

STEPHEN KRETA-Dean of Academic Affairs-0830, June 6, 2007

CMA program is approved for sea time based on number of cruises and days of sea time. See attachment of package with President Eisenhardt's signature.

When a graduate candidate applies for a Coast Guard license, the Coast Guard gets letter from Records person (Debbie Fischer) saying that person has met all of the requirements. CMA's program is approved by Coast Guard and by MARAD.

Paul Leyda-Department Chair of Marine Transportation Department—has been department chair for about a year. He was interviewed later in the day.

Marino Cacciotti's Overall GPA-was 2.722—"average" for marine transportation major, 3.0 is good and he is under that. First semester he earned a was 2.83, then 2.5, 2.7, then 2.9, junior went into 3.3 in one semester, got a B+ in celestial navigation, A in ship handling, failed his GMDSS class, repeated it and got a B+ (F will go away once repeated, but will not count towards GPA). Worst existing class was in Admiralty Law got a B-, got a C+ in one subject, made the Dean's list one semester, got a C in meteorology, got "credit" in his senior cruise, B in Radar, Seamanship a B, Ship handling lab got an A.

He did all right in his major, but was pulled down in management C-, Admiralty law, C in chemistry, C in Economics. On his Coast Guard exam we see his grades, from file. He did fairly well on his license first time around.

Passing all 7 sections of his Coast Guard license, as Marino did, is "very good." CMA doesn't teach to pass the license, students take the exam in January, so they understand that if they miss a section in January they can redo it in February, he figures that perhaps ½ will pass the exams the first time around. When CG switched and allowed people to retake the test a week later the urgency of passing the test the 1<sup>st</sup> time around went down.

Not knowing him he was a "middle of the road guy" according to the Dean. Cal Maritime does not perform class ranking so we can't determine how his performance ranked compared to peers.

He knows real good and real bad students. Of the class of 2007 Dean doubts that he knows 20% of class. According to Dean about 70% of entering freshman graduate from the school. Some have trouble with the academics; some go on a cruise and learn that they don't like shipping.

Don Zingale, VP of Academic Affairs, is not familiar with the student, Marino. Most students whom he meets have certain issues that they want him to deal with. Has just finished his 3<sup>rd</sup> year at CMA.

Biggest pressure that the school faces (he has been with Cal State Schools for over 30 years) is the "healthy" tension between increased demands of professions vs. the political

pressure within public higher education to graduate people in 4 years. The average time now for a student to earn his/her degree is approaching 6 years for many public institutions, and colleges are facing increased number of courses to meet demands of industry yet to produce bachelor's degree with 128 units.

They, CMA, bows more to industrial and safety requirements in marine transportation studies, in a program that has 156 units, largely because of STCW requirements. The desire to maintain general education program is manageable. US' interpretation of STCW regulation is probably the most consistent in the world, the academies get together at least once a year (Sept. they will meet in Castine, Maine) and they talk about a variety of issues, e.g., buying fuel, CG STCW requirement interpretation. A second group that specifically deals with STCW meets annually in Boston, includes VPs and some Department Chairs of Academies, to see what are challenges that programs are facing.

For example, larger Maritime Academies meeting this September will be in Maine, 2 years ago it was in Galveston in which the CG was looking at criteria to determine whether a course meets STCW requirements. CG required that a maximum number of students be enrolled in the class, but faculty and administrators knew that a better measure of STCW qualifications is not the sign off in each course or number of students in each class, but for Cal Maritime, that everything learned over the past 3 years was the senior cruise where everything learned before is put together and presented to them.

Smaller group in Boston talked about decision of the CG that to continue to maintain your license you had to have so many shipboard hours, once you have acquired your license, in order to maintain accreditation/approval CMA had to have minimum amount of sea time—but this was a problem for faculty in Maritime Academies where all licensed faculty must go to sea every year, but there was a concern that even in Cal Maritime faculty would fall short of requirements to maintain license, so question was whether other things can be substituted such as simulation (requirement was one year in five, but since they have 2 months of sea time faculty can only get 10 months in 5 years.

Putting this together the CG has its idea of what is checked off vs. what Maritime Academies view as what is accomplished in the actual curriculum. Ernie Fink of CG NMC began to understand this.

PAUL LEYDA, Department Chair, Marine Transportation, joined interview at 1030. Capt. Leyda is the department chair and taught Marino NAU 410, License Seminar-a review of most of the curriculum with regard to material tested on CG exams, basically a review course for the 7 modules of the course and guide them in practice. Marino performed “right in the middle,” he was a standard student. Had no inkling that Marino would have been the person involved in the accident under investigation. It’s a little baffling, even a 3<sup>rd</sup> mate should have been able to see it the rocks that were stuck.

He, Paul, is the Chair of the Marine Transportation department, but has no recollection of Marino other than the one class he taught, has only been department chair for 1 ½ years. Also taught him in License Security. Marino was not a super go-getter, he would do the assignment. He exhibited a number of student behaviors. Paul would put him in the middle with regard performance and motivation, basically a low B student, like an 83-84 type student.

He doesn’t think he had Marino for simulation, and doesn’t think that he had him on the cruise, so it would not have been in the class in which he, Marino, would have learned BRM type stuff.

On cruise they do address responsibilities of officer of the watch.

Evaluations are done of students on watch performance, and following that there are debriefs. They find that the simulator is the best teaching method around. They evaluate students on BRM, both as an individual skill and as a team skill. Also they are one of the few academies that have two simulators.

They have scenarios that are not open ocean since that isn’t good teaching session, but most involve waterways, and arrival and departure watches where they have to work with pilots, test gear, etc, i.e., scenarios that require students to do a lot a work and exercises.

Capt. Leyda does not have experience with Z drives.

Curriculum is a building block skills approach. The students have limited choices in classes since it is a structured curriculum, capstone class for marine transportation is Simulator II, this is not much instruction there, it is for students to practice skills in. If students don’t qualify they don’t pass the course.

Students take 3 navigation courses, some are skills specific so it is hard to integrate the knowledge learned in the courses until they go on cruises, e.g., they will take rules of the road before they go on commercial cruise, they will have taken radar also so this will be integrated this as well.

Hardest thing to teach students is to prioritize what is to be done on the bridge, that and situational awareness are things that are difficult for young mates. Classes that Marino took cover what a mate is required to do on a deck and on a wheelhouse. The curriculum includes practice problems, PowerPoint, real problems but they try to present them, all

along the line, with healthy doses of real world hands on work where students have to do it themselves.

Cal Maritime approach is very much hands on, they believe that it is the strongest part of the program, reinforcing basic seamanship skills all along the line. Brand new mate would be expected to follow watch orders, bridge procedures, and knowing when to call the captain. Students coming out of CMA should be able to perform basic functions, hold a course, maneuver around occasional traffic, or at least make that phone call.

From a teacher's point of view ECDIS makes it almost too easy for students, unfortunately students tend to bury their heads in instrumentation, and instructors need to force them to rely on more basic watchstanding skills. They try to teach vertically so that their graduates should be able to function even if all navigation equipment taken away.

Graduates get a year of sea time or its equivalent, some of it gained on training vessel, some on vessel. If births are available they try to put them on deep-sea vessels, but the fact that Marino was on Red and White fleet that tells him that there may not have been births available. Some years they are not allowed to, but they figure that the commercial experience is still worthwhile. Working on Red and White in SFO Bay he thinks that it would be good for visual maneuvering but not navigation. Also Red & White has different type of fleets.

Students on CMA's training ship are credited with 1.5 days per day, on a commercial vessel it is day for day. Students also get credit for working for small craft. This is a set formula for sea time determination that is approved by CG. Real part of the training comes in the students' Golden Bear cruise and the simulation. Even in the commercial market it's hard to say what they will do for the cadets. Their academic project on commercial cruise is basically a familiarization rather than an assessment. Has been with CMA since 92.

Has not seen much of a change in requirements over the years, since he joined in 94. If anything they are formalizing the process more, requiring certain preparation in relieving a watch than there used to be.

Clearly Marino was unaware of his position at the time of the accident, only thing he can think of in terms of lessons learned from this accident is to tell students to monitor rate of turn, and human eyeball is way to do this. The error made in the accident is so fundamental that he can't think of anything to change, it gets down to situation awareness.

They encourage students to use forward-looking real time questions. He would expect a 3<sup>rd</sup> mate out of CMA to be standing watch by themselves on the 1<sup>st</sup> day, on any type of ship. Of course, putting a green 3<sup>rd</sup> mate in the Far East where there's a lot of traffic would not be good without a lot of additional guidance. Clearly, a new graduate should know the basics, know when they are overwhelmed, and know when to call the captain. STCW requirements are spread throughout the curriculum.

Where there are practical assessments they are written there and when a student passes material with 70% they get passing grade on that STCW requirement. When they pass a course TRB (training record book) will be upgraded to reflect that.

Simulator II is the capstone class, if students don't pass they must repeat the course. This has happened 2 or 3 times since the course was introduced that students required to retake the class.

CMA just started a course in ECDIS last semester and they have integrated this onto ECDIS unit on the wheelhouse of the training vessel. Now is the first time the ECDIS is on the vessel, and current students would not have taken the course, but they have had an electronic chart display on the vessel for some years now, so he would have known that its integrated with ARPA.

As a vessel master encountering a recent graduate, he would ask him about his commercial cruise experience, would ask him if he knew the equipment and knew how to operate them and where he had an opportunity to know the safety equipment onboard. He, Paul, worked on foreign flagged industry so he is more keenly aware of issues with passengers on board. But to be quite frank, a new mate in pilotage waters, with one helmsman and one mate, the companies would usually put a new mate on to be observed before giving him the watch.

He, Marino, was put on the vessel for a week to understudy, but as captain he would want to have observed him first before putting him on watch, given that other 3<sup>rd</sup> mate got sick.

He feels very bad about what happened, they use NTSB findings and other case studies throughout their curriculum.

## JENNIFER YOUNT-COMMANDANT OF CADETS

She taught Marino in his freshman year, in the class, Seamanship, one of the 1<sup>st</sup> classes that he took at CMA. He was someone not in the top or bottom 10%, but someone who was in the middle 80%. As a student he was in the middle. He did well in her class; he got a B, which was pretty high in that class, above average.

She may have sailed with him as well on the training vessel, but doesn't really remember him. As the Commandant of Cadets she would not typically deal with academic issues, unless it's an issue of academic integrity. She dealt primarily with behavioral issues, but she has no record of him, except for routine type issues, watchstanding, formations and personnel inspections are the big ones that they would oversee. They also do leadership development, but he was not in the top 10% so he was not seen there.

Dormitories are residence halls and not considered a barracks. Her reaction to learning that Marino was on watch at the time of the *Empress of the North* accident, her first reaction was "there but for the grace of god go I" and any sailor who doesn't say that is not telling truth. Marino was a "vanilla" grad, she would not have seen that coming, he was not a dirt bag.

She covered STCW requirements in her class and on cruise and she would have taught him on his freshman cruise. She goes on training cruises every year, as one of the licensed faculty. To her the training cruises work great as training platform but there are opportunities for improvement. These include use of adjuncts on the bridge because she's not sure that they are as attuned to the department and college requirements as full timers are. At times, because there are 2 or 3 seniors on the bridge, some one who is weaker by nature will be buoyed by someone who is stronger. She knows that you can pick your watch mates so people will pick the stronger guys to be on watch with them. But because of the sheer number of watches that are stood there are opportunities to pass.

Students have no individuals watches. There are always other seniors available but the sheer number of seniors that they are graduating makes it difficult, she has failed people on watches that other people have passed and she couldn't figure out how the person was able to pass. In those instances she has gone to the department chair and said that she had doubts about the person and required a remediation of some type.

She would not have had Marino as a student in senior cruise because she wasn't on the training cruise when he was a senior.

She thinks that a 3<sup>rd</sup> mate should be able to handle a watch but putting a 3<sup>rd</sup> mate on watch at night in confined waters is not a good thing.

She has never taught Sim II, but has taught Sim I. She can't comment on Sim II. They get a lot of training on the vessel, they are intense and they pack a lot in there. Students don't stand watch every day.

Marino's conduct record is "above average" for students. Most egregious conduct issue he did was missing a watch as a senior. But she didn't adjudicate it so she doesn't know its disposition.

BILL SCHMID-Taught Marino in Sim II, Liquid Cargo Operations, and Nav I. He has been on training cruises with him.

He would not have predicted this type of accident involving Marino. Seems that he, Marino, was set up, take a brand new 3<sup>rd</sup> mate, not familiar with ship handling, inside waters are Pilotage waters where you don't throw a 3<sup>rd</sup> mate into.

Marino was a good average to above average student. Very willing, very coachable, but not a strait A rock star, but most of the best sailors are not. He knows that multi-tasking for young people is not easy, although they work at it in the sim.

He had no simulation training in z drives, they coach them in planning turns ahead of time, they talk about it exhaustively in class, so the notion of not doing this was not new to him unless he was overloaded.

He believes that being a new young 3<sup>rd</sup> mate is foreign to someone in the USCG. Bridge is a huge empty place when it's just you and a helmsman, especially at night in a vessel that he's not familiar with. Even though he has a license, and even though he's STCW competent there's academic experience and there's real world and you just don't pitch somebody out in that type of situation.

He reviewed Marino's sim training. They never do a bridge sim of just student and helmsman, there's always somebody also there to help them recognize BRM principles. Even on training ship they have licensed deck officer as a backup. Student is never alone with a helmsman.

He bumped into Marino 2 days before accident in grocery store and he was pumped up about the job, so he knows that his adrenaline was really high and in young people this could elevate their stress a little.

They talked about preplanning wheel over points in debriefing, this was in Bill's notes of class. It's not like he was unfamiliar with the concept.

When they assess a student, when they say the student is competent, they are competent on that day, several months later they may be different.

In the Sim II class he was above average. As radar observer in last scenario he got 80%, pre and post brief are key components of this. As navigator he was 75% but on set and drift he didn't perform well. He was even with his team on one scenario (but a drawback on this type of exercise is that team can bring you down). On scenario 6 he got an 80%, which is a good grade, he, Bill, doesn't give many "very goods," typically the students will get satisfactory.

A lot of his comments tend to be negative but he noticed on one scenario comments regarding Marino were positive. He did well on planning a turn but not on stopping the ship.

Nine scenarios are given in the Sim II course, with 1<sup>st</sup> one a familiarization scenario. On the next 2 student will serve as a mate and on another scenario he will serve as a radar observer of another. Marino was the mate on scenarios 2 and 6. He got a 72 as watch mate in 2<sup>nd</sup> scenario. This is not an unusual grade since they are learning what his, Bill Schmid's, requirements are and they are learning about each other on team.

Mr. Schmid also taught Marino in Tank Vessel Operations. He believes that he was a B student in that class where C is an average student. Marino was not exceptional in any of the courses but he did not fail one either.

From an academic perspective, 3<sup>rd</sup> mates have been assessed as competent. Typically merchant ship will sail with captain and pilot on bridge, but then pilot will exit and new guys will take over in open ocean so even though license says you are competent to do that, how you wield those tools are gained from experience. A prudent master coaches a young guy through. You must have the license, but that is just a start to learn real world operations in a ship in which you have the structure that enables you to learn that.

If we can turn the vessel over to a brand new guy why would we need a pilot and a master? A brand new 3<sup>rd</sup> mate just doesn't have that experience.

California Maritime doesn't have industry observers in the Sim II course. One of the problems is that instructors are victims of their own experiences, and it takes a little time to break yourself of that habit so having industry people to look at scenarios is a good idea but having them look at students is not a good idea since they are still students and not ready to be evaluated.

Sim gives students much experience but it cannot duplicate real world operations on a bridge. One danger is that students see sim as a giant video game. They would appreciate feedback from industry. It would be helpful to hear from them about strengths and weaknesses of their graduates.

Marino should have had better sense of in close maneuvering in Red & White fleet. They push hard for them to get on big ships. Have had students go out on tugs for commercial cruises but some times that is all that's available. They rely on industry's good graces whereas USMMA students are guaranteed billets from federal standards. It is not a perfect world and then you have to look at each ship to figure out what students did on the vessel. On some the students were treated as Ordinary Seaman. Cal Maritime thinks it's invaluable to see what real world is like. The vast majority of students go out on big ships, but it does vary from year to year. They have a sea project that they take with them and they do what is appropriate for them for the particular vessel.

Students are required to maintain a daily log of activities on the commercial cruise with sections on operations, navigation, celestial, drawings of ship systems, vessel awareness and if on tankers they are to observe and assist. It is largely experiential, e.g., did you see and start an IG fan and on a tug you would never do this. So the students' experience is

all over the place on that. Usually a check off sheet on that. One faculty member grades them and then the project is returned to student.

They have wrestled with “what do they really want to achieve with the commercial cruise.” It’s really meant to be experiential even though it’s 8 credits. They try to get feedback from students so that if it’s a negative experience they want to know that. They get evaluations from companies about students, but not much from students about the companies.

Bill Schmid thinks that they are the only academy with 2 sim classes. They have sim I (2<sup>nd</sup> semester junior year) where each class focuses on a specific skill set, and this gets them up to speed on sim equipment. Then after their senior cruise they get sim II. But they are the only ones that do that. It’s an expensive class to run.

Other than that, they, the state academies, are all slaves to basic STCW requirements so that the academies are fairly closely aligned, they have all taken the CG exams and all know what is needed to be successful. He graduated from Maine and he finds that CMA is a little more hands on than the others. They are a little different but not radically so.

They, faculty, all come from similar background. Capt. Leyda met with his counterparts at other maritime academies.

DAN WEINSTOCK-Department of Nautical Operations

He just came back from the training ship and heard a little bit about accident. He taught Marino in Marine Supervisory Lab in Fall 2005.

Marino was a “good kid.” He had him 18 months ago in class. Course is a “maintenance course on the ship.” The ship is a real ship with a unique mission, and a lot of what they do is real maintenance stuff that they would do on any ship, and some related to what ship does day and day out. He doesn’t remember what exact projects he worked on.

He was somewhat shocked at aspects of the accident and shocked to hear that Marino was involved. He taught him in two classes, where both were basically the same, one in fall and one just before the senior cruise. The senior one is preparing the ship to pass is CLI inspection.

He, Dan, is the relief captain on the training ship and he just got back 3 days ago from Viet Nam. Given the size of the vessel, working on the SFO bay on the Red and White lines would have been a good experience. Running people around in confined waters in SFO Bay, might be a good thing compared to deep sea, with just going point to point.

He is shocked that the captain of the ship wasn’t up there on the bridge. He just got off as relief captain, and cannot imagine having a brand new mate on the watch and captain not up there. His first job out of CMA was on a chemical carrier and his captain was there until they were absolutely positive that they were comfortable.

He is also surprised that on a deep sea vessel the track lines are well laid out and for someone to decide at the last minute to decide whether they go north or south of the rocks, to leave that decision to a green 3<sup>rd</sup> mate is interesting.

He honestly can’t remember specifics about Marino. Doesn’t remember having problems with him and doesn’t remember specifics. He wasn’t like someone who would have done something bad that would have stood out.

He must have sailed with him because he remembers seeing him on a cruise last year where he relieved the captain in Chile, but doesn’t remember anything striking about him. Always a licensed faculty member on bridge on training vessel, the intent of CMA is to allow students to get as much responsibility as possible, without letting them get in trouble, but that is the balance between two, to keep things within one’s comfort zone so you can bail someone out before something happens.

He would guess that on 3 or 4 watches that Marino had a captain standing over him. That was a busy run then. Started with cargo where 2<sup>nd</sup> mate stood watch with him, and you assess new people.

Through observation you start to develop an idea of how a person is on the bridge. You just don't ask someone, you see how he or she plot positions, look at radar and so on. A lot of cues as to how someone stands a watch. You look at their performance.

Now they have simulation training, this is the only school that offers 2 simulation training semesters. One might complain about the number of students on the training watch, but when he went to school the number of students in class was if anything larger than it is now. Today with simulator training is better now than when he went to school, graduating in 1984. Its possible that students then had more hands on training however.

They had a piloting navigation class that was hands on, about 9 or 10 years ago, and that class went away. Who is to say if more practical classes would have prevented the accident.

The reality is that this accident was caused by a captain allowing a brand new 3<sup>rd</sup> mate to take the watch. There's a lot of things pushing and shoving the curriculum, a lot of new requirements. CMA has been know for its hands on training and some of that has gone away. When you train people to go on the water, the more hands on training they have the better it is for everyone. The simulator is a great tool, and he taught there for 7 or 8 years, but its still a tool, that should not be used instead of practical training.

Practical training is anything that gets someone out on the water. Doing away with the practical aspects of training, he thinks that this is a bad thing. He's not necessarily talking about sea time, he's talking about hands on training, e.g., DL 106 ship handling. Need to get students out on ships, having them gain actual experience. The DL 106 vessel is a single screw 106-foot multi-ton vessel and it handles like any single screw vessel, its' sluggish.

If you want a kid to be more comfortable maneuvering a boat then one needs to have a class where they move a boat around.

He has heard that in some of the engineering curriculum they have lost some of the hands on training, but he really doesn't know that curriculum, one would have to ask them. On deck side the piloting one is only one he knows for sure went away, but it seems like when he went to school in the early 80s it seems like there was more hands on training.

There is no cookbook answer how long it takes some CMA graduate to take his own watch. The way it has been done is still going on, the captain just doesn't ask are you OK taking watch, they observe the 3<sup>rd</sup> mates to see how well they use the tools that are available, and coach them through and watch how they handle similar situations.

Job is about moving cargo and after you have proved to someone that you can stand a watch then it's about moving cargo.

He thinks that someone that far out of your element should say that they're uncomfortable but you may not know how much you don't know.

As captain of the training ship he lectures the students on the vessel. Students take two watchstanding classes, DL 320 bridge simulator and another bridge sim class, 420, in these classes the students get a huge dose of responsibility and learn what's expected of them.

He started last year as relief captain, about 120 deck guys last year and this year maybe a little less, on each 2-month cruise. They rotate through the bridge watches so they are divided into 3rds, includes upper and lower classmen. As captain he did not encounter students that he determined would not be qualified proceed, but he did as an instructor. There was one student whose performance was so bad that he was not allowed to graduate. Typically a recommendation not to proceed is based not on the recommendation of the captain but on the committee of faculty members privy to his performance on the bridge. But this is very rare.

At end of each watch a bridge evaluation form is completed and if an evaluation was completed in such a way as to indicate that the performance was unsatisfactory in some categories—senior cruise is first time as senior on cruise, you have to step back and say that they are seniors in college and that therefore your expectation is not as high the first time through as the second time as you see the student more and more on the bridge. So after the first rotation the senior watchstander would then review the evaluations of the students and decide that maybe some students need a little closer overview.

The student that they talked about, who was assessed as not qualified to proceed, those evaluations were consistently very poor. After that the student would be flagged and probably be brought up for additional watches and an extra faculty member is brought up just to observe that performance.

Dan would be amazed if Marino was one of those students, he would be absolutely shocked if that was the case.

JOE BARRON, taught DL 200 “Ship Handling” to Marino, in Fall 2006

“He was a good student” most of the class was in a 65-foot single screw boat and he had good situational awareness of what was going on around him, and how the wind and the current were affecting the boat. Marino did real well. He got a strong A in the class. Did not have any absences. They do a lot of docking practices, not so much piloting, which is done in simulator, they do man overboard, docking and other drills in different conditions of wind and current. He was one of the better students.

He just read the e-mail yesterday from the administration regarding the *Empress of the North* accident, but he was surprised when he heard that it was Marino. To put a brand new 3<sup>rd</sup> mate on watch in a ship he’s not familiar with, is the beginning of an error chain. He sailed 22 years as a master with Chevron and he has some experience in southeast Alaska.

As a captain when he got a new mate, the company most of the time would hire him as an AB with the understanding that he would move up in a month or so, and when he was promoted he would stand watch for a week with another 3<sup>rd</sup> mate, but in those kind of waters he would have been uncomfortable leaving him with a 2<sup>nd</sup> or 3<sup>rd</sup> mate.

He would not have been familiar with the turning characteristics of the vessel. This was the only class he had him in. There were 8 in the class. Of those 8, 5 got an A. Marino tied for the top spot in the average. Grade based on his performance on the boat and not on a test. The course was in ship handling. He was very good on boat handling, he believes that he got a lot of boat handling experience on the ferry for Red & White lines.

Class also included some time on a smaller twin-screw vessel but most of the class was on the single screw larger vessel.

Marino’s commercial cruise was on a ferry boat as he recalls, but doesn’t remember anything about his sea project on industry cruise. He’s not sure about how vessels are selected for student industry cruises.

DR. DON ZINGALE, VP for Academic Affairs  
STEPHEN KRETA, Dean of Academic Affairs

All maritime academies are grappling with the cost of fuel. CMA used to have a single cruise and put all students on the cruise. One of the big differences between training here and in let's say Japan is that in Japan they will have 20 kids on the bridge and the students are told not to touch anything but here they have 4 or 5 kids on the bridge and they touch everything. But if they went to multiple cruises they could not afford the fuel bill.

Now there are students from Cal Poly doing field work on the training vessel in the ports they visit and their visits help pay the costs of the cruises as well. It's really an issue of paying the faculty, having to hire additional faculty because the number of courses offered on campus wouldn't be reduced. Two cruises at 2 months each works out best for them.

They do 2 also because they can't fit all the students on the vessel at once, but if you double the number of students there will be more student on bridge and fewer responsibilities involved by each student.

In Korea and Japan the training ships are state of the art, some built as training ship and on bridge, behind real one is a simulated one. In the US, Texas A & M is trying to find a replacement for its ship, which is doing oil rig repair duty now in the gulf, and every year the cost of a new ship retrofitted for training goes up.

Now question is for MARAD whether to pursue building new ships to be used for training for the academies and then as MSC ships, rather than going to the mothball fleet and trying to overhaul a vessel selected from that fleet. It only cost them 10 to \$12 million to retrofit a vessel from the mothball fleet.

Bottom line is cost. Two cruises is a happy medium for them. Seems to be the right size for them.

The commercial cruises do not cost them money except for faculty who oversee the project and ensures that placement is correct and student gets the support that is needed, e.g., they sent 2 engineers to the U. of Washington ship they had to work with UW to make sure that the students had real internships. The cruise operators only certify the days on ship that they had. They rely on cruise personnel to verify that what they agreed would happen for student did occur.

There are only so many US merchant ships and all maritime academies are out for same berths. They require minimum of 60 days but if on tankers they want them on 90 days to get tanker qualifications. For students, this is a program where students go to school every summer.

Academies have their own way of certifying that they meet STCW standards. CMA is a little bit less regimented as compared to, let's say, Mass Maritime where they have reveille, and parade colors every morning. More of a military culture on the east coast. Their training ship is diesel, Mass Maritime uses a steam one, and Maine has a diesel but students have to endure the Maine winters.

They compare their curricula with other academies and trade faculties from among them, they just sent some to NY Maritime.

There were faculty from Texas A & M on their ship last summer who told them that they really liked how they split the work day, training day, and classroom day into a 3-day rotation, and those Texas folks really liked that. Bill Schmid proposed to int'l association of academies how they did their deck training, and President of SUNY Maritime was called at home about CMA's deck training after one of his faculty members heard Bill's talk.

CMA is also very good at integrating classroom with hands on training in that they require all licensed faculty to go onto vessel and this gives the faculty a little more of a comfort zone allowing students to do things on the vessel since faculty know students well whereas at other academies they use industry people on ship who are industry first and college faculty second and they would not have the comfort zone of allowing students to do things that they at CMA would do.

They also have faculty who wrote textbooks on Rules of the Road and Radar, texts that are used in courses that all the academies use, and these faculty serve on the training ship where the guys who wrote the book serve as well.

They have no undeclared majors. Students that come there now what they want to do.

If need to follow up with CMA on Marino's student health records, contact Suzanne Dolan, in student health center , at Phone 654-1173.