locker rooms, boat repair spaces, and team meeting rooms to support the Academy's modern fleet of intercollegiate and recreational sailboats and yachts. The Seamanship-Sailing Center also provides spectators with an excellent vantage point from which to watch crew and sailing races.

INTERCOLLEGIATE SPORTS

The Academy, as a member of the NCAA, the New England Intercollegiate Athletic Association and the Eastern Collegiate Athletic Conference, competes with many other member colleges. Cadets are required to participate in two intercollegiate or intramural sports during the year. Through these experiences, the valuable lessons of teammanship and comraderie are learned.

Each sport has a designated head coach who is committed to the athletic excellence of the cadets. During the application process, you are encouraged to contact the coaches listed on the next page for additional information. If you have questions, feel free to write them at:

Name of Coach
U.S. Coast Guard Academy
New London, CT 06320-4195

INTRAMURAL SPORTS

Unless a member of an intercollegiate team, each cadet must participate in intramural competition during the academic year. Games are held at least twice a week.

Fall:	Clawball, sailing, softball, touch football.
Winter:	Basketball, pistol/rifle, racquetball, swimming, track, volleyball, wrestling.
Spring:	Flickerball, sailing, soccer, softball, tennis.

Men Sports	Coach
Baseball	Don Pinhey
Basketball	Dr.Hallie Gregory
Crew	James Dietz
Cross Country	Steve Eldridge
Football	Tom Bell
Soccer	Dr. Raymond Cieplik
Swimming	Charles Dennis
Tennis	Charles Lavarini
Track, Indoor and Outdoor	Larry Rutledge
Wrestling	Steve Eldridge

Coed Sports—Coach

Pistol
LT Ivan Luke

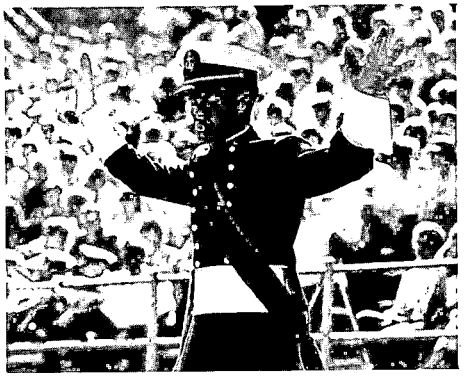
Rifle
CWO Bobby Mann

Sailing
Larry White

Women Sports	Coach
Basketball	Debra McCulloch
Crew	James Dietz
Cross Country	Leroy Falconi
Softball	LT Ed Daniels
Track, Indoor	Geoffrey Cardinali
Volleyball	Debra McCulloch

EXTRACURRICULAR ACTIVITIES

Cadet Musical Activities



Cadets find an outlet for their musical talents, whether vocal or instrumental, in a strong musical activities program. "Pride in Performance" is the creed of those who are willing to dedicate the time and effort necessary to achieve a high standard of musical excellence.

The instrumental music program at the Academy spans activities from Brass Ensembles at the chapel to Rock Bands at mixers. The nucleus of the program is the Regimental Band. Cadets are assigned to this traditional marching band which provides the musical support for cadet regimental drill and ceremonies. It also represents the Academy in parades and special functions such as the Macy's Thanksgiving Day Parade and Presidential Inaugural Parades. The Windjammers Drum and Bugle (D&B) Corps performs at halftime shows for the football team, hosts an annual invitational marching band competition and is seen at field competitions and parades in several eastern states. The Windjammers have also performed at Inter-Service Academy D&B competitions and at professional football games. Other smaller groups which perform a variety of musical styles include a jazz band (The Nitecaps), a pep band and a pop/rock band (Long Island Sound). Various brass ensembles, quartets, quintets and solo performances round out the instrumental music program.

Vocally, cadets also have opportunities to express themselves. The Idlers and Icebreakers, male and female singing groups respectively, perform frequently at various Academy functions and often appear at other colleges and prestigious events in Washington, D.C. and New York City. They have also performed on national television. Cadets may also join either Protestant or Catholic Choirs and participate in the yearly musical production or talent show.

If you would like additional information, write:

Director, Cadet Bands or Director, Vocal Music
U.S. Coast Guard Academy
New London, CT 06320-4195

Cadet Trick Drill Team

Cadets have the chance to improve military rifle and drill skills in this activity. The drill team practices and performs for many parades and other military competitions. Participants travel to many cities and have opportunities to meet college students and members of other services.

Genesis Club

Cadets who participate in this club are interested in increasing cultural awareness. Distributing food to the local needy and participating in exchanges with other colleges are included in Genesis activities. Each year, Genesis sponsors Eclipse Weekend which, through a variety of social activities, exposes cadets and other community members to ethnic experiences. In addition to the activities, the club provides tutorial assistance and an important support network for its members.

Political Affairs Association

Sponsored by the Humanities department, the club brings stimulating lecturers and guests to the Academy each year. One of the years highlights, a trip to Washington D.C., includes tours of Congress and the Supreme Court. Through this association, cadets are exposed to a variety of current political thoughts and ideas.

Officer Christian Fellowship

Cadets in OCF are provided a religious network with other cadets and members of the local community. Two weekend retreats are sponsored each year along with a variety of trips to other church functions in New England.

Hockey Club, Lacrosse Club

Participants in these clubs have interests in playing the sports which the Academy does not offer as a varsity sports. Cadets organize games with other schools and competitions are well attended. Membership, however, does not give credit for intercollegiate or intramural participation.

Howling Gale (magazine), Tide Rips (yearbook)

These organizations offer cadets the chance to work with writing, editing and publishing skills. Participants are given the opportunity to completely organize and design these publications. Howling Gale is issued bi-monthly, Tide Rips is an annual production.

There are other clubs in addition to those listed here which cater to cadets from all corners of the country with a wide variety of interests. Participation is always voluntary.

Professional Clubs

Society of Naval Architects and Marine Engineers (SNAME)
American Society of Civil Engineers (ASCE)
Institute of Electrical and Electronics Engineers (IEEE)

Together, these organizations afford students the opportunity to learn more about their areas of interest, take field trips and make community contacts. Each club is a chartered branch of the parent national organization.

QUESTIONS AND ANSWERS

Q. Who can apply to the Academy?
A. Any man or women who, on July 1 of the year of admission is a citizen of the United States, unmarried, at least 17 years of age but has not reached his or her 22nd birthday, and is of good moral character may apply to the Academy.

Q. Do I need a nomination from my congressman or senator?
A. No. The Coast Guard Academy is the only federal service academy which does not require a political nomination or appointment. There are no geographical quotas involved. Admission is based strictly on a nationwide competition.

Q. How many people apply? How many are selected?
A. Each year the Academy receives between 5000 and 6000 applications from men and women around the nation. The size of the group that finally enters the Academy is approximately 290, making the Coast Guard Academy one of the most selective colleges in the country. Don't be discouraged by the numbers; only about 3000 students complete all the required application forms. Of those that meet our minimum requirements, about 500 are offered appointments. About 40% decline and go to other colleges, universities or service academies. Therefore, if you meet our minimum requirements and complete all forms, your chances of receiving appointment are about one out of five.

Q. Can women attend the Academy?
A. Yes, women have been at the Academy since June 1976. Women undergo the same academic, leadership and professional training as their male peers. The physical fitness program for women is similar, with some areas designed to best suit the feminine capabilities.

Q. Do women live separately from the men? Will I be allowed to wear make-up?
A. Women are fully integrated into the cadet corps. Separate bathroom facilities are provided in each wing area. Hair length for women cadets is short, off the collar which facilitates easy care. Cosmetics and jewelry are limited to wrist watches, small gold post earrings and minimal make up. In all other aspects, the roles of men and women are identical.

Q. What is the tuition?
A. Those people selected to attend the Academy receive, in essence, a four year scholarship. Room, board, medical expenses, and tuition are free. In exchange, each officer is obligated to serve the Coast Guard for five years on active duty following graduation.

Q. Do I have to pay to apply?
A. No, application is free. However, if you are appointed and decide to accept, a $1000 entrance fee will be required. This money is deposited into your cadet account to help defray the costs of your uniforms, books, personal computer, etc. The fee can be waived by the Director of Admissions in hardship cases.

Q. Am I paid as a cadet?
A. A cadet receives a monthly allowance of $500 per month. This is money furnished by the government for equipment, textbooks, and other expenses. Any funds remaining in the account are given to the cadet at graduation. From this monthly stipend, cadets receive money each month in a checking account

which is designed for personal use: 4/c—$80, 3/c—$150, 2/c—$210, 1/c—$260.

Q. I am also applying for the other service academies and have been scheduled for a medical examination. Do I need to take another medical examination for the Coast Guard Academy?
A. No, medical examinations for officer programs in any service are coordinated by the Department of Defense Medical Examination Review Board (DODMERB) located in Colorado. The same medical exam may be used for all service academies and ROTC programs. Remember, the Coast Guard Academy does not grant medical waivers of any type. See Appendix IV for details.

Q. My father graduated from a service academy. Does that increase my chances of getting an appointment?
A. If you are from a military family, you probably have a better idea of what military life can be like. You should fully explain your background, your potential for leadership and what activities you've participated in, particularly if you have relocated many times. It's also important to remember that coming to the Academy should be your decision.

Q. I didn't play any sport in high school. Will this hinder my chances for an appointment?
A. Playing sports increases your chances of doing well in the competition, as it demonstrates an ability to handle the very physically demanding program you will face at the Academy. Your participation in a competitive out of school program may also be an indicator that you can successfully compete in our program. You should, however, address your physical condition and what you do to stay in shape in your application forms and essay questions.

Q. My grades are only average, but I am involved in many sports activities. How will I fare in the competition?
A. Before we even look at a person's leadership potential, we evaluate his/her academic record. The people who do well in the competition are usually in the top 20% of their class and have at least a "B" average. There is no such thing as a cadet who had a "C" average in high school.

Q. The computer classes I've taken have been difficult. Will I be able to receive after class help at the Academy in computers?
A. Yes. Members of the Computer Science staff and selected upperclass cadets are available after hours for assistance and tutoring. Help in programming in a variety of computer languages or solving system problems is provided to cadets of all abilities who desire assistance.

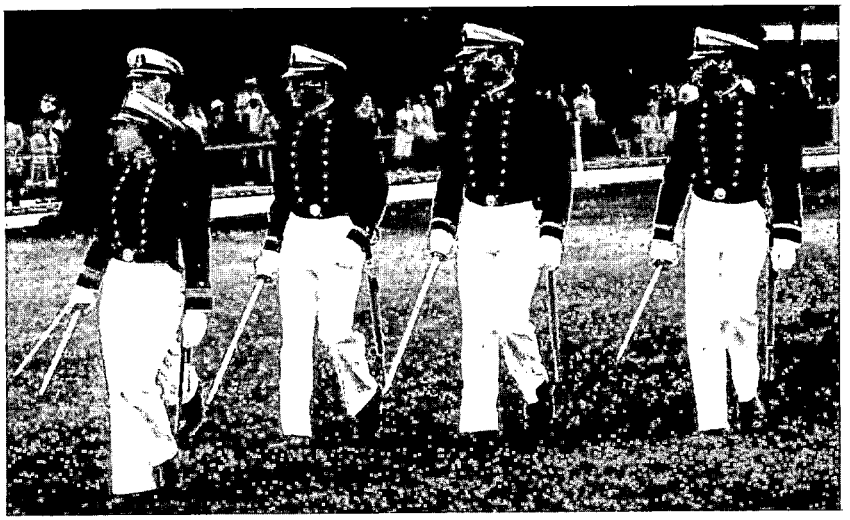
Q. What are some of the reasons cadets attend the Academy?
A. In a recent survey of the corps of cadets, the two leading reasons were to receive a good education and become a Coast Guard officer. Next in line were to explore a seagoing career and to work in a service with an active peacetime mission. Every individual has his or her own reasons for wanting to attend the Academy; he or she must weigh those reasons against the reasons for attending any college.

Q. How many cadets finish the four year program? Why do some cadets resign?
A. Usually, fifty to sixty percent of those cadets who are sworn in graduate. Cadets leave the Academy for a variety of reasons; change of career plans, inability to adapt to military life, conduct and other personal reasons. It is important to know what to expect when you arrive at the Academy and what type of jobs you might be involved with after graduation. We strongly encourage you to visit the Academy and talk to our faculty and cadets. Visit local Coast Guard units and talk to men and women who work in the field. Make yourself an expert on the Coast Guard and the Academy before you arrive. You'll increase your chances for success.

Q. I'm interested in the Academy but live too far away to visit. Is there a videotape which might give me additional information?
A. Yes. The Coast Guard Academy has a videotape called "The Will to Succeed." You can rent a copy for a nominal fee by calling the College Video Guide, toll free 800-225-2977.

Q. I heard stories about your boot camp, Swab Summer. How tough is it really?
A. We can show you our film, you can talk to cadets and officers who have been through the program, but until you experience swab summer personally you won't know what it is like.

It is not a summer camp. It is physically demanding, mentally challenging, and an emotional shock. Like most swabs, you will probably want to quit the first day, which will be the longest day of your life. The standards are high; the goal is to make excellence a habit, and prepare the swabs to take their



places as members of the Corps of Cadets at the beginning of the academic year.

Q. What kind of social life do cadets have?
A. The Academy is not a "party" college. For underclass cadets, liberty is restricted to weekends, and they must earn overnight privileges. Alcohol is not allowed in the barracks. However, the social life is not stagnant. There are many opportunities to get involved in extracurricular activities. Formal and informal dances, parties, and other social functions are scheduled.

Q. Am I allowed to attend religious services?
A. Provisions are made to attend religious services of your faith. Catholic and Protestant chaplains provide the opportunity for Christian worship and study. Jewish cadets and those from other religious groups are assisted in locating worship resources in the civilian community. Attendance at religious services is voluntary.

Q. Will I have a chance to sail aboard the tall ship EAGLE?
A. Yes, every cadet has the opportunity to sail six to eleven weeks

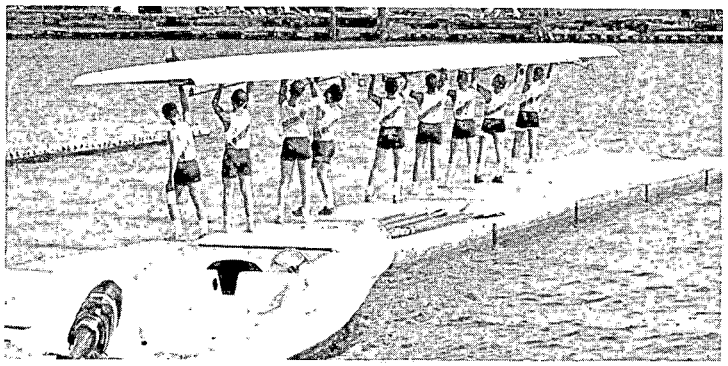
aboard EAGLE. Recent cruises aboard EAGLE have taken cadets to ports in the United States, the Caribbean, Australia and Europe.

Q. How do I apply for the Academy?

A. Read the admissions requirements section of this catalog. If you meet all the requirements, complete the application and mail it back to the Academy before December 15.

Q. I am a junior in high school. When should I send in my application?

A. The application may be submitted after May 1 of your junior year through the above deadline of your senior year. You may



also be eligible for the Academy Introduction Mission (AIM) program, a one week session held at the Coast Guard Academy during the summer between your junior and senior year. If selected, you will come to New London, along with other students from around the country, for an initial look at Academy life. Contact your local Coast Guard Auxiliary for more details on the AIM program.

Q. If I receive an appointment, when do I report?

A. Candidates tendered appointments report in early July. Travel from home to the Academy is arranged for you or is reimbursable, according to the specific regulations.

Q. What if I don't receive an appointment this year? Do many students go to college prior to competing for the Academy?

A. Approximately twelve percent of the entering class has had one or more semesters of college. In one particular case, a student applied for the classes of 1989, 1990, and finally made it for the class of 1991. If you want to reapply, we recommend you take courses similar to your fourth class, or freshman, year here. If accepted the following year, you will have to begin as a freshman.

Q. Will I receive credit for college work which I have finished?

A. The Academy offers a validation program for students who have been to college or taken college level courses in high school. Following departmental screening, validation permits you to substitute another course in your area of interest or a free elective. It allows you to tailor your academic program to your level of achievement. Validation is encouraged for most students; examinations are administered during swab summer.

Q. Where can I find answers to other questions I have about the Academy?

A. If you call the Admissions Office, a counselor will be happy to talk to you about the Academy. The number is (203)444-8501, or write:

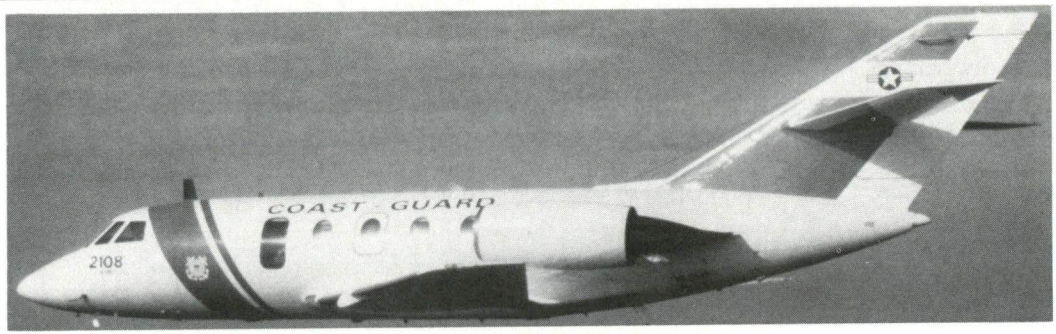
Director of Admissions
U.S. Coast Guard Academy
New London, CT 06320-4195

THE UNITED STATES COAST GUARD

First of all, the United States Coast Guard is a military service. It serves the country's needs first and last. In time of peace, the Coast Guard functions as a part of the Department of Transportation. In time of war, it serves as a highly specialized part of the United States Navy.

Any officer in a military service must be well trained and professionally qualified for leadership. This is especially true in the Coast Guard because it is the smallest of the military services. It's divided into small units of professionals, sometimes so small that command responsibility is often thrust upon officers early in their careers. Producing officers who can meet this challenge is the function of the U.S. Coast Guard Academy.

The Academy graduate must serve a minimum of five years as a Coast Guard officer. Four years at the Academy and subsequent service as a Coast Guard officer provides satisfaction to young people who enjoy hard work and excitement, who are interested in technical and administrative work and who support the variety of missions within the Coast Guard.



Your Coast Guard Career

Your first experience as a newly commissioned Coast Guard officer will be at sea. You may be assigned to one of the larger cutters involved in drug interdiction, law enforcement or search and rescue patrols. Your ship may also be assigned to perform exercises with the Navy or other services. Other duty stations include icebreakers working in the Arctic and Antarctic and buoy tenders that service Aids to Navigation along the coasts and on the Great Lakes.

After the initial tour of sea duty, you may apply for aviation training and, if selected, will be assigned to flight training under the direction of Coast Guard and Navy instructors. After earning your wings, you will specialize in either fixed wing or rotary. Next you will be assigned to one of the Coast Guard Air Stations. Another option for your second tour is as commanding officer of a patrol boat. Nowhere else will you find this responsibility. The hours are long and the work is hard, but the rewards are worth the sacrifice.

Coast Guard officers are encouraged to apply for postgraduate education or specialized training. In conducting its postgraduate education program, the Coast Guard enrolls its officers in some of the leading colleges and universities throughout the country. Those enrolled incur an additional active duty obligation. Officers are selected for postgraduate education and specialized training on the basis of performance as an officer, professional qualifications, and scholastic standing at the Academy. The particular graduate specialties available are dictated by the needs of the Coast Guard.

Eighty percent of our graduates elect to continue their career as Coast Guard officers after they complete the required five years of service. Future assignments and

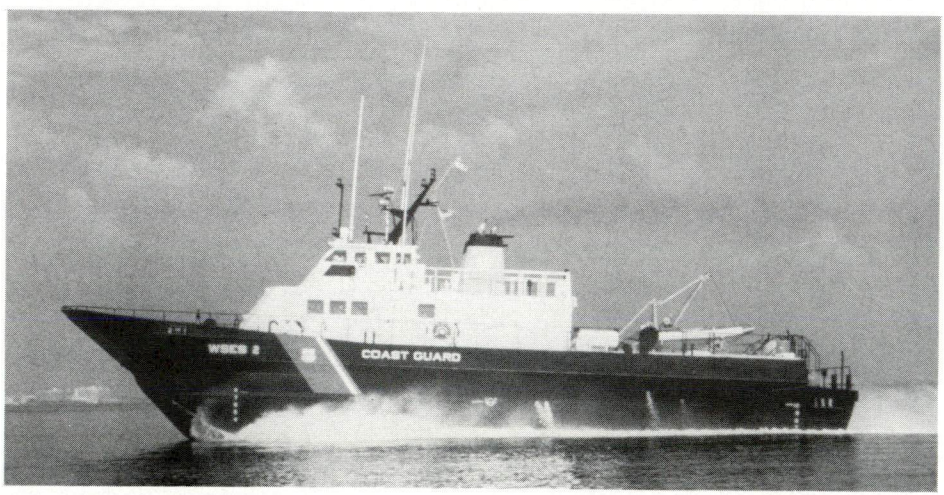
training will be directed toward one goal; to prepare you for the role of a senior officer, where your decisions will be of major importance.

Women officers who graduate from the Academy are afforded identical career opportunities as their male counterparts. There are no service restrictions or quotas on where qualified women can be stationed. Today, Coast Guard women work in all missions areas, including serving aboard and commanding Coast Guard vessels and aircraft.

Coast Guard officers find the career a worthy challenge of their abilities, for command at sea and shore is available early in their careers. They are challenged by the fact that the Coast Guard has a vital job to perform in peacetime, as well as in war. There is a great deal of stimulus in the opportunity to travel, the variety of assignments, opportunities for specialization in different, exacting fields, plus the security and fringe benefits of an officer's life.

But service as a Coast Guard officer also means long periods at sea, with seven day work weeks and long and irregular hours. It means responsibility for the safety of a ship and its crew. In certain situations, it means facing actual physical danger.

There is no question that the service is demanding; but to the well-motivated, well-prepared young officer who enjoys the challenge of going to sea, it is exciting and meaningful.



Postgraduate Opportunities

Coast Guard officers are currently enrolled in the following advanced and specialized courses. The availability of the programs varies with Coast Guard needs.

Academy Instructor Preparation
- Chemistry*
- Economics/Management*
- Humanities*
- Mathematics/Computer Science*
- Physics*

Administrative Science/Management*
Administrative Science/Personnel*
Aeronautical Engineering**
Air War College**
Armed Forces Staff College
Army War College
Aviation Engineering Administration**
Avionics Engineering**
Chemical Engineering*
Civil Engineering*
Communications Engineering/Management*
Computer Systems Management*
Electronics Engineering*
Engineering Physics*
Environmental Management*
Financial Management*
Hazardous Materials/Industrial Hygiene
Industrial College of the Armed Forces
Industrial Management***
Instructional Technology*
Law*
Marine Engineering/Naval Architecture*
Merchant Marine Industry Training
National War College

Naval War College
Ocean Engineering*
Oceanography***
Operations Research/Systems Analysis*
Personnel Administration
Port Safety Industry Training
Public Administration*
Public Affairs***
Sloan Fellows* ***
State Department Executive Program
Strategic Intelligence
Transportation Management*

* Leads to an Advanced Degree
** Flight school required first
*** No more than one officer per year

"My career in the Coast Guard has proven even better than what I expected. The leadership experience and job satisfaction would be worthwhile in any capacity."

A Coast Guard Lieutenant

Rank, Pay and Allowances

The rank structure of the Coast Guard commissioned officer corps is identical with that of the Navy. The table below indicates comparative ranks of Coast Guard commissioned officers with commissioned officers of the other uniformed services. Additionally, pay and allowances of commissioned officers of the Coast Guard are the same as those for officers of equivalent rank in the Army, Navy, Marine Corps and Air Force.

Coast Guard officers advance through the same rank structure as officers in the other armed forces and may retire after 20 years active service (of which at least 10 years must be served as a commissioned officer), at the discretion of the President of the United States, and upon completion of 30 years of active service, at the discretion of the Secretary of Transportation. Retirement at age 62 is compulsory. A retired officer receives retired pay at the rate of 40 percent of basic pay after 20 years service, and for each year of service after 20 years, the amount is increased by a specific percentage, unless retired for physical disability. Coast Guard officers retired or separated because of physical disability receive, by law, the same benefits as officers of the other services.

Upon graduation, a typical new ensign's salary is approximately $20,000 including tax-exempt housing and subsistence allowance.

Army, Air Force, and Marine Corps	Navy and Coast Guard
General, Lieutenant general, Major general	Admiral, Vice admiral, Rear admiral (upper half)
Brigadier general	Rear admiral (lower half)
Colonel	Captain
Lieutenant colonel	Commander
Major	Lieutenant commander
Captain	Lieutenant
First Lieutenant	Lieutenant (junior grade)
Second Lieutenant	Ensign

MISSIONS OF THE COAST GUARD

Today's Coast Guard is small but strong.

Nearly 38,000 active duty men and women are stationed worldwide supporting the wide variety of Coast Guard missions. There are three primary areas in which we work today; maritime law enforcement, safety of life at sea, and defense readiness. These areas are supported by twelve operating programs which, with the support of their administrative staffs, accomplish each designated task quickly and professionally.

Aids to Navigation

The Coast Guard provides accurate and continual all weather position-fixing capability to ensure the safety and efficiency of vessels at sea. Short and long range aids to navigation, such as lighthouses, buoys and other markers are maintained. Long range radionavigation transmitters including LORAN and OMEGA stations are manned and maintained by Coast Guard personnel. These aids prevent many shipwrecks and introduce a new element of safety to life at sea and in the air.

Boating Safety

The number of lives lost, persons injured and property damaged in recreational boats is reduced substantially because of the efforts of the Coast Guard. Boating safety offices are maintained throughout all the Coast Guard districts. These offices are responsible for assisting and informing the boating public about recreational boating requirements and enforcing pertinent boating safety regulations. Engineers also continually look for improvements in boat and ship design and construction standards.

Defense Operations

Constant military readiness is a primary responsibility of the Coast Guard. Officers develop and maintain plans to insure the

security of our ports in wartime and prepares plans to support strategic sealifts and carry out statutory missions under wartime conditions. Coast Guard flag officers serve on NAVGUARD boards which establishes the coordination of Coast Guard/Navy policy in area of mutual interest. In peacetime, Maritime Defense Zone commanders are responsible for coastal defense planning and training. In wartime, they will conduct defensive operations to ensure the security of port and coastal approaches out to 200 miles offshore.

Environmental Response

The Coast Guard is responsible for preventing pollution from vessels and port facilities, removing oil and other pollutants from coastal waters, enforcing pollution laws and regulations and performing anti-pollution research and development. The Coast Guard and the Environmental Protection Agency have developed national and international pollution response plans.

Ice Operations

Maritime transportation in ice-laden polar and domestic waters is provided by icebreaking cutters for federal and scientific organizations in the polar regions. Domestic waterways are kept open for vitally needed commerce. The polar class cutters are designed to travel through six feet of ice and are able to ram through ice 21 feet thick if necessary.

Law Enforcement

The Coast Guard is responsible for enforcing all federal laws on the high seas and waters under U.S. jurisdiction. Smuggling and narcotics trafficking violations are enforced with U.S. customs and immigrations laws.

Also, laws which pertain to the Exclusive Economic Zone, waters which extend out to 200 miles offshore, are enforced. The Coast Guard also works closely with other law enforcement agencies, including U.S. Customs and the Drug Enforcement Administration.

Marine Inspection

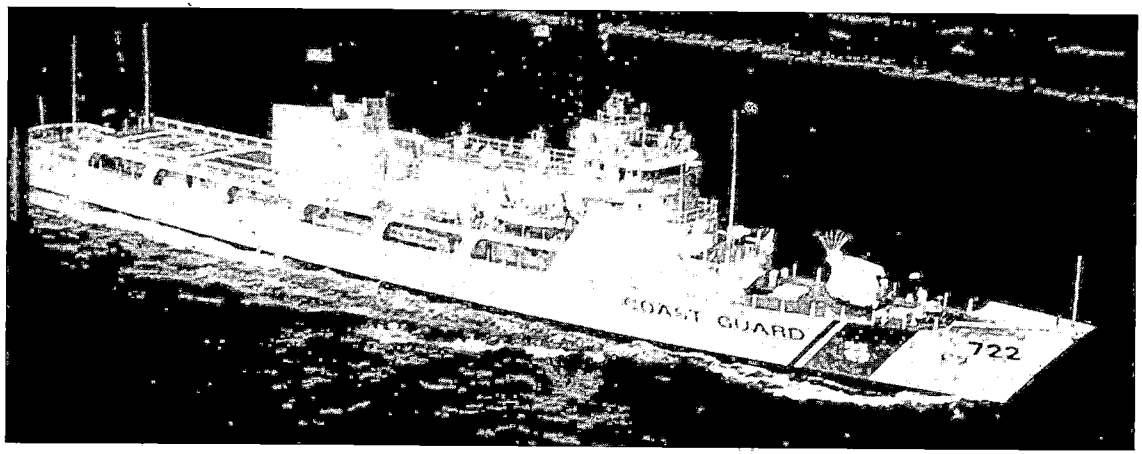
Death, injuries, property loss and environmental damage are minimized by developing and enforcing standards and policy which guarantee the safe design, construction, maintenance and operation of commercial vessels and offshore facilities. The Coast Guard also oversees safety requirements of all merchant vessels from design to scrapping.

Marine Licensing

The Coast Guard is responsible for the licensing and certification of Merchant Marine officers and seamen. The manning of commercial vessels is also regulated by the Coast Guard.

Marine Science

Weather and oceanographic services for other Coast Guard programs and federal services is provided. Also, the International Ice Patrol charts iceberg movement into shipping lanes.



Port Safety and Security

Ports, waterways, shoreside facilities, vessels and people working in them are all protected by the Coast Guard from accidental or intentional damage or injury through routine inspections, patrols, and the enforcement of safety regulations.

Search and Rescue

The Coast Guard renders aid to people and property in distress in the marine environment. We serve as the Maritime SAR coordinator within the National SAR Plan. SAR facilities are maintained on the East, West and Gulf coasts as well as in Alaska, Hawaii and the Great Lakes. AMVER (Automated Mutual Assistance Vessel Rescue System) is operated by the Coast Guard who also helped design the SARSAT system which uses satellites to pick up emergency locating transmitters or emergency position radiobeacons from aircraft or vessels in distress.

Waterways Management

Active and passive traffic management techniques and safety procedures are developed and maintained by Coast Guard personnel. Active management includes seven Vessel Traffic Services which use VHF-FM communications and a network of television and radar sites to provide mariners with advance information about marine traffic or hazards that could affect their safe movement.

Commenting on the current state of the Coast Guard, Admiral Paul Yost says, "Pressures on our operations are greater than ever before as we deploy more sophisticated equipment and forces into drug interdiction and defense readiness. It's going to take excellent leadership, both here and in the field, to make all this happen. I'm counting on you to do it." As a Coast Guard officer, you can be one of those people that the Admiral spoke of. The work is challenging and very rewarding. Your education and training starts here in New London.

If working with the Coast Guard sounds exciting but the Academy isn't quite right for you, we have many other education and training programs. For additional information about other opportunities, call:

TOLL FREE: (800) 424-8883

During the typical day in 1987, the Coast Guard saved 19 lives, assistance was rendered to 371 people and over $2 million dollars worth of property was saved. The Coast Guard also handled 28 oil spills, seized 3 tons of marijuana and arrested two drug smugglers during this same day. Sound typical to you?

1987 was a big year for change for the Coast Guard. There were many reorganizations and consolidations of jobs and support networks. The budget was also an item of concern; as we moved into 1988, the Coast Guard was unsure of its operating budget and proposed cutbacks might mean. Enforcement of Laws and Treaties required 35% of the operating budget followed by search and rescue and aids to navigation each with approximately 20%.

With the American presence in the Persian Gulf came the United States agreement to reflag a number of Kuwaiti tankers. In order to transfer the registration of the vessels, the ships had to be inspected and approved by Coast Guard personnel. Inspectors from the Marine Inspection Office in New York flew overseas to certify logs and check equipment such as firefighting and lifesaving devices as well as each for compartmental safety. Each vessel inspected was approved and became registered as American ships.

The Coast Guard's efforts in the interdiction of drugs increased with some very successful rewards. Fast Coastal Interceptors, 43 foot "go fasts" whose top speed is over 50 knots, were procured and stationed in South Florida for continued support to help fight the war on drugs. The Coast Guard also became involved with air interdiction. Several E-2C Hawkeyes were acquired that are equipped with electronic advanced radar packages. These are being brought on line through interservice cooperation.

Our new 110 foot patrol boats have proven themselves worthy of the investment. OCRACOKE, in its first year, seized the largest amount of cocaine recorded in recent Coast Guard history; 3771 pounds that was 98% pure. Its street value was worth approximately $250 million. During the months prior to these arrests, OCRACOKE had seized two other vessels with a combined total of over 22 tons of marijuana. Her crew is modest; they admit to success, but feel it's only part of their job.

Exercises in maritime defense were more frequent in 1987. One such event, named Solid Shield '87, involved 2000 Coast Guard men and women. Drills in port security, loading troops, intelligence protection and counterterrorism actions were the orders for the exercise. These practice exercises are essential for success in defending our maritime regions. We continually prepare to help provide safe and secure ports for carrier battle groups, tasks forces and convoys.

A group of Soviet sailors had a great deal to thank the Coast Guard for last year. The 482 foot KOMSOMOLETS KIRGIZII sank in sleet and gale force winds 200 miles off the coast of New Jersey. Three HH-3F helicopters from Air Station Cape Cod saved 37 Soviets before the ship sank. The Coast Guard crews were awarded Air Medals and Coast Guard Commendation Medals by President Reagan at a White House Rose Garden ceremony.

Early in the year, while nine cadets were returning to the Academy from leave, the Amtrak train they were aboard was involved in a collision north of Baltimore. Men and women with broken legs and other injuries were pulled from the wreckage by cadets. The accident occurred on Sunday and each cadet was back in class by the following Monday or Tuesday.

The National Aeronautics and Space Administration (NASA) selected ten officers, including one from the Coast Guard, to serve as candidates for the space shuttle program. LCDR Bruce Melnick, CGA class of 1972, was selected as a mission specialist. When asked why he wanted to be an astronaut, Melnick replied, "I've always been motivated by challenge and being in the space program is the ultimate challenge." Melnick holds a Bachelor of Science in Ocean Engineering and a Master of Science in Aeronautical Systems. He was awarded the Distinguished Flying Cross for his part in the rescue of 115 people from a sinking cruise ship in 1980.

Amidst a spectacular celebration, EAGLE departed New London in September for Australia to participate in a Tall Ships parade. Cadets who were aboard spend the summer semester at the Academy to take classes which would otherwise have been missed while on EAGLE. Weekly Reader kept track of EAGLE's progress and school children nationwide followed her as she sailed halfway around the world. The experience of visiting the variety of countries and their cultures along the way was a once in a lifetime experience. EAGLE's schedule brings her back to New London in May 1988.

It was a year of new challenges for Coast Guard men and women. We are more diverse and more flexible than ever. **We are proud of what we do.**

APPENDIX I

ACCREDITATION

NEW ENGLAND ASSOCIATION OF SCHOOLS AND COLLEGES

The U. S. Coast Guard Academy is accredited by the New England Association of Schools and Colleges, Inc., a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering post-graduate instruction.

Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited school or college is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the New England Association is not partial but applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

PROFESSIONAL ACCREDITATION

The Civil, Electrical, and Marine Engineering, Programs are accredited by the Engineering Accreditation Commission of the Accreditation Board of Engineering and Technology (ABET).

COMMITTEES

ADVISORY COMMITTEE

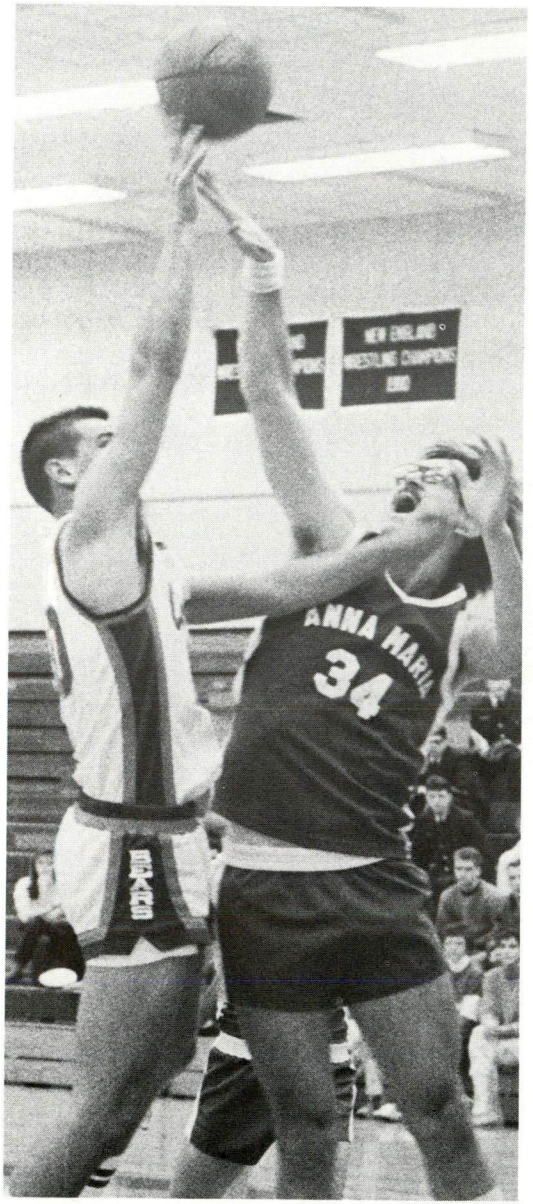
Dr. Mary Gersh (Chairperson), Assistant Vice Chancellor, Academic Affairs, University of Kansas Regents Center, Overland Park, Kansas.
Mr. Red Cavaney, President, American Paper Institute, New York, New York
Mr. William H. Combs, Chairman of the Board, Tamaqua Cable Products Corporation, Schuylkill Haven, Pennsylvania.
Ms. Nancy Jean Davis, Vice President, McArthur Management Co., Miami, Florida.
Captain Joseph C. Fox, USCG (Ret), Executive Director, American Maritime Officers Service, Washington, D.C.
Major General Jeanne M. Holm, USAF, (Ret).
The Honorable Owen H. Johnson, New York State Senate, 4th District, West Babylon, New York.

1987 CONGRESSIONAL BOARD OF VISITORS

Senator John B. Breaux (D), Louisiana
Senator Bob Packwood (R), Oregon
Senator Ernest F. Hollings (D), South Carolina
Congressman Robert W. Davis (R), Michigan
Congressman Sam Gejdenson (D), Connecticut
Congressman Earl Hutto (D), Florida
Congresswoman Nancy Johnson (R), Connecticut

"Getting used to the weather was difficult my 4/c year. Being from Florida, I wasn't used to the variety of seasons and temperatures."

3/c Cadet



APPENDIX II

CRITICAL DATES FOR CADET CANDIDATES

May 1, 1988 - December 15, 1988	Period for submitting formal application for appointment to Director of Admissions
July 1, 1988 - May 1989	Service Academy medical examinations administered to candidates when authorized
May 1988 - October 1988	Period during which registration for SAT or ACT examinations should be made
November 1, 1988	Cadet Candidate Evaluation Board convenes
November 15, 1988 - May 1, 1989	Conditional appointments tendered.
December 2 (9), 1988	Final SAT (ACT) administration which will be accepted for the annual competition. Subsequent test scores will not be accepted.
December 15, 1988	Deadline for submitting application to the Academy.
January 15, 1989	Deadline for submitting supporting documents.
February 15, 1989	List of finalists established
May 1, 1989	Deadline for acceptance of principal appointments
May 1, 1989 - June 1, 1989	Alternate appointments tendered as vacancies occur.
July 10, 1989	Class of 1993 reports to Academy.

1988-89 ACADEMY CALENDAR

May	18	Summer Training Period Begins
	30	Memorial Day, Holiday
July	4	Independence Day, Holiday
	11	Class 1992 Reports Aboard
August	26	Summer Training Period Ends
	29	Academic Year, Fall Semester Begins
September	5	Labor Day, Holiday
October	7-9	Homecoming Weekend
	10	Columbus Day, Holiday
	14-16	Parents Weekend
November	11	Veterans Day, Holiday
	24	Thanksgiving Day, Holiday Weekend
December	21	Fall Semester Ends, Christmas Leave Begins
January	3	Christmas Leave Ends
	4	Spring Semester Begin
	16	Martin Luther King, Jr. Day, Holiday
February	20	Washington's Birthday, Holiday
March	10-19	Spring Leave
May	12	Spring Semester Ends
	21	Baccalaureate
	24	Commencement Exercises

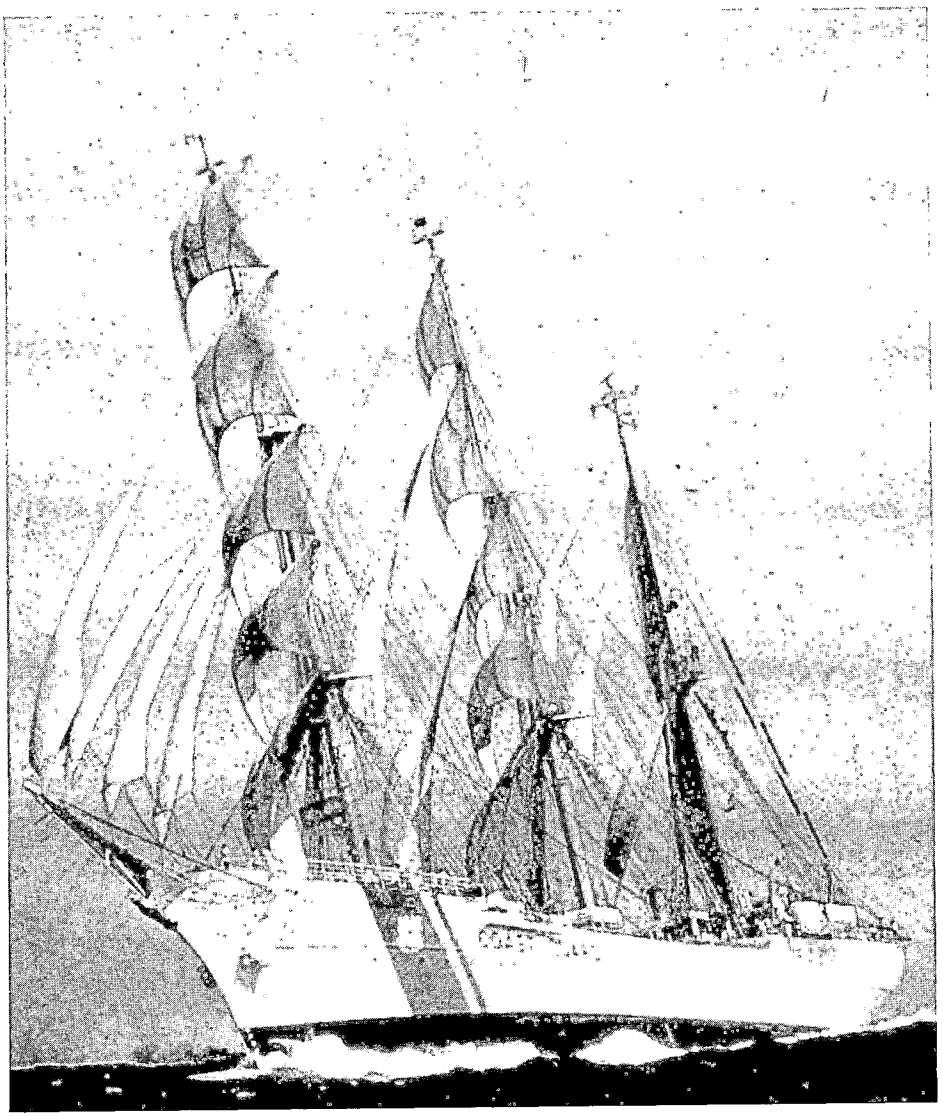
TENTATIVE 1989-90 ACADEMY CALENDAR

May	24	Summer Training Period Begins
	29	Memorial Day, Holiday
July	4	Independence Day, Holiday
	10	Class 1993 Reports Aboard
August	28	Summer Training Period Ends
	29	Academic Year, Fall Semester Begins
September	4	Labor Day, Holiday
	22-24	Homecoming Weekend
October	9	Columbus Day, Holiday
	21-23	Parents Weekend
November	11	Veterans Day, Holiday
	23	Thanksgiving Day, Holiday Weekend
December	21	Fall Semester Ends, Christmas Leave Begins
January	7	Christmas Leave Ends
	8	Spring Semester Begins
	15	Martin Luther King, Jr. Day, Holiday
February	19	Washington's Birthday, Holiday
March	9-18	Spring Leave
May	10	Spring Semester Ends
	20	Baccalaureate
	23	Commencement Exercises

"I remember my first visit to the Academy; it was like stepping into history. Now that I'm graduating, I'm history."

A Graduating Cadet

APPENDIX III



ACADEMY PERSONNEL

SUPERINTENDENT
R. P. Cueroni, Rear Admiral, USCG, B.S.

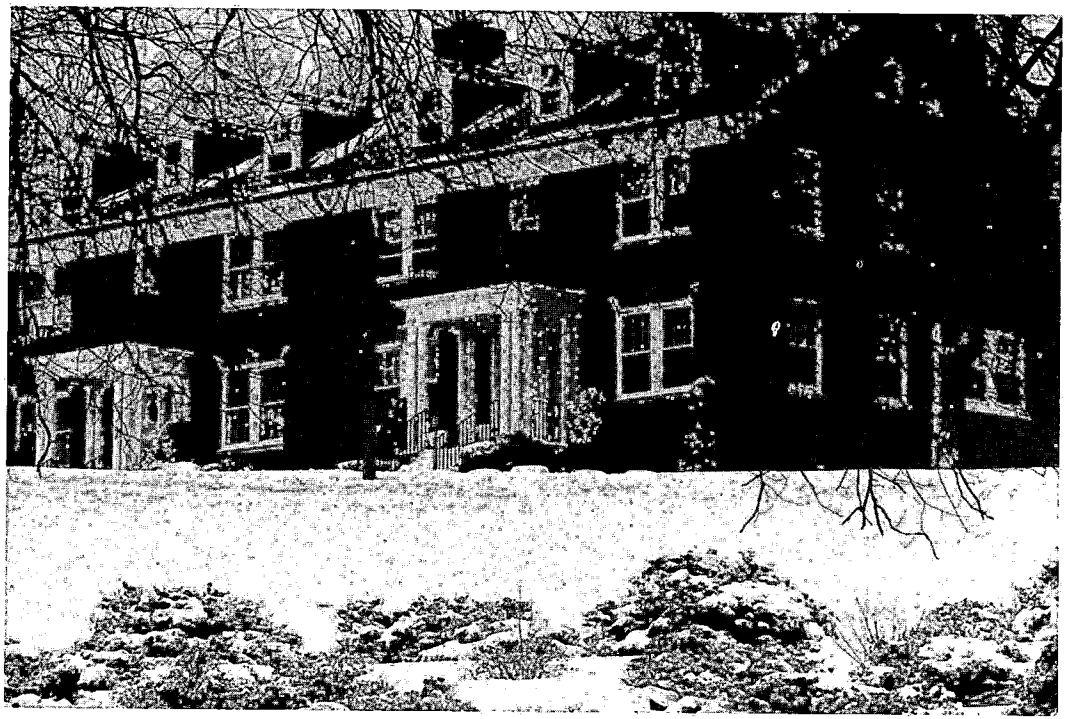
ASSISTANT SUPERINTENDENT
W. S. Rich, Captain, USCG, M.S.

DEAN OF ACADEMICS
David A. Sandell, Captain, USCG, Ph.D.

COMMANDANT OF CADETS
Robert L. Ashworth, Captain, USCG, B.S., M.B.M.

DIRECTOR OF ADMISSIONS
Thomas D. Combs, Jr., Captain, USCG, Ph.D

DIRECTOR OF ATHLETICS
James E. Foels, Captain, USCG, B.S., M.A.



APPENDIX IV
MEDICAL REQUIREMENTS

1. Height and Weight: The candidate's weight should be well distributed and in proportion to age, height, and skeletal structure. Rejection will be recommended for individuals who show poor physical development or show a tendency to obesity, regardless of height and weight ratio. Minimum height is 60 inches, maximum height is 78 inches. Maximum height is waiverable to 80 inches by Commandant, U.S. Coast Guard.

	Weight (pounds)			
Height (inches)	Men (min)	Men (max)	Women (min)	Women (max)
60	101	160	94	125
61	102	164	96	127
62	103	168	98	130
63	104	174	100	134
64	105	179	102	138
65	106	185	104	142
66	107	191	106	147
67	111	197	109	151
68	115	203	112	156
69	119	209	115	160
70	123	215	118	165
71	127	221	122	170
72	131	227	125	175
73	135	233	128	180
74	139	240	132	184
75	143	246	136	189
76	147	253	139	195
77	151	260	143	200
78	153	267	147	205
*79	156	275	151	210
*80	160	282	155	215

2. Head, Scalp, Face and Neck: The following are causes for disqualification of further evaluation: Tinea of any type. Benign tumors which may interfere with the wearing of military equipment or are subject to easy irritation. Any abnormalities of the skull will be thoroughly investigated and may be cause for disqualification. Any adherent or disfiguring scars of the face, regardless of cause. Abnormalities of the thyroid. Symptomatic cervical ribs. Presence of cervical ribs diagnosed by radiographic examination will not be cause for disqualification.

3. Nose and Sinuses: Loss of the nose, malformations or deformities that interfere with speech or breathing or extensive ulceration.

4. Mouth and Throat: Any and all abnormalities of the mouth and throat must be carefully documented and those conditions such as malformation, partial loss, atrophy or hypertrophy of the tongue, tumors, stomatitis, ranula, marked enlargement or disease of the tonsils, harelip, if disfiguring, loss or mutilation of the lips.

5. Ears and Hearing: Hearing acuity will be determined by audiometric testing on machines calibrated for ISO or ANSI and an average level of hearing loss greater than 30db or loss greater than 35db in any one frequency in the 500, 1000, or 2000Hz frequencies or loss greater than 45db in the 3000Hz frequency or loss greater than 55db in the 4000Hz frequency will be cause for disqualification, regardless of cause. Abnormalities of the external or internal ear, unless minor. Any acute or chronic disease of the external, middle or internal ear.

6. Eyes and Vision: All candidates accepted shall have an uncorrected visual acuity no poorer than 20/200 in either eye and must be correctable to 20/20 in each eye. Additionally, refractive error shall not exceed plus or minus 5.50 diopters in any meridian. Astigmatism shall not exceed 3.00 diopters and anisometropia not exceed 3.5 diopters. Refraction is not required when the unaided visual acuity is 20/20 in each eye, unless medically indicated.

Disease of the eye shall be cause of rejection. Contraction of visual field shall be cause of rejection. Both eyes must be free from any disfiguring or incapacitating abnormality and from acute or chronic disease.

** The requirement as given above is considered necessary in order to graduate cadets with vision sufficiently serviceable to enable them to carry out their duties at sea. During late adolescence it is quite common for developmental myopia to become manifest to such an extent that the resulting myopic visual defect is sufficient to disqualify the cadet. It is therefore imperative that a careful examination for visual acuity be performed.

7. Color Vision: Color blindness, complete or partial is cause for rejection. Color perception will be tested by the color plate test as set forth in the American Optical Test Book, 1940 Edition, or the Farnsworth Lantern Test. Candidates who fail to pass the American Optical Company pseudo-isochromatic plate test shall be considered qualified if they pass the Farnsworth Lantern tests. The results of the test shall be considered final in the resolution of all cases of questionable color perception.

Detailed instruction for the administration of the Farnsworth Lantern test, as well as the criteria for passing the test, are engraved on a metal plate which is permanently attached to the instrument and shall be followed without exception. The results of the test shall be recorded in item 64, Report of Medical Examination as "Passed FaLant" or "Failed FaLant."

Candidates who failed the American Optical Company pseudo-isochromatic plate test at places where the Farnsworth Lantern test is not available may be given a reexamination on the Farnsworth Lantern test at places where same

is available. The cost of travel to and from the place of reexamination and subsistence must be borne by the applicant.

8. Lungs and Chest: The lungs and chest will be examined and any of the following conditions will be cause for disqualification: Congenital malformations or acquired deformities which result in reducing the chest capacity and diminish the respiratory function so as to interfere with participation in a rigorous athletic program or produce disfigurement when dressed; deformities of the scapula sufficient to interfere with carrying of equipment or the absence or faulty development of the clavical, any fractures of the ribs with faulty union if interfering with function; malignant tumors if large enough to interfere with wearing of a uniform and equipment; tuberculosis, active of any extent or degree; a history of tuberculosis within preceding 5 years of x-ray findings of; pleurisy with effusion of unknown cause or history of; recurrent spontaneous pneumonthorax, hydrothorax or hemothorax, asthma or a history of since the twelfth birthday.

9. Heart and Vascular System: All diastolic murmurs. Apical and harsh systolic murmurs will be carefully evaluated and may be cause for disqualification. Organic heart disease, congenital heart disease or pathological murmurs. Any abnormality of the heart will be carefully evaluated. Persistent blood pressure readings of above 140 systolic or 90 diastolic must be carefully evaluated. Any abnormality of the vascular system will require a thorough investigation.

10. Abdomen, Viscera, Anus and Rectum: Generally, any chronic disease of the stomach and viscera, especially hernia of any variety and ulcers either active or a trustworthy history thereof, is cause for disqualification. Hemorrhoids, internal and external are not disqualifying unless symptomatic.

11. Endocrine System and Metabolism: Any disease of the Endocrine System must be thoroughly evaluated and may be cause for disqualification. Hypothyroidism, toxic goiter and thyroid adrenoma. Persistent glycosuria and diabetes mellitus. Severe or irremediable nutritional deficiencies. All are disqualifying.

12. Genitourinary System: All candidates will be required to take a serologic test for syphilis. If positive, a second test may be ordered. If this test is positive it will be cause for disqualification. Among the conditions which will be cause for disqualification are diabetes mellitus or insipidus, persistent hematuria or albuminuria, diseases of the kidneys, atrophy or absence of both testicles, undescended testicle unless surgically treated. All women must have a pelvic and/or rectal exam with a PAP test performed and reported.

13. The Extremities: All anomalies in the number, the form, the proportion and the movements of the extremities which produce noticeable deformity or interfere with function. Laxity of ligaments, torn cartilage, internal derangement of the knee. Entire loss of any finger. Loss of more than one phalanx of the right index finger. Loss of the terminal and middle phalanges of any two fingers on the same hand. Symptomatic pes planus. Flatfoot when accompanied with symptoms of weak foot or when the foot is weak on test. Loss of either great toe or loss of any two toes on the same foot. Any surgical procedure on any joint during the past six months.

14. The Spine and other Musculoskeletal: Lateral deviation of the spine if it appears likely to impair normal function. Scoliosis, kyphosis, or lordosis if severe. Fracture or dislocation of the vertebrae. Herniated nucleus pulposis or history of operation for this condition. History of chronic or recurrent low back pain.

15. Skin: Eczema of long standing. Chronic impetigo, carbuncles; acne of the face or neck which is so severe as to be unsightly. Pilonidal cyst or sinus if evidenced be readily palpable tumor mass or if there is a history of inflammation or of purulent discharge.

16. Nervous System: Degenerative disorders such as multiple sclerosis, encephalomyelitis. Peripheral nerve disorder. Residuals of trauma. Paroxysmal convulsive disorders. Any abnormality of the central nervous system.

17. Psychiatric and Personality Disorders: Psychotic disorders or a substantiated history of psychotic episode. Character and behavior disorders which have prevented a good adjustment with particular reference to antisocial tendencies, sexual deviation, chronic alcoholism or drug addiction.

18. Dental: Candidates must have sufficient teeth, natural or artificial, in function occlusion to insure satisfactory incision and mastication. Minimum requirement is on dentulous upper jaw and/or dentulous lower jaw corrected by a full denture or dentures. Carious teeth in excess of 4, except those with incipient carious lesions, must be satisfactorily restored.

19. Thyroid: Any history of hyperthyroidism or hypothyroidism, regardless of whether or not on medication will be grounds for disqualification.

20. Radial Keratotomy: Candidates who have had this myopic surgery will be considered after a two year period with no complications such as scarring, and meet the visual acuity standards.

21. Human Immunodeficiency Virus: Candidates must have negative results on approved tests for this virus.

APPENDIX V
PHYSICAL FITNESS STANDARDS

PHYSICAL FITNESS EXAMINATION EXCERPT

The Physical Fitness Examination consists of the following test items:
1. Pull-ups 2. Sit-ups 3. Standing long jump
4. 300-yard shuttle run 5. 1 1/2 mile run/walk. A total of 250 points is necessary to pass the test. There is no minimum performance required on individual events. Scoring tables are enclosed for use in determining your own score.

The examination will be administered in two parts. Part one consists of the four part battery (items 1–4). Item 5 will be given on a subsequent day. A brief description of each item follows.

1. PULL-UPS. Overhead bar is grasped with palms facing forward, arms are straight and elbows locked. Candidate pulls up until chin is over the tip of bar and horizontal to the floor. Pull-up is complete when returned to a straight hanging position with feet off the floor. Any partial completion of a pull-up is not included in the final count.

2. TWO-MINUTE SIT-UPS. Candidate lies horizontal with the knees flexed, feet flat on the floor (held by a partner), and hands interlocked behind the head. A sit-up is executed by sitting up, touching the chest to the thighs and returning to the floor. Any sit-up where the hands come from behind the head, or vertical/horizontal positions are not reached will not counted for total sit-ups completed in two minutes.

3. STANDING LONG JUMP. Feet are positioned immediately behind the take-off line. Candidate jumps forward from both feet and lands with both feet simultaneously. Distance is measured from the initial line to the rear edge of the rearmost heel. Jumps where the candidate falls backwards or takes-off or lands on one foot do not count.

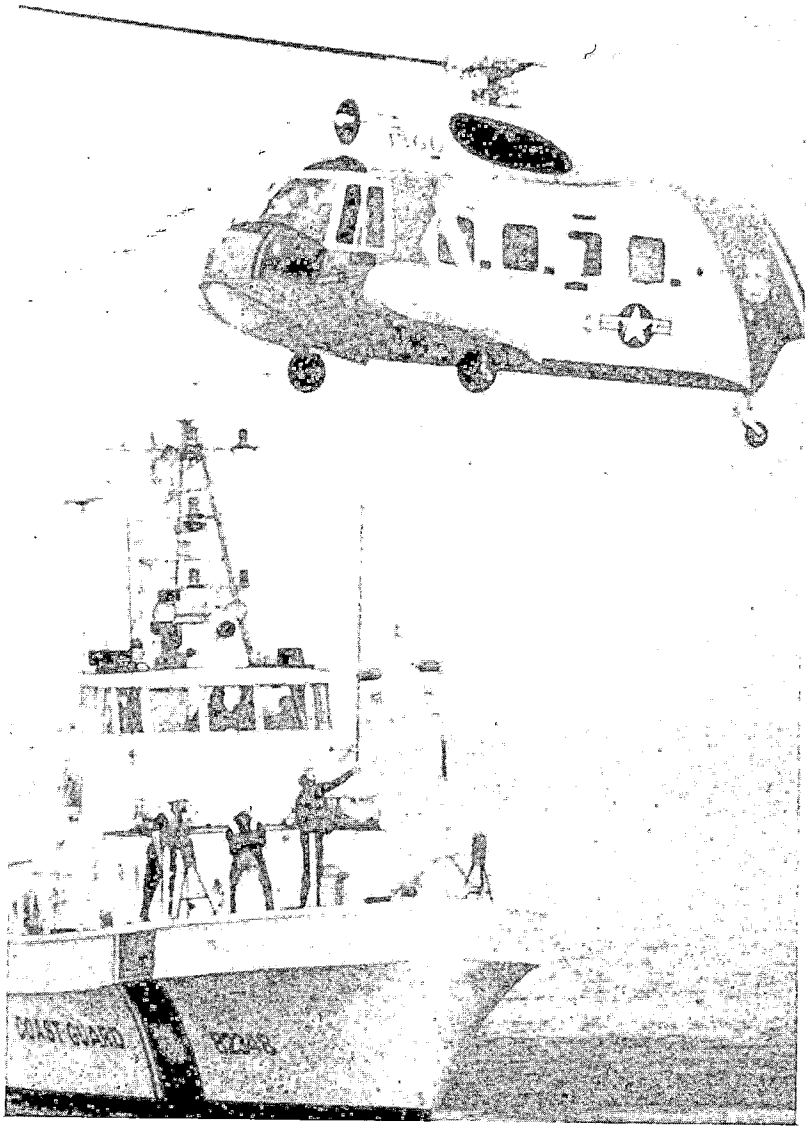
4. 300 YARD SHUTTLE RUN. Candidate consecutively runs five lengths of 60 yards each. At the end of each length, one foot must go over the line during the turn. Time completed is counted to the nearest 1/2 second.

5. 1 1/2 MILE RUN/WALK. Candidate should complete the course in the fastest possible time. The test should be given during a separate time period. Time is recorded to the nearest second.

For additional information or questions contact:
Head, Department of Physical Education
U.S. Coast Guard Academy
New London, CT 06320
(201) 444-8600

POINTS	PULL-UPS		SIT-UPS	LONG JUMP INCHES		300 YARD SHUTTLE (SECONDS)		1 1/2 MILE RUN/WALK (MIN:SECS)		POINTS
	MEN	WOMEN		MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	
100	20	9	90+	110+	96+	44.0	49.0	8:00-8:04	9:25-9:29	100
99										99
98			89	109	95	44.5	49.5	8:05-8:09	9:30-9:34	98
97		8.5								97
96	19		88	108	94	45.0	50.0	8:10-8:14	9:40-9:44	96
95										95
94		8	87	107	93	45.5	50.5	8:15-8:19	9:45-9:49	94
93										93
92	18		86	106	92	46.0	51.0	8:20-8:24	9:50-9:54	92
91										91
90		7.5	85	105	91	46.5	51.5	8:25-8:29	9:55-9:59	90
89										89
88	17		84	104	90	47.0	52.0	8:30-8:34	10:00-10:04	88
87										87
86		7	83	103	89	47.5	52.5	8:35-8:39	10:05-10:09	86
85										85
84	16		82	102	88	48.0	53.0	8:40-8:44	10:10-10:14	84
83										83
82		6.5	81	101	87	48.5	53.5	8:45-8:49	10:15-10:19	82
81										81
80	15		80	100	86	49.0	54.0	8:50-8:54	10:20-10:24	80
79			79							79
78		6	78	99	85			8:55-8:59	10:25-10:29	78
77			77			49.5	54.5			77
76	14		76	98	84			9:00-9:04	10:30-10:34	76
75			75			50.0	55.0			75
74		5.5	74	97	83			9:05-9:09	10:35-10:39	74
73			73			50.0	55.5	9:10-9:14		73
72	13		72	96	82			9:15-9.19	10:40-10:44	72
71			71			51.0	56.0	9:20-9:24		71
70		5	70	95	81			9:25-9:29	10:45-10:49	70
69			69			51.5	56.5	9:30-9:34		69
68	12		68	94	80			9:35-9:39	10:50-10:54	68
67			67			52.0	57.0	9:40-9:44		67
66			66	93	79			9:45-9:49	10:55-10:59	66
65		4.5	65			52.5	57.5	9:50-9:54		65
64	11		64	92	78			9:55-9:59	11:00-11:05	64
63			63			53.0	58.0	10:00-10:04		63
62			62	91	77			10:05-10:09	11:05-11:09	62
61			61			53.5	58.5	10:10-10:14	11:10-11:14	61
60	10	4	60	90	76			10:15-10:19	11:15-11:19	60
59			59			54.0	59.0	10:20-10:24	11:20-11:24	59
58			58	89	75			10:25-10:29	11:25-11:29	58
57			57			54.5	59.5	10:30-10:34	11:30-11:34	57
56	9		56	88	74	55.0		10:35-10:39	11:35-11:39	56
55		3.5	55			55.5	60.0	10:40-10:44	11:40-11:44	55
54			54	87	73	56.0	60.5	10:45-10:49	11:45-11:49	54
53			53			56.5	61.0	10:50-10:54	11:50-11:54	53
52	8		52	86	72	57.0	61.5	10:55-10:59	11:55-11:59	52
51			51			57.5	62.0	11:00-11:04	12:00-12:04	51

POINTS	PULL-UPS		SIT-UPS	LONG JUMP INCHES		300 YARD SHUTTLE (SECONDS)		1 1/2 MILE RUN/WALK (MIN:SECS)		POINTS
	MEN	WOMEN		MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	
50		3	50	85	71	58.0	62.5	11:05-11:09	12:05-12:09	50
49	7		49			58.5	63.0	11:10-11:14	12:10-12:14	49
48			48	84	70	59.0		11:15-11:19	12:15-12:19	48
47			47			59.5	63.5	11:20-11:24	12:20-12:24	47
46	6		46	83	69	60.0	64.0	11:25-11:29	12:25-12:29	46
45		2.5	45			60.5	64.5	11:30-11:34	12:30-12:34	45
44			44	82	68	61.0	65.0	11:35-11:39	12:35-12:39	44
43	5		43			61.5	65.5	11:40-11:44	12:40-12:44	43
42			42	81	67	62.0	66.0	11:45-11:49	12:45-12:49	42
41			41			62.5	66.5	11:50-11:54	12:50-12:54	41
40	4	2	40	80	66	63.0	67.0	11:55-11:59	12:55-12:59	40
39			39			63.5	67.5	12:00-12:04	13:00-13:04	39
38		1.5	38	79	65			12:05-12:09	13:05-13:09	38
37	3		37			64.0	68.0	12:10-12:14	13:10-13:14	47
36			36	78	64			12:15-12:19	13:15-13:19	36
35		1	35			64.5	68.5	12:20-12:24	13:20-13:24	35
34	2		34	77	63			12:25-12:29	13:25-13:29	34
33			33			65.0	69.0	12:30-12:34	13:30-13:34	33
32			32	76	62			12:35-12:39	13:35-13:39	32
31	1		31			65.5	69.5	12:40-12:44	13:40-13:44	31
30			30	75	61			12:45-12:49	13:45-13:49	30
29			29			66.0	70.0	12:50-12:54	13:50-13:54	29
28			28	74	60			12:55-12:59	13:55-13:59	28
27			27			66.5	70.5	13:00-13:04	14:00-14:04	27
26			26	73	59			13:05-13:09	14:05-14:09	26
25			25			67.0	71.0	13:10-13:14	14:10-14:14	25
24			24	72	58			13:15-13:19	14:15-14:19	24
23			23			67.5	71.5	13:20-13:24	14:20-14:24	23
22			22	71	57			13:25-13:29	14:25-14:29	22
21			21			68.0	72.0	13:30-13:34	14:30-14:34	21
20			20	70	56			13:35-13:39	14:35-14:39	20
19			19			68.5	72.5	13:40-13:44	14:40-14:44	19
18			18	69	55			13:45-13:49	14:45-14:49	18
17			17			69.0	73.0	13:50-13:54	14:50-14:54	17
16			16	68	54			13:55-13:59	14:55-14:59	16
15			15			69.5	73.5	14:00-14:04	15:00-15:04	15
14			14	67	53			14:05-14:09	15:05-15:09	14
13			13			70.0	74.0	14:10-14:14	15:10-15:14	13
12			12	66	52			14:15-14:19	15:15-15:19	12
11			11			70.5	74.5	14:20-14:24	15:20-15:24	11
10			10	65	51			14:25-14:29	15:25-15:29	10
9			9			71.0	75.0	14:30-14:34	15:30-15:34	9
8			8	64	50			14:35-14:39	15:35-15:39	8
7			7			71.5	75.5	14:40-14:44	15:40-15:44	7
6			6	63	49			14:45-14:49	15:45-15:49	6
5			5			72.0	76.0	14:50-14:54	15:50-15:54	5
4			4	62	48			14:55-14:59	15:55-15:59	4
3			3			72.5	76.5	15:00-15:04	16:00-16:04	3
2			2	61	47	73.0		15:05-15:09	16:05-16:09	2
1			1			73.5	77.0	15:10+	16:10+	1



APPENDIX VI
1991 CLASS DATA

343 RESPONSES (293 Men, 50 Women)

AGE OF CADETS AT TIME OF ENTRANCE

AGE	NUMBER (PERCENT)		
	(M)	(W)	(T)
17	95 (32.4)	20 (40.0)	115 (33.5)
18	168 (57.3)	21 (42.0)	189 (55.1)
19	20 (6.8)	6 (12.0)	26 (7.5)
20	5 (1.7)	3 (6.0)	8 (2.3)
21	5 (1.7)	0 (0.0)	5 (1.4)

PRIOR EDUCATION OF ENTRANTS

	NUMBER (PERCENT)		
	(M)	(W)	(T)
One or more semesters of college	32(10.9)	7 (14.0)	39 (11.4)

ACADEMIC STANDING IN SECONDARY SCHOOL

STANDING	PERCENT
Upper 10%	68%
Upper 20%	88%
Upper 30%	99%
Upper 40%	100%

OFFICES HELD DURING SECONDARY SCHOOL

	NUMBER (PERCENT)		
	(M)	(W)	(T)
President, Senior Class	14 (4.7)	0 (0.0)	14(4.0)
President, other than Senior Class	18 (6.1)	1 (2.0)	19(5.5)
Senior Class Officer, other than President	35 (11.9)	9 (18.0)	44(12.8)
President, one or more school sponsored clubs	69 (23.5)	18 (36.0)	87(25.4)
President, one or more non-school sponsored clubs	40 (13.7)	8 (16.0)	48(14.0)

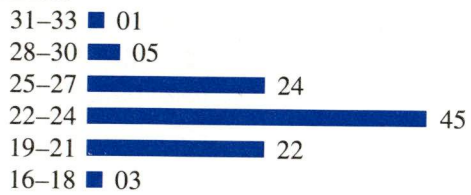
ENTRANTS AWARDED ONE OR MORE SCHOLARSHIPS

SCHOLARSHIP	NUMBER (PERCENT)		
	(M)	(W)	(T)
National Merit			
Merit Scholar	4 (1.0)	0 (0.0)	4(1.0)
Finalist	5 (2.0)	2 (4.0)	7(2.0)
Semi-Finalist	9 (3.0)	2 (4.0)	11(3.0)
Athletic	33 (11.3)	3 (6.0)	36(10.5)
Academic	167 (57.0)	35 (70.0)	202(58.9)

SCORES EARNED ON AMERICAN COLLEGE TESTING ASSESSMENT (ACT)

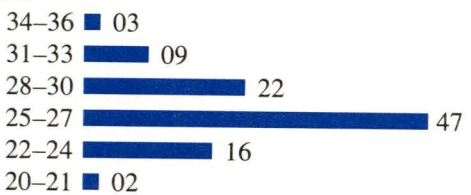
PERCENT OF CADETS FALLING IN EACH INTERVAL LISTED

ENGLISH



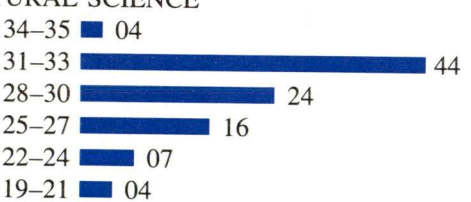
N = 201
MEAN = 23.6

MATH



N = 201
MEAN = 27.4

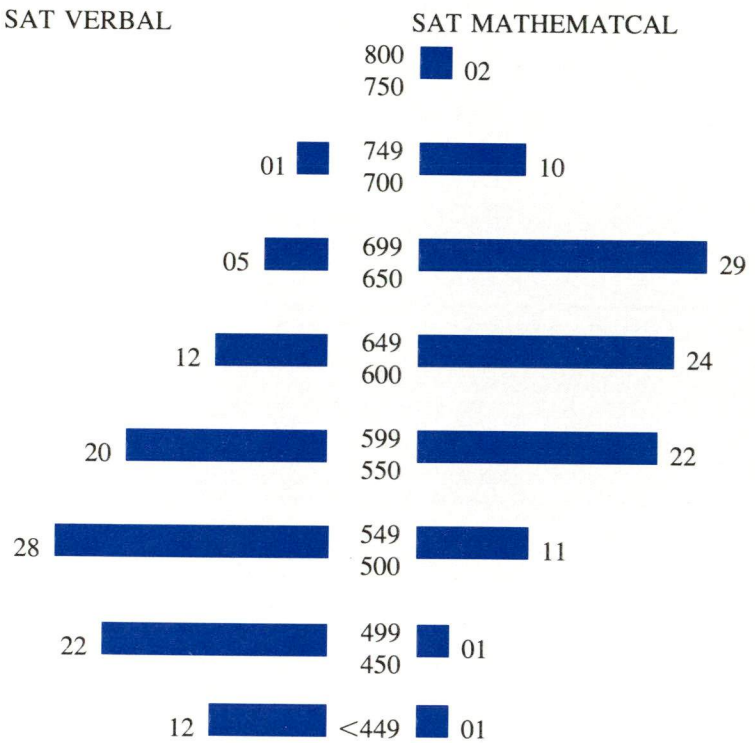
NATURAL SCIENCE



N = 201
MEAN = 29.6

SCORES EARNED ON SCHOLASTIC APTITUDE TESTS (SAT)

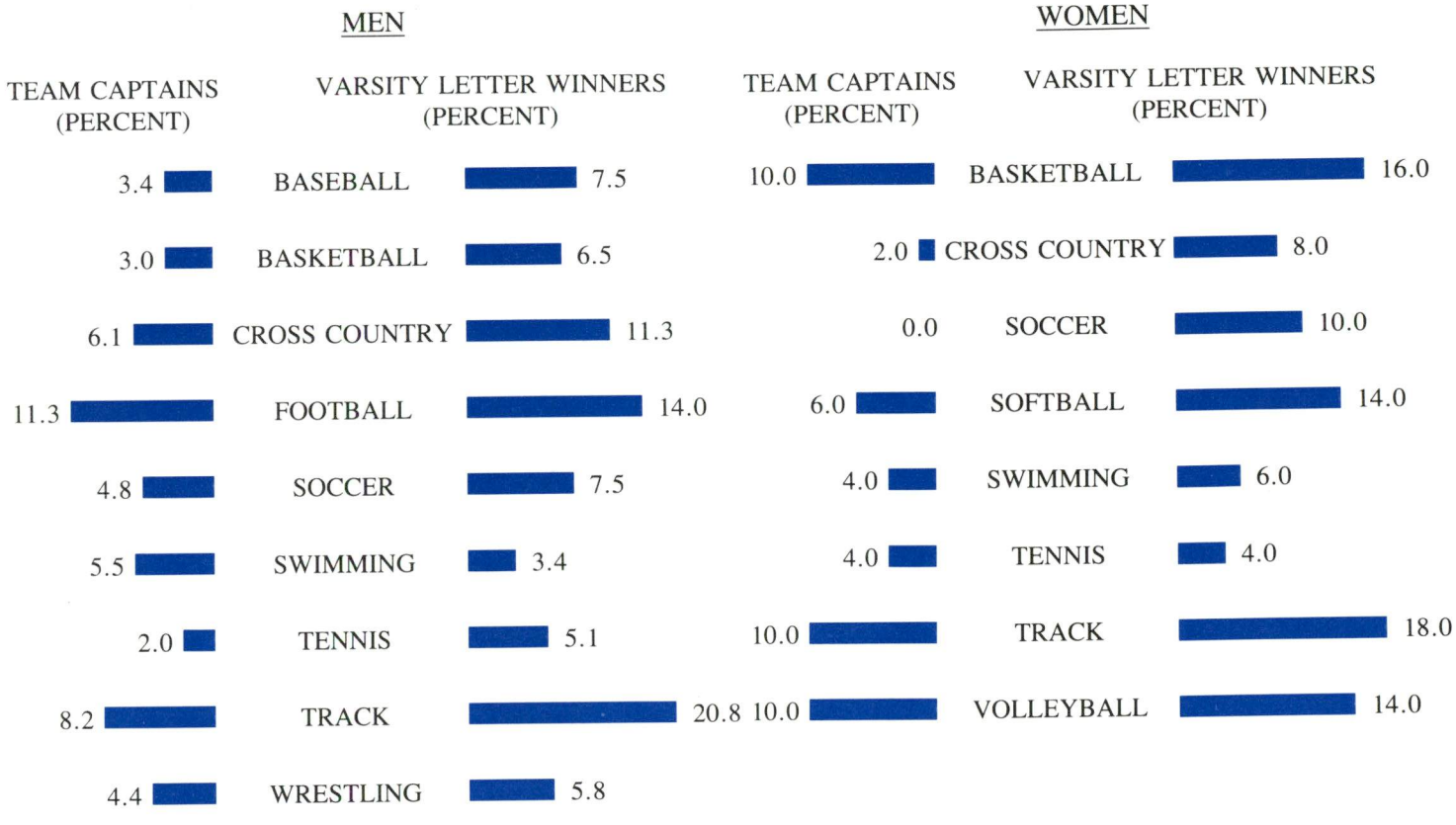
PERCENT OF CADETS FALLING IN EACH INTERVAL LISTED



N = 286
MEAN = 545

N = 286
MEAN = 640

VARSITY SPORT PARTICIPATION IN SECONDARY SCHOOL



EXTRACURRICULAR RESPONSES

ACTIVITY	NUMBER (PERCENT) (M)	(W)	(T)
State or regional speech or debate contest	27 (9.2)	3 (6.0)	30 (8.7)
Major part in a play	47 (16.0)	9 (18.0)	56 (16.3)
Had poems, stories, essays or articles published	58 (19.8)	10 (20.0)	68 (19.8)
Placed (1,2,3) in a state/regional science contest	32 (10.9)	8 (16.0)	40 (11.7)
High rating in a state/regional music contest	45 (15.3)	10 (20.0)	55 (16.0)
All-state/All-regional orchestra, band, choir or chorus	26 (8.9)	5 (10.0)	31 (9.0)
National Science Foundation summer program	1 (0.3)	3 (6.0)	4 (1.2)
Boys/Girls State representative	59 (20.1)	8 (16.0)	67 (19.5)
Eagle Scout/Girl Scout Gold Award	30 (10.2)	0 (0.0)	30 (8.7)

APPENDIX VII

APPLICANT'S CHECK-OFF LIST

___ 1. Complete and mail Application for Appointment as Cadet, U.S. Coast Guard Academy by December 15.

___ 2. Take SAT or ACT examinations by December of the year you are applying. Have the scores sent to the Academy.

___ 3. Review medical requirements for eligibility listed in Appendix IV. Pay special attention to the visual standards.

___ 4. Upon receipt of supplementary admission forms (returned to Academy by 15 January):

- ___ a. complete pink and purple forms and return to Academy admissions.
- ___ b. give grey form to guidance counselor for completion. Please advise the counselor that your accurate class standing should be reported.
- ___ c. distribute blue forms to your English and Math instructors and red form to your physical fitness instructor or coach.
- ___ d. (if in military service, reserve program, JROTC) distribute blue form to your Commanding Officer for completion and attach a copy of your recent marks.
- ___ e. (if attending college or preparatory school) have the registrar forward your transcript to the Academy.

Where is the Coast Guard Academy located?

Airline: Groton-New London Airport is located approximately 6 miles from the Academy. Delta and U.S. Air provide daily commuter service from surrounding metropolitan cities. Rental cars and taxi transportation are available.

Bus/Train: New London's Amtrak and Greyhound station is located approximately 1 mile from the Academy. Cab fare to the Academy is available for about $3.00 each way.

Ferry: The Orient Point ferry terminal is adjacent to the train station. Service between Orient Point, Long Island, New York and New London is available year round.

Car: The Academy is located just off Interstate 95. If arriving from the south, take exit 82A; when arriving from the north, take exit 83. Follow signs directly to the Academy, approximately 1 mile. The Academy is 2 1/2 hours from New York City, 3 hours from Boston and 1 hour from Hartford and Providence.

Director of Admissions
U.S. Coast Guard Academy
New London, CT 06320-4195
(203) 444-8501

THE COAST GUARD ACADEMY SUCCESS FOR YOUR FUTURE