

REPORT OF THE REVIEW COMMITTEE

**Concerning the Application from The
Landing School of Boat Building for Additional Degree-Granting
Authority to Offer the Associate of Applied Science in**

MARINE INDUSTRY TECHNOLOGY

**May 6, 2009
Kennebunkport, Maine**

Signed, The Landing School Review Committee,

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BACKGROUND

In accordance with State of Maine Education Statute Title 20A, and state policies 05-071-149 and 05-071-170 setting forth Maine State Board of Education procedures and standards relating to an application for additional degree-granting authority, the Maine State Board of Education established a visiting team to evaluate The Landing School application and to report its findings. The visiting team met in Kennebunkport, Maine with the applicant administrator, faculty, and staff on May 6, 2009.

The Team was comprised of Dr. Charles Lyons, Team Chair, President, York County Community College; Dr. Joseph Lee, President, Saint Joseph's College; Paula Hutton, Assessment Consultant, Maine Department of Education; and Barbara Moody, Professional Development Consultant, Maine Department of Education. Philip Dionne served as an Observer on behalf of the Maine State Board of Education and the program review was facilitated by Harry Osgood, Higher Education Specialist, Maine Department of Education.

Introduction

The following are the recommendations of the Team regarding the request of The Landing School.

Standard A - Organization and Governance

1. The organizational structure of the school is the framework within which the school is managed and directed in pursuit of its general and educational objectives.

The Landing School is incorporated in the State of Maine as a not-for-profit, post-secondary educational institution. In pursuit of the purposes described in the By-Laws of the Corporation, A Board of Trustees oversees the operation of the school. Responsibility for day-to-day management and operation of the school is vested in the hands of the President who is assisted in that capacity by a professional staff and an educational faculty. Also available for consultation to management are members of four Program Advisory Committees made up of professionals from the marine industry.

The educational curriculum of the school is divided into four parts: a Design Program, a Boatbuilding Program, a Marine Systems Technician Program and a Composites Program. The Boatbuilding program is further divided into two courses, Traditional Boats and Wood/Composite Boats.

The Landing School also included a Center for Continuing Education that provides short-term training to marine companies in all areas of marine systems and usually on site at the company.

Student input into school governance and operations is carried out by the Student Committee. It contains two representatives from each of the programs, all elected by their peers. This committee meets on a monthly basis and is advised by the Director of Student Services.

On January 25, 1987, The Landing School became the first school of its type to be accredited by the National Association of Trade and Technical Schools. Renamed in 1993, the Accrediting Commission of Career School and Colleges of Technology (ACCSCT) is listed by the United States Department of Education as a nationally recognized accrediting agency under the provisions of Chapter 33, Title 38, U.S. Code and subsequent legislation. The ACCSCT is a member of the Council on Post-Secondary Accreditation.

In order to retain its status as an accredited institution, The Landing School must continue to comply with the standards of the ACCSCT, submit an Annual Report to the Commission and be in compliance with the U.S. Department of Education rules and regulations for administering federal financial aid programs. Re-accreditation is required every five years under ACCSCT rules, and The Landing School was re-accredited in 2004 and is the process of re-accreditation at present.

2. The institution has an organizational chart that clearly shows lines of authority and the relationship among component units and personnel.

This standard is met.

Standard B - Institutional Objectives

1. The institution has defined its educational mission and general purposes or goals, and has included within its “statement of purpose” such uniqueness of programming and educational philosophy as may be inherent in the proposed degree offerings. The institution’s “statement of purpose” is readily identifiable through its courses and program offerings.

The purpose of the school is outlined in the By-Laws of the Corporation. The purpose may be stated succinctly as follows: *The purpose of The Landing School is to provide a gateway to the marine industry for students seeking career opportunities as designers, builders, systems technicians or repairers of both recreational and commercial watercraft.* Further, The Landing School was designed to serve as an educational institution and not as a production boat shop or design office.

This standard is met.

Standard C - Financial Resources

The Board of Trustees has approved the establishment of a second degree program at The Landing School and has committed to a financial plan that will provide support for the launch and continuation of the degree program for at least five years. The degree programs are an integral part of the 2007-2012 Strategic Plan. In preparation for Board consideration of the program, the staff developed a three-year pro forma budget with realistic and conservative enrollment projections.

In addition to planned expenditures in the operation budget, The Landing School has secured foundation funding for the degree programs in the following amounts:

- Davis Family Foundation: \$40,000
- Morton-Kelly Charitable Trust: \$10,000
- Island Foundation: \$55,000
- J. Orin Edson Foundation: \$25,000

A review of the financial statements for years ending in August 31, 2008 and 2007 was also conducted. In a sign of the times, one of the challenges appears to be selling inventory to generate revenue for operating expenses.

This standard is met.

Standard D - Admissions Requirements

From **Chapter 170: Admission Requirements**

1. The institution has a written policy defining the minimum requirements for admission and for acceptance at the specific degree level or into the specific degree program proposed by the institution, consistent with criteria established by the appropriate regional or nationally recognized specialized accrediting agency.
2. The admission policies include detailed attention to the standards for academic credit given for experience, and the criteria for transfer credit.
3. The institution has a written policy detailing the criteria and procedure to be followed in providing for a refund of tuition and fees.

Requirements for admission and acceptance to the proposed Associate's Degree program are clearly outlined in the catalog and its addendum.

Application for admission to The Landing School requires completion of a Personal Data Sheet, the submission of a written Essay, and two Letters of Reference. Instructions for the Essay and guidelines for the Letters of Reference are included on the Application Form. College or high school transcripts are also required. When all components of the application package have been submitted, the applicant must arrange for a visit to The Landing School and complete a personal interview with the Director of Admissions or his designee. A telephone interview may be substituted when distance makes it too difficult for the applicant to visit The Landing School in person.

The Landing School has a rolling admissions procedure that encourages early application. Each application package is evaluated by the Admissions Committee as

soon as it is complete. The Committee makes a determination as to whether an applicant meets The Landing School and program admission requirements and recommends acceptance, denial or deferral of admission to the President. The applicant is notified as soon as a decision is finalized.

Once classes are filled, additional qualified applicants are placed on a waiting list in the order of the date when their application packages are complete. They are notified as space becomes available. Wait listed students are given preference for admission in the following school year.

This standard is met.

Standard E - Academic Programs

Currently, The Landing School offers a number of yearlong certificate programs in Boatbuilding, Design, Marine Systems, and Composites. Each program takes ten months to complete and leads to the opportunity to exit with a diploma and national certification after passing the national certification exam, developed by the respective marine industry. Frequently, many students stay a second year at The Landing School to complete a second program leading to the attainment of another diploma and the opportunity to attain another national certification. These programs at The Landing School are:

Boatbuilding: Traditional Boats

The Traditional Boats Program is a comprehensive, full time, forty-week course designed to teach modern and traditional boat construction techniques through the building of two small craft, one using lapstrake planking and the other using carval. Instruction occurs through formal lectures, field trips, and hands on projects conducted in teams with assistance and supervision from an instructor. Students are responsible for all aspects of construction, from lofting, set up, planking, fairing, spars and rigging, to finish work and sea trials. The program requires participating as a team member in two construction projects to construct a small rowing and sailing boat such as a peapod, dory or boat of a similar type and size. The second construction project requires teamwork on a round bottomed sailboat of 16 to 21 feet.

Boatbuilding: Wood/Composite Boats

The Wood/Composite Program is a comprehensive, full time, forty week course designed to teach modern boat construction techniques by building a wood composite vessel. Students are introduced to simple electrical, mechanical, steering, plumbing and propulsion system installations while executing interior joinery to a high level of quality. Instruction occurs through formal lectures, field trips, and project work conducted in teams with close supervision and assistance from an instructor. Students are responsible for all aspects of project boat construction including lofting, set up, laminating, cold molding, fairing, vacuum bagging, joinery, systems installation, finish work, and commissioning. Each team completes its boat during the school year and takes it through

sea trials prior to graduation. The Boatbuilding Program adheres to a strict schedule, simulating the work atmosphere a builder will encounter in a production environment. Boatbuilding students receive homework in the form of reading assignments and graded individual woodworking projects that include a variety of joinery exercises.

Design Programs:

The goal of the design program is to provide students with a high quality education that will prepare them for entry-level employment in a design-related area of the worldwide marine industry. The program is intended to produce graduates who are knowledgeable and proficient in the practical application of contemporary methods used in the design, drafting and specification of hull form, interior and exterior arrangements, mechanical and electrical systems and propulsion arrangements for small craft up to 50 feet (15m) in length. In addition to the technical aspects of small craft design, considerable attention is paid to ergonomics, aesthetics, and presentation skills. The program considers all types of buoyancy supported craft, power and sail, leisure and commercial. The curriculum is divided into five subjects plus an internship starting with fundamentals followed units in design, construction, strength, computer aided design and special topics.

Marine Systems:

The goal of Marine Systems Program is to provide students with a high quality education that will prepare them for entry-level employment in the installation or service of marine systems. Marine systems is designed to produce graduates who are knowledgeable and proficient in the design, layout, cost estimation, and installation of basic marine systems and composite repairs, as well as diagnostic and repair techniques for existing installations. The systems covered include DC and AC electrical, gas and diesel propulsion and running gear, propellers and shafting, pumps and seacocks, steering and controls, sanitation, sailboat rigging, deck hardware, fresh water systems, electronics and refrigeration/air conditioning. Additional subjects to be covered will be identification, remediation and control of corrosion, shop practices, long-term storage (winterization) and commissioning techniques. Course content focuses on the needs of small pleasure and commercial boats up to fifty (50) feet. The curriculum is divided into units representing major areas of study. In addition to class and lab work, the program has a Project Boat portion that offers students a rich “real world’ environment in which to practice their growing skills.

Composites:

Developments in the small craft industry and similar changes in other areas such as aerospace, automotive and construction industries have created a need for well trained technicians able to work at the line supervisor level who have the potential to move on to management jobs after suitable industrial experience. Such technicians are expected to be involved in all facets of the production process and fulfill a number of roles. These include such positions as crew leader, production supervisor, and quality control specialist with a production boat builder. A similar list would apply at a custom boat builder with fabricator added. Similar opportunities exist for technicians in product and process development, members of design teams, and in technical sales and purchasing.

The ten month composites program is divided into ten units which include practical application of both theory and laboratory experience with a variety of composite materials and construction techniques such as e-glass, infusion, pre-preg, carbon and Kevlar.

Proposed Degree Program

The Landing School has developed a more advanced program in marine systems. As a result, The Landing School has applied to the State of Maine under Chapter 170, for the authority to award an **Associate Degree of Applied Science in Marine Industry Technology (MIT)**.

According to the school's application, *"it has become increasingly apparent in the marine industry that career placement and advancement can be greatly enhanced by increasing the breadth of knowledge and preparation for entry into the field. Additionally, more companies are seeking future employees who have earned a degree, rather than a diploma or certification, in an area of study. Consequently this degree program will provide students with extensive preparation in two separate marine technology fields depending on the concentration an individual student selects."*

The proposed **Associate Degree of Applied Science in Marine Industry Technology** has three concentrations:

1. **Comprehensive Boat Construction**- students will complete thirty semester credits in traditional, wood/composite, or composite boatbuilding courses during the first year followed by thirty semester credits in marine technology systems in the second year. Fifteen semester credits are required in specific general education courses.
2. **Concentration in Yacht Design and Construction**- students will focus the first year (Thirty semester credits) in an engineering based course of study, learning the basics of structural design, hydrostatics and stability, hull design, deck layouts, general arrangements, resistance, propulsion theory, statics, strength of materials, structural mechanics, composite theory, and the use of CAD for 2-D and 3-D design/drafting and hull modeling. The second year in this concentration will be an application of the knowledge gained in the first year focused on construction of a vessel in wood, wood/composite, or composite materials, resulting in the completion of thirty semester credits. Fifteen semester credits are required in specific general education courses.
3. **Concentration in Maine Systems Design**- In this concentration, students will focus in the first year on courses covering the theory, use and installation of all the major technical and mechanical systems. The comprehensive understanding of marine systems lend itself to the design function in year two where students will focus on the engineering and design areas that are most applicable to systems placement on a vessel. Students will encounter courses in general equipment

arrangements, deck layouts, propulsion theory, structural mechanics, strength of a variety of materials used in marine construction, and composite theory. Several CAD programs are used in year two for design and drafting of the hull and deck as well as the appropriate layout of systems machinery. Particular emphasis will be placed on evolving electronic technology that is becoming common in the marine industry.

Students will primarily take foundation courses in general education during the summer between the two academic Landing School programs. The Landing School has made arrangements for course offerings available to students through the University of New England through a newly established agreement. As well, The Landing School faculty will also develop and teach some general education courses in the evening, which will increase on-site course opportunities. Summer course offerings made available to students through the University of New England will be closely monitored to ensure that they remain relevant in philosophy and importance, to the course of study at The Landing School. Currently the courses offered for this degree in the University of New England include: Applied Math, General Physics, English Composition, Communication Dynamics in Organizations and Drawing.

In terms of grading policies, The Landing School recognizes the importance of consistent, fair, and periodic evaluations of student performance, both as a means of measuring students' progress toward education goals and as a method of self-evaluation of the School's success in providing the education for which students have contracted. They are clearly articulated in The Landing School application. To satisfactorily complete any of The Landing School's programs and meet the evaluation criteria for graduation, a student must comply with all of the following:

- Earn a final grade of at least 65 in each of the program's subjects
- Earn a final Program Grade of at least 70.

Upon graduation from The Landing School, certificate students will receive diplomas. Degree program students will receive an Associate of Applied Science degree in the completed degree program. To be eligible for graduation, a student must have satisfactorily completed his or her program, meeting all evaluation criteria and attendance requirements as well as meeting all financial obligations to The Landing School.

The faculty at The Landing School has also developed a process for reviewing student transfer credits. In addition, The Landing School has collaborative programs that include the transfer of credits with Maine Maritime Academy and the College of the Atlantic in Bar Harbor.

This standard is met.

Standard F - Library and Learning Resources

The main objective of the library is to provide the necessary learning resources to support both students and staff in the completion of The Landing School's mission.

Due to The Landing School's recently completed building project the library creates additional space for the various collections of books, periodicals and other reference resources that play an important role in the programs of The Landing School. The new library increases the current library space by more than 400% and provides study space and areas for using program resources, both print and electronic. It also provides wireless Internet accessibility to all students.

The main collection contained in the Paul Whittin Library consists of approximately 600 volumes, periodicals and other resources. The collection contains a wide assortment of books, periodicals, journals, and historical materials that relate to topics of boatbuilding, boat design and boat systems. The Landing School has recently been fortunate to receive the personal collection of naval architect Cy Hamlin, who started his design office in the 1930s. This collection is invaluable for the Yacht Design program. The archive boasts of an almost continuous collection of *Yachting* magazines dating back to the 1930s. Program managers maintain satellite library spaces with books and periodicals of commonly referenced material for use by students in their programs. The Yacht Design Program maintains a drawing file of boats from a number of notable designers.

The library is currently part of the State of Maine Library Database, and personnel at The Landing School continue to input the resources of the collection into the database. The Landing School regularly employs at least two students, through work-study employment, to input this data on a continuing basis.

At this time, Internet access is provided for students throughout the new building and six additional workstations have been added: three in the new library and three in the new Systems classroom. Currently, DVDs and videotapes can be viewed in the Systems classroom. Students in the Design program utilize AutoCAD, FastShip, and Rhino software for two- and three-dimensional design capabilities.

The Landing School holds memberships in numerous marine industry organizations and associations from which it receives the following journals, newspapers and newsletters, all of which are useful for students:

American Boat and Yacht Council
American Boat Builders and Repairers Association
American Sail Training Association
Antique and Classic Boat Society
Composites Fabricators Association
Maine Composites Alliance
Maine Marine Trade Association

Sail America
Society of Boat and Yacht Designers
Society of Naval Architects
Sparkman and Stephens Association

The Landing School annually subscribes to the following periodicals and journals from the international marine trades:

American Woodworker
Boating
Boating Industry
Boatbuilder
Boat Design Quarterly
Chronicle of Philanthropy
Classic Boat
Composites Manufacturing
Cruising World
Fine Woodworking
International Boat Industry
Latitudes and Attitudes
Mainebiz
Maritime Life and Traditions
Multihulls
Northern Breezes
Ocean Navigator
PassageMaker
Points East
Power Cruising
Practical Sailor
Sail
Sailing
Sailing World
Seahorse International Sailing
Soundings-Trade Only
Spinsheet
Wooden Boat
Yachting

The current library is available to students Monday through Friday, from 8 a.m. until 5 p.m. If students make prior arrangements, it can also be available after hours. Research computers are available twenty-four hours a day. The design program instructor annually identifies needed facility upgrades and includes them annually in the capital budget and supervises the library and collection. Initially, The Landing School utilized local public library personnel on a consulting basis to arrange the new library and update the cataloging of the collection as well as completing data input on the state library system. The Landing School budgets for the expansion and upkeep of the current

collection, and individual program managers fund program-specific research materials from their departmental budgets. In addition, The Landing School logo clothing and vending machine revenues are dedicated to the Library, and program managers have the authority to access those funds to purchase library resources for their programs. Program managers and instructors make recommendations for new print resources throughout the year.

An important resource component not usually considered in mainstream education is print and electronic access to OEM (original equipment manufacturer) equipment, technical specs, and maintenance manuals. The Landing School constantly receives technical assistance (reference material and direct instruction) from manufacturers prevalent in our field. As technology changes, so do the contents of our reference material archives. Through relationships developed through intense participation in all marine fields, students are encouraged to ask the experts when needed, thus expanding students' resources into the "real world" of marine trades.

The standard is met.

Standard G - Degree Requirements

From **Chapter 170: Degree Requirements**

1. The institution awards degrees, only upon successful completion of the courses or programs of study, and degree requirements to be met are specified in writing.
Met Standard
2. The institution's semester hour* requirements for degree completion meet the following minimums:

Associate Degree - An Associate degree requires a minimum of 60 semester hours or 90 quarter hours. The Associate of Arts degree shall include a minimum of 36 semester hours or 54 quarter hours in general education courses. The Associate of Science degree shall include a minimum of 15 semester hours or 23 quarter hours in general education courses.

The institution will award Certificate and Associate of Applied Science Degree Programs of Study upon successful completion of designated courses. A clear sequence of requirements is included in the documentation. The programs include extensive "hands-on" and technical learning experiences. This represents a unique modality in today's educational venue and a true strength in the State of Maine. The recently established partnership with the University of New England will allow students to earn the additional courses necessary to obtain an Associate Degree.

The standard is met.

Standard H - Faculty

The faculty at The Landing School consists of highly skilled, trained professionals, many of whom have worked in the field for decades. Although many are outstanding in their specific field of concentration, The Landing School must maintain a certain number of faculty members holding a degree higher (BA or BFA) than the degree it is offering. With that standard being met, the experience the students receive from the many outstanding instructors is very impressive.

The President and two Directors conduct evaluations of faculty throughout the course of the year by formal and informal classroom and laboratory observations, analysis of student surveys of faculty and courses (three times per year), annual exit interviews with students at the end of the year, and other interactions during the school day.

All faculty and staff are involved in continual institutional improvement efforts and long-range strategic planning. The faculty and staff commit an afternoon per month for strategic planning discussions. The Board of Trustees approved a new five-year Strategic Plan outline in February 2006 with the complete Plan to be approved in June 2006. The outline was the results of efforts by staff and faculty during the course of the 2005-06 school year and the first part of the 2006-07 school year, which included a retreat and eight half-day sessions to establish recommended directions for the school. The faculty and staff also collaborated in the establishment of the Institutional Improvement Plan that is a required part of the re-accreditation process of ACCSCT.

This standard is met.

Standard I - Physical Facilities

Facilities at The Landing School cover more than 25,000 square feet and include the Boatbuilding Shop, Design Studio, Systems Laboratory, Testing Laboratory, Paul Whitin Library and Archives, administrative offices, Admissions Office, Student Lounge, Continuing Education offices, a large conference room, and various storage buildings.

The boatbuilding shops are fully equipped with commercial-grade power and hand tools including facilities for milling, wood steaming, vacuum bagging, lofting, and wood storage. The Design Studio contains a spacious work area and separate lecture hall and is equipped with networked computer workstations, plotters, reference archives, and a drafting table for each student. The Systems Lab contains 24 workstations equipped with AC and DC electric power, compressed air, and water supplies. In addition to its lecture and demonstration area, the lab is equipped with lifts and industrial-grade tools used to teach system assembly and installation.

Building improvements for The Landing School have involved a fund-raising campaign aimed at accomplishing a long-range building plan. Work on the yacht design

facility, located on the second floor of the boatbuilding facility, began in July 2006, and resulted in a spacious, professional three-room facility that provides adequate space for the current yacht design program. This new facility includes a large studio for the existing design program, a second studio for the two-year design program, and a lecture/presentation hall that will be used by both programs.

The replacement of the original barn structure and old design facility has been completed. The new two-story building is approximately 7000 square feet and is the home of the new Composite Program to be launched in September 2007. The first floor contains a large composite laboratory and work space capable of handling sizable boat projects and other fabrications. A quality testing laboratory will provide students with materials testing experience and will provide the marine industry with a materials testing facility. Around the perimeter of the first floor are administrative offices, the admissions office, and a boat display area that is open to the ceiling. The second floor contains three large classrooms (one for composites, one for systems, and one for the two-year systems program), a library and archive, a student lounge, Continuing Education offices, and a large conference room. The new building is joined to the existing Marine Systems building.

The new building allows adequate space for classrooms and a library. Two of the large classrooms are divided by a folding wall that, when open, allows the entire student body to be assembled in one space. The composites facility has more than adequate space to grow in the future. As technology and industrial processes change, the new building will allow for change of programming as needed to remain current in the industry. Because the long-range building plan exhausts useable space on the campus, any additional program growth in the future will have to take place at an off-campus location.

The standard is met.

Standard J - Student Services

The Landing School has a student handbook that outlines available student services. The Landing School's administrative staff provides academic, financial and employment advising to students. Faculty members are also available for advice concerning academic issues and career opportunities.

While The Landing School does not provide room & board, it does assist students in locating local housing. Each student is required to provide his or her own accident and health insurance while enrolled at The Landing School. The Landing School does have a detailed policy and procedure for handling student complaints. Students have expressed appreciation for the support they've received from The Landing School's administration and faculty.

Although The Landing School has no formal placement service, job information is readily available to students and alumni and the vast majority of graduates find gainful employment in the marine industry. The Landing School is recognized around the world as a leader in producing graduates who have the skills to find jobs as boat builders, designers, and marine technicians.

This standard is met.

SUMMARY OF FINDINGS:

All standards have been met.

RECOMMENDATION TO THE MAINE STATE BOARD OF EDUCATION

The visiting team recommends that the State Board of Education approve the request from The Landing School to award the Associate of Applied Science Degree in Marine Industry Technology.