



ANNUAL PROGRAM REPORT

Academic Program	Marine Transportation
Reporting for Academic Year	2020-2021
Department Chair	Steven D. Browne
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1. SELF-STUDY (about 1 page)

A. Five-year Review Planning Goals

The last department program review was completed in the Fall of 2016. The 2016 program review included the following specific recommendations:

Faculty:

- Rebuild the department tenure density in response to past and projected retirements. The department should hire at least three new tenure track faculty in the coming years.
- The department recommends that faculty starting salaries be increased and that the Marine Vocational Instructor track be reopened.
- A policy should be developed concerning the conversion from the MVI to the professor track.

Academic Advising Training and Manual: The MT department should produce an Academic Advising Manual, including Frequently Asked Questions, as a resource for advising guidelines and information. In addition, formal training should be conducted for new and current Academic Advisors in the department.

Assessment Plan: The department should complete its revision of a formal internal assessment review program, including the adoption of any changes and needed modifications for emerging new assessment criteria or new elements of the program to include.

STCW Program: The department should complete its revision of the STCW assessment program.

Simulation Program Review: The department should complete its review of the simulation courses and ensure that the scenarios and course material are up to date and appropriate for meeting the learning outcomes of the courses and the program. Dynamic position, Cyber Security, Ice Navigation, and Autonomous Shipping courses should be added to the program.

Simulation Equipment Refresh: The department should work with the Director of Simulation to update the simulation equipment in the Simulation Center and aboard the training ship.

B. Five-year Review Planning Goals Progress

Faculty:

- An assistant professor was hired in Fall 2018 and in Fall 2019. A second hire was approved for Fall 2019 but wasn't filled due to the limited applicant pool. Two additional assistant professors started in Fall 2021. In recent years, however, two tenured faculty retired, and another died. As a result, in Spring 2022 our tenure density by headcount remains at 47.4%, the same as it was in 2016. This is the lowest tenure density in the university. Another tenured faculty member has announced his retirement for this May.
- The Marine Vocational Instructor track was not reopened. However, the minimum requirements for an assistant professor were changed to broaden the pool of eligible candidates. Under current practice, probationary faculty without terminal degrees may be hired under the condition that they earn graduate degrees prior to tenure. Many MT faculty feel that the MVI track should be reopened, nonetheless, in order to attract faculty with strong practical skills but little desire to obtain further degrees.
- The university has not developed a policy for the conversion of Marine Vocational Instructors to the professorial track. However, one MVI was successfully convert without such a policy.

Academic Advising Training and Manual:

- The MT department Academic Advising Manual, including Frequently Asked Questions, has been regularly updated and distributed to program advisors.

Assessment Plan:

- The department participates in the assessment of institution-wide outcomes and department faculty participate on the Institution-Wide Assessment Council (IWAC). Program and course learning outcomes are primarily assessed via the STCW program. The Dynamic Positioning course is assessed in accordance with requirements of the Nautical Institute, the accrediting body for the course.

STCW Program:

- The STCW assessment program is in place and is under continuous review and revision.
- The record keeping has transitioned to an electronic format kept on Share Point and the new system is working well. The department would like to continue the transition to a robust and comprehensive electronic tracking system. Outside technical assistance is needed to achieve this goal.
- The STCW program will be audited by the US Coast Guard in September 2022.

Simulation Equipment Refresh:

- Extensive simulation upgrades were completed in the Simulation Center and are ongoing for the Training Ship.
- The Dynamic Positioning (DP) simulator has been installed. The DP training program has been accredited by The Nautical Institute. The course was taught for two semesters as NAU 395 Special Topics and was approved by the Curriculum Committee in Spring 2021.
- The simulation curriculum review was started and several improvements have been implemented. New scenarios have been developed and the lecture portion of DL 320 has been revised.

C. Program Changes and Needs

During the 2020-2021 academic year, a Marine Transportation Curriculum Review and Revision Committee was formed and revised the MT curriculum. Total program units were reduced from 159 units to 148. The entire revision was approved by the Curriculum Committee and the Provost and was in effect for the class entering in Fall 2021.

During prior curricular revisions, the department developed a capstone course, Marine Transportation: People, Planet and the Profession (NAU 435). That course is being offered for the first time in Spring 2022.

The department has begun work on a Transfer Curriculum roadmap. This work should be completed and presented to the Curriculum Committee.

Due to recent retirements and deaths, and the nature of our program, hiring of replacement tenure-track faculty should be accelerated with a goal of returning to previous levels (76.5% in 2012). Salaries for new lecturers and tenure line faculty have increased somewhat in recent years. However, they remain well below salaries offered in the maritime industry, the primary source of departmental faculty. Increased salaries will in turn increase the applicants pool and help retain new faculty.

The department has developed a curriculum roadmap for a master's degree with a license option that would be offered in partnership with the Master of Science in Transportation and Engineering Management program. The proposal is under review by the MSTEM program and the Associate Provost is working with the Chancellor's Office to determine requirements for degree approval.

2. SUMMARY OF ASSESSMENT

A. Program Student Learning Outcomes

MT PLO 1: Discipline-Specific Knowledge: Graduates will demonstrate competence in the

concepts and technologies of international marine transportation.

MT PLO 2: Leadership and Teamwork: Graduates will demonstrate the ability to work effectively as a leader and member in professional teams.

MT PLO 3: Communication: Graduates will demonstrate effective communication skills.

MT PLO 4: Ethical Awareness: Graduates will use ethical reasoning to make decisions related to the maritime industry.

MT PLO 5: Quantitative Reasoning: Graduates will demonstrate the ability to analyze numerical data.

MT PLO 6: Information Fluency: Graduates will define a specific need for information; then locate, evaluate, and apply the needed information.

MT PLO 7: Critical and Creative Thinking: Graduates will analyze problems in new and different ways.

B. Program Student Learning Outcome(s) Assessed

All seven PLO's are assessed every year as they align with the assessment requirements for maintaining the program's Standards of Training, Certification and Watchkeeping for Seafarers (STCW) certification. The STCW program is approved and reviewed by the US Coast Guard. The next STCW program audit is scheduled for March of 2022.

C. Summary of Assessment Process

The assessment process is dictated by the United States Coast Guard in accordance with the International Maritime Organization's Standards of Training, Certification and Watchkeeping for Seafarers (STCW). In accordance with STCW, each student is required to demonstrate knowledge, understanding and proficiency on hundreds of tasks or knowledge elements as required by international standards. Students who do not achieve the required level of performance do not receive passing grades in the courses and do not graduate.

The rubrics for assessment are standard for all certified programs in the US. The assessments selected represent only a handful of those which are required to be assessed each year in accordance with STCW for every graduate from the MT program. They were selected based on their specific alignment with the PLOs.

There is no sampling strategy needed, as instructors maintain documentation of every student's completion of the assessment and the date on which that student achieved successful completion.

Due to the nature of the STCW requirements, the success with students achieving the PLO's will be nearly 100 percent every year. During the course there may be multiple opportunities

to demonstrate competence but if the minimum standard is not achieved by the end of the semester, the student must retake the associated course. As a result, in order to graduate, each student in the MT program must have achieved the standards in all of the PLO's.

D. Summary of Assessment Results

As expected, the assessment results for all PLOs over the 2020-2021 assessment period shows 100 percent of students who passed their courses successfully met the PLOs. Students who were not successful in meeting the required standards either received failing grades or Incompletes for the course. Students who received incompletes must demonstrate the required knowledge or competency in order to clear the Incomplete and receive a grade.

In the last few years, course content has been adapted to allow for individual assessment of each student with room in the curriculum for additional training and reassessment as needed to achieve 100 percent success for all rubrics. The STCW assessment process will be continually adapted to new requirements when required by regulatory bodies, but the STCW rubrics used for PLO assessment are not expected to be revised in the coming years. The use of STCW assessments to assess PLOs will allow for annual assessment of all PLOs with consistent rubrics.

1. STATISTICAL DATA

Statistical data is meant to enhance and support program development decisions. These statistics will be attached to the Annual Report of the Program Unit. This statistical document will contain the same data as required for the five-year review including student demographics of majors, faculty and academic allocation, and course data.

<i>Program</i>	2021
<i>A. Students</i>	
1. Undergraduate	301
2. Postbaccalaureate	
<i>B. Degrees Awarded</i>	63
<i>C. Faculty</i>	
Tenured/Track Headcount	
1. Full-Time	9
2. Part-Time	0
3a. Total Tenure Track	9
3b. % Tenure Track	50%
Lecturer Headcount	
4. Full-Time	5
5. Part-Time	4
6a. Total Non-Tenure Track	9
6b. % Non-Tenure Track	50%
7. Grand Total All Faculty	18
Instructional FTE Faculty (FTEF)	
8. Tenured/Tenure Track FTEF	8.58
9. Lecturer FTEF	5.97
10. Total Instructional FTEF	14.55
Lecturer Teaching	
11a. FTES Taught by Tenured/Tenure Track	134.3
11b. % of FTES Taught by Tenured/Tenure Track	66.1%
12a. FTES Taught by Lecturer	69.0
12b. % of FTES Taught by Lecturer	33.9%
13. Total FTES taught	203.2
14. Total SCU taught	3,048
<i>D. Student Faculty Ratios</i>	
1. Tenured/Track	15.6
2. Lecturer	11.5
3. SFR By Level (All Faculty)	14.0
4. Lower Division	16.8
5. Upper Division	11.4
<i>E. Section Size</i>	
1. Number of Sections Offered	119
2. Average Section Size	15.9
3. Average Section Size for LD	18.7
4. Average Section Size for UD	13.2
6. LD Section taught by Tenured/Tenure Track	19
7. UD Section taught by Tenured/Tenure Track	31
8. GD Section taught by Tenured/Tenure Track	0
9. LD Section taught by Lecturer	39

