



Identified Priority Needs

Dauphin Island Sea Lab

DISL Priority Needs

You can make a difference.

The Dauphin Island Sea Lab values each and every gift. Your gifts serve our talented students and faculty through campus improvements, equipment acquisition, and scholarships. The priorities below list our endowed scholarship needs as well as immediate physical needs. You can also support the lab through a number of named gift opportunities which serve to support a particular area on campus. Options range from classrooms to an entire building.

Immediate physical needs for the Sea Lab

Priority Needs up to \$10,000

UNDERWATER ROBOT COMPETITION- 15 teams participate each year in the Remote Operated Vehicle (ROV) construction competition. This competition focuses students with science, technology engineering and math (STEM) all while they are having a blast. Each team includes 2 teachers and 4-8 students. Approximately 100 students and teachers participate at this annual competition.

- **Cost \$7000 - \$10,000 per year**

YSI OXYGEN METER

The YSI Oxygen Meter is designed to measure dissolved oxygen in fish tanks. This tool will improve our ability to care for the animals in the Estuarium.

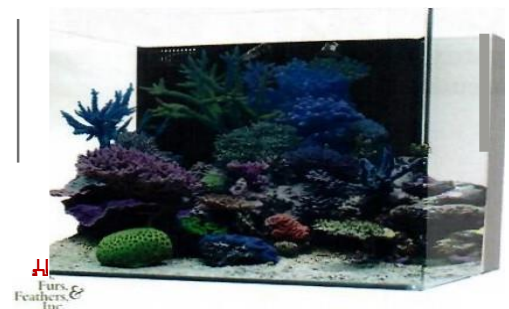
- **Cost: \$600 -Estuarium**



BACKUP CORAL TANK

A backup coral system allows a safe place for coral fragments to be nurtured and grown for future display. **Estuarium**

- **Cost: \$1,440 - \$1,700-Estuarium**



HIGH SCHOOL INTERNSHIP – A scholarship will provide funding for either an academic year internship or a summer internship for a high school student interested in the field of marine science or environmental education.

- **Cost: \$1,500 for summer/ \$10/hr for academic year – Discovery Hall Programs**

SUMMER HIGH SCHOOL CLASS – A scholarship to the summer high school class will serve to increase access to the class by a high school age child who otherwise could not afford to attend.

- **Cost: \$2,500 per student – Discovery Hall Programs**

ORNITHOLOGY CLASS SUPPORT - New academic year birding class, integration into existing academic year maritime forest class, use in summer camps and teacher workshops.

- **Cost: \$2,500 / Cost includes binoculars for a class (n-30), feeders for watching, miscellaneous materials (feather slides, specimens, bones, models, etc.) – Discovery Hall Programs**

PROGRAMMABLE ROVs Programmable Remote Operated Vehicles (ROVs) will enhance the computer science and programming classes by adding a STEM component.

- **Cost: \$3,000 to covers existing ROV programs (academic year class, outreach, summer camps, teacher workshops, ROV competition) – Discovery Hall Programs**

LOBBY SHADES — Shades will provide an attractive method to reduce sunlight and aid in controlling utility Costs.

- **Cost: \$3,000 - Estuarium**

HANDHELD FLUOROMETER –A fluorometer is used to measure chlorine in water and allows for an authentic data collection and interpretation experience for students conducting research.

- **Cost: \$3,500 includes upper level plankton classes, high school program, teacher workshops – Discovery Hall Programs**

Two Fulfilled by Mark Wade 2019

SUMMER INTERNSHIP (10-week) – A scholarship will fund a recent college graduate or undergraduate student to assist with summer programs

- **Cost: \$4,000 per student – University Programs**

FLOW-THROUGH SEAWATER SYSTEM –A flow through seawater system under Discovery Hall will allow students to conduct research projects in a naturally occurring environment.

- **Cost: \$4,000 for all programs – Discovery Hall Programs**

ULTRAFLOW FREEZER –An ultraflow freezer will be used for the protection and storage of samples used in research by the scientists and students of the University Programs.

- **Cost: \$4,000 - \$7,000 – University Programs**

ROV KIOSK/TEST POOL – A kiosk with a monitor and small fiberglass test pool will be used to test ROV construction and operability.

- **Cost: \$5,000 to includes all existing ROV programs (AY class, summer camps, teacher workshop, and competition – Discovery Hall Programs**

GOLF CART/MULE – **A Naming Opportunity!** Golf Carts will be used to transport specimens, materials, or special needs participants among buildings and areas of the DISL campus.

- **Cost: \$5,000 for all programs – Campus Wide**

VIDEO DISPLAYS FOR ESTUARIUM LARGE TANKS - Video monitors are vital to enhance the experience provided to the public concerning detailed information about the exhibit. They will be Bluetooth enhanced so the public can receive content on their phone while they are in front of the exhibit.

- **Cost: \$5,000 - Estuarium**

ESTUARIUM ENTRANCE GATEWAY – Proper signage is imperative to assist the public in directions and will provide an attractive inviting entrance to the Estuarium.

- **Cost: \$6,000**

Fulfilled by
DISLF



NEW BUS – A designated donation will allow for the acquisition of a used bus. Buses are typically second hand and typically last five to eight years due to wear and tear of the salt air environment.

- **Cost: \$6,000 – All Discovery Hall Programs**

HAND HELD CTD



The large CTD packages currently used at DISL are sometimes not necessary for field operations. The purchase of a small, handheld CTD will prevent additional, unnecessary wear on the larger units while still providing researchers with valuable data. The CastAway CTD is a lightweight, easy to use instrument designed for quick and accurate conductivity, temperature, and depth profiles.

- **Cost: \$6,240 – University programs**

DR6000™ UV VIS Spectrophotometer

This unit will allow the Estuarium staff to test for water quality parameters that we can not currently identify.

The DR6000™ is the industry's most advanced laboratory spectrophotometer for water testing. It offers high-speed wavelength scanning across the UV and Visible Spectra, and comes with over 250 pre-programmed methods including the most common water and environmental testing methods used today. This instrument ensures you are ready to handle your wide-ranging water testing needs.



Combining the DR6000 with Hach's patented HANNAplus™ test kits, you gain additional accuracy with guided step-by-step testing procedures, while making scratched, flawed or dirty glassware a non-issue due to averaging 10 readings and discarding outliers.

Your water and environmental testing needs, all in one spectrophotometer.

- **Approximate cost: \$7000**

HYDROLAB – HYDROLAB water quality instruments and software will be used to monitor the increasingly important changes in our water resources by providing continuous water quality data, reliability, and usability.

- **Cost: \$7,000 includes academic year class, summer camps, teacher workshops – Discovery Hall Programs**

MICROSCOPES – Designated donations will allow for the acquisition of five new microscopes for university and summer programs.

- **Cost: \$7,500 – University Programs**

ESTUARIUM MARINE DEBRIS EXHIBIT – A naming opportunity! Underwrite a new exhibit featuring the next big threat to our oceans, Marine Debris. This exhibit demonstrates the journey of discarded plastic items from the roadside to their final destination as massive garbage islands found in our oceans.

- **Cost: \$10,000**



ART MEETS SCIENCE- A naming opportunity! -Sculptures help children learn more about their environment while providing entertainment and beauty.

- **Cost: \$3,000-\$10,000**



Priority Needs \$10,000 - \$20,000

MAKER SPACE –Maker Space a 3D printer lab will enhance learning capabilities by utilizing all aspects of the STEM curriculum for middle and high school students. Academic year class (ROV II, plankton), summer camps, teacher workshops

- **Cost - \$12,000 / Cost includes 5-6 3D printers for group work, filament selection, power backups – Discovery Hall Programs**



SCIENCE ON A SPHERE – A naming opportunity! Science on a Sphere presents high-resolution video with the aim of better representing global phenomena. Animated images of atmospheric storms, climate change, and ocean temperature can be shown to explain these complex environmental processes.

- **Cost: \$14,000 for flat screen version / Cost includes stands academic year classes and teacher workshops – Discovery Hall Programs**

INTERACTIVE TOPOGRAPHY BOX - A naming opportunity. An interactive topography box will enhance an existing academic year oceanography class, with oceanography and deep sea topics.

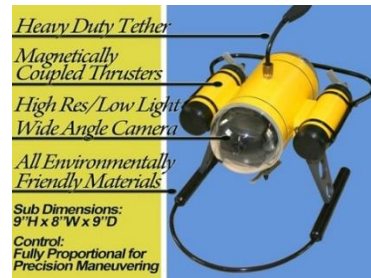
- **Cost: \$16,000 / Cost covers a classroom-sized unit – Discovery Hall Programs**



Priority Needs \$20,000 - \$49,999

ROV KIOSK – A naming opportunity! The ROV Kiosk bring the underwater world to visitors. Remotely operated vehicles(ROV) are utilized for reaching vast depths oceans. Visitors will be able to drive an ROV submerged in the Gulf of Mexico tank and experience first hand underwater exploration.

- **Cost: \$20,000- Estuarium**



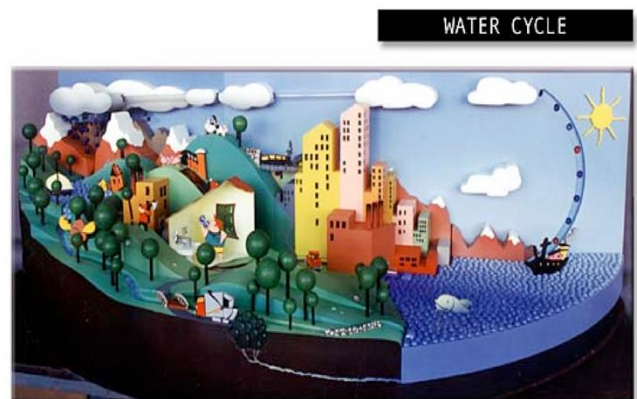
COMPUTER LAB UPDATE/EXPANSION – Donations designated for the computer lab will allow for the update of computers and add three additional workspaces to accommodate a full class size group. Effective life of computers is five to 10 years; existing computer stations were purchased in 2011.

- **Cost: \$25,000 - Academic year programs, summer programs, teacher workshops and ROV programs - Discovery Hall**

WATER CYCLE EXHIBIT – A naming opportunity.

The water cycle is a fun interactive exhibit that describes how water evaporates from the earth and the processes it goes through until it falls back to the earth in the form of precipitation. The cycling of the water in and out of the atmosphere is a significant aspect of the weather patterns on earth.

- **Cost: \$25,000 - \$30,000 Estuarium**



MICROBALANCE

The analytical lab microbalance is over 25 years old and is reaching the end of its serviceable lifespan. Nearly every UP faculty member uses the microbalance. Approximately 5000 samples have been prepared using the microbalance by DISL labs, and with growth, we anticipate a greater need for a reliable microbalance.

- **Cost: \$25,000 - \$30,000 - University Programs**



SBE 25 CTD REALTIME BOAT BASED CTD-

The SBE 25 CTD package is a standard oceanographic instrument that measures a broad range of parameters (Conductivity, Temperature, Depth, Salinity, dissolved oxygen, PAR, etc.) that are critical to many research efforts conducted at DISL. During the 2018 calendar year, DISL programs and external researchers conducted 28 CTD casts in field operations for research and educational projects. Currently, we have 3 CTD's that are between 15-20 years old which are rapidly becoming unreliable and are nearly obsolete with respect to their interfacing capabilities. A new CTD will allow DISL researchers to collect more physical data, faster, and more reliably. Additionally, students will be exposed to cutting edge oceanographic technology, where they can spend more time learning about ecological/physical/chemical relationships, and less time struggling with obsolete instrumentation.



- **Cost: \$28,263 – University and summer programs**

ACADEMIC YEAR INTERNSHIP – A scholarship will provide a year-long position for a recent college graduate or undergraduate

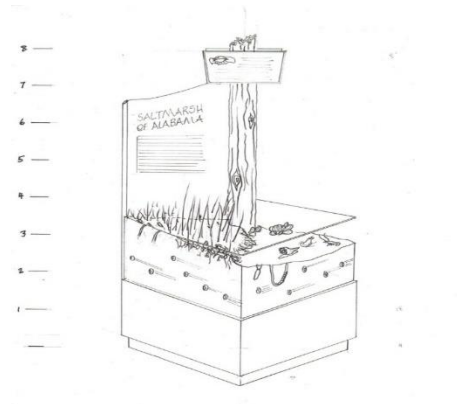
- **Cost: \$30,000 – University Programs**

MERCURY ANALYZER – A designated donation will allow for the acquisition of a mercury analyzer. This instrument measures mercury levels in tissue, sediment, and water samples to better understand Hg biogeochemistry, bioaccumulation in lower trophic levels, and biomagnification in higher trophic level. Drs. Lehrter, Powers, and Robertson will use this instrument immediately and it will be useful for developing external collaborations and for generating money via processing samples from external researchers.

- **Cost: \$38,000 University Programs**

ESTUARIUM MARSH SECTION EXHIBIT - A Naming Opportunity!

This Exhibit represents a section of the natural salt marsh that is found around the perimeter of Mississippi Sound. It will showcase plants such as Black Needlerush and Saltmarsh Cordgrass and animals like the Blue Crab, Lightning Whelk, shrimp and oysters. Visitors will be able select an object and view more information on the video screen above. This will provide an up-close view of the animals, as well as, additional selected information.



- **Cost: \$40,000**

VEHICLES

A Naming Opportunity! The Sea Lab's vehicle fleet is routinely used for a variety of research and educational activities year-round. Due to the nature of our work, trucks used in this manner rust, and within a couple of years, can become unusable and must be decommissioned. We seek funding to replace two of our trucks with 4x4 pick-up trucks. Educational and research field trips at times require a reliable, enclosed vehicle that can carry a small group of people, equipment, and occasionally trailer a small vessel. These instances are best suited for a large SUV such as a Chevy Suburban or something similar. During the summer, this use is increased with the onset of educational programs. While this marked increased during the summer program will be supplemented using rentals, the Sea Lab is seeking funds for the purchase of the following vehicles:

TRUCKS

- **Cost: \$35,000 each – University Programs**

VAN

- **Cost: \$40,000 – University Programs**

SUV

- **Cost: \$40,000 – University Programs**

Priority Needs \$50,000 - \$100,000

TECAN SPARK MULTIMODE PLATE READER – DISL's analytical laboratory needs a flexible, high speed analyzing system which can accommodate reading 96 well plates for absorbance (e.g. nutrients, colorimetric methods), fluorescence (e.g. chlorophyll analysis, enzyme assays) and cell counting. The Tecan Spark is a single, and modifiable platform, which can meet these needs along with future applications (e.g. luminescence). Additionally, this system could allow for current expansion of our single-sample and manual methods (e.g. spectrophotometer, fluorometer, fluorescent microscope) into a higher-capacity system which will enable new research questions to be addressed among research labs.

- **Cost: \$58,000 University Programs**

INSHORE SMALL VESSELS



A Naming Opportunity! The Sea Lab is seeking to acquire two shallow-draft boats (flat bottomed skiff or modified V-hull) for inshore use. The nature of inshore sampling takes a heavy toll on our small vessels, and as a result, several of the small inshore vessels in the DISL fleet have become unreliable or unseaworthy. The addition of these vessels would allow DISL research to continue uninterrupted.

Alabama Power \$25,000; Challenge grant for remaining \$23,000

- **Cost: \$50,000 – University Programs**

CAPITAL CAMPAIGN - OUTDOOR CLASSROOM AND POOL

The Dauphin Island Sea Lab is seeking funding for a capital campus improvement project: A multi-purpose outdoor classroom and new educational pool to begin training in areas now required for young marine scientists.

A much-needed outdoor classroom space and a larger, deeper pool at the Dauphin Island Sea Lab will significantly improve both the Discovery Hall's Programs (DHP), as well as, University Programs' (UP) ability to provide modern, experiential skill training for students of all ages.

The importance of the new classroom is to provide a setting for educators to lead students in a pleasant outdoor atmosphere. As such, the classroom will put students one step closer to nature and the great outdoors. The new classroom will also provide much-needed storage for classroom materials that are frequently transported to and from the pool. This time savings will result in more time for teaching and conducting hands-on activities.

A new pool will also benefit both DHP and the UP. DHP uses the pool during the entire academic year to teach students about remotely-operated vehicles, or ROVs. The pool is utilized for students to "fly" their completed designs in a regional mini science competition. A larger, deeper pool will provide more room for students, relieving congestion.

A larger, deeper pool will also allow UP to upgrade its advanced scientific diving, training and certification for students and faculty from our 23-member schools. The UP-vessel training course will also utilize the pool to teach critical water rescue techniques for small boat users. In addition to diving and vessel training, the UP scientists will use the pool to test and calibrate equipment such as underwater cameras and remote operated vehicles.

Overall, the addition of a larger, deeper pool and outdoor classroom will allow for more time teaching, more students participating simultaneously, more in depth classes being taught and a larger area for recreation.

- **Cost - \$100,000 campus wide**

Priority Needs \$100,000+



OFFSHORE SMALL VESSEL

A Naming Opportunity! The Sea Lab is seeking to acquire a new small vessel for offshore field operations. Several of our offshore vessels will be decommissioned this year as a result of their age, and we are seeking a replacement that will expand our current capabilities and enhance the scope of the research conducted at DISL. An aluminum hull catamaran with a large stable platform would be ideal for a variety of offshore operations including dive operations, buoy maintenance/retrieval, and general oceanography.

- **Cost: \$200,000 – University Programs**

LOBO SYSTEM - UNIVERSITY PROGRAMS AND DISCOVERY HALL K-12 -

A named support effort will allow for the acquisition of a coupled high frequency biogeochemical and physical observation system for a coastal river-influenced system.

Over the last decade oceanographic sensor technology has made significant advancements in high frequency measurement of biogeochemical variables. The ability to sample at rates impossible for traditional techniques, and more consistent with observational physical oceanography, will enable fundamental interdisciplinary questions to be addressed with the potential to transform our understanding of coastal ecosystems. As such, we propose acquiring a new mooring-based biogeochemical measurement system that can measure a range critical ecosystem parameters (i.e., chlorophyll, color dissolved organic matter, turbidity, nitrate and dissolved oxygen). This new measurement capacity will be met with a surface and benthic Land/Ocean Biogeochemical Observatory (LOBO) system.

The surface LOBO buoy is equipped with telemetry that will allow mooring data to be broadcast in real-time and subsequently incorporated into national, regional, and local web portals, consistent with other spatially-extensive and long-term monitoring sites maintained by the University of South Alabama and Dauphin Island Sea Lab. Coupling this biogeochemical measurement system with high frequency physical measurements will provide new insight on the ecosystem response to short and long-term perturbations in the system and will allow for coupled biophysical processes to be investigated at time scales ranging from intratidal (e.g. internal waves) to weather-band (e.g. tropical storms) to inter-annual (variability in regional hydrological cycles).

Furthermore, the new measurement system augmented by the existing field site data will provide a unique view of the long-term trends and patterns in the coastal waters of the region. Finally, the availability of high frequency biogeochemical data on the shelf are essential for the development of the next generation of coupled physical-biogeochemical models that are being used for studies on hypoxia, harmful algal blooms, and other ecosystem processes.

Given the coastal nature of this mooring site, the resulting research is and will continue to be directly linked to human interests and activities through overarching themes of maintaining healthier water quality, understanding coastal climate change problems, and improving resilience to natural and human disasters.

The proposed equipment acquisition addresses research priorities of NSF and other funding agencies for advancing new scientific understanding of both short and long-term processes affecting the coastal zone as well as links to other regional collaborative science program efforts that are underway (e.g. NOAA Restore Science program, NSF EPSCoR Research Infrastructure Improvement program, NSF EarthCube program, etc.).

The instrumentation will also improve the training and public outreach mission of DISL as this field site is and has been a focal point for many undergraduate (e.g. NSF REU program) and graduate student research and class projects. Furthermore, we anticipate that integration of this field station into the existing cyber-infrastructure will result in immediate use by the large, preexisting network of community, commercial, and governmental groups actively using the estuarine water quality stations operated by DISL. In addition, DISL's K through Grey educational programs will be able to use this new data in their curriculum development and public awareness programs. Thus, the equipment acquisition for this site will have broad societal benefits in accordance with NSF expectation for impacts beyond scientific discovery.

Equipment	Per item	Items	Cost
Buoy and mooring system	\$45,500	1	\$45,500
Meteorological sensor array	\$4,500	2	\$9,000
WQM sensor	\$29,900	2	\$59,800
Suna V2 sensor	\$29,200	2	\$58,400
ADCP sensor	\$24,500	2	\$49,000
Bottom mounting system	\$8,200	1	\$8200
TOTAL			\$229,000

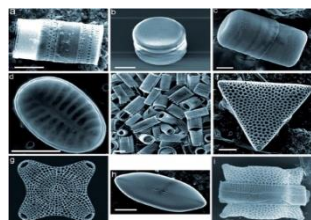
Priority Needs Costs TBD

SCHOOL YEAR VISITS – A designated donation to provide transportation Costs (most frequent and largest barrier) for an underserved school to visit the DISL campus during the academic year.

MS. MAY MAY AND KEDS TRAWL REPLACEMENT/RENOVATION PLAYGROUND AT THE ESTUARIUM - Replacing weathered wooden pilings with recycled plastic pilings and creating a new KEDS trawling playground net.



CLIMBING SCULPTURES (UNDERWATER GAS RIG, CORAL HEAD, GIANT DIATOM, ECHINODERM, GHOST CRAB BURROW, WHALE HARK)



Endowment Needs

DEPARTMENT

To name a department, a minimum gift commitment of \$1 million for endowment is required. In some cases, depending on the department's size and scope of programs, this minimum amount may be larger and will be determined on a case-by-case basis.

CENTER OF SPECIAL PROGRAM

To name a center or special multidisciplinary program, a minimum gift commitment of \$1 million for endowment is required, and depending on the disciplines involved and the size and scope of the programs, the minimum amount may be larger.

ENDOWED CHAIR

To establish a permanently endowed chair, a minimum gift commitment of \$1 million is required. An endowed chair is among the most prestigious and meaningful gifts that can be made to the DISL. Funds provided by an endowed chair are used to attract and retain nationally or internationally recognized scholars or researchers. An endowed chair may provide full salary or a salary supplement and fringe benefits for the recipient of the chair, support staff or other related expenses (if research).

DISTINGUISHED ENDOWED PROFESSORSHIP

To establish a Distinguished Endowed Professorship, a minimum gift commitment of \$500,000 for endowment is required. Funds generated by an endowed professorship are used to support the salary or work of the holder, who may also use the honorary title associated with the distinguished professorship.

ENDOWED PROFESSORSHIP

To establish an Endowed Professorship, a minimum gift commitment of \$250,000 for endowment is required. Funds can be used to help support the salary or work of the holder.

ENDOWED VISITING PROFESSORSHIP

To establish an Endowed Visiting Professorship, a minimum gift commitment of \$150,000 for endowment is required. Funds can be used to support travel, housing, or related work of the holder.

TERM CHAIR

Establishing a Term Chair without any provision for an endowment requires a minimum gift commitment of \$75,000 a year for a minimum period of four (4) years. Funds can be used to support the work of the holder.

TERM UNIVERSITY PROGRAM PROFESSORSHIP

Establishing a Term Professorship without any provisions for endowment requires a minimum gift commitment of \$25,000 a year for a minimum period of three (3) years. Funds can be used to help support the salary or work of the holder.

ENDOWED UNIVERSITY PROGRAM LECTURESHIP

To establish an Endowed Lectureship, a minimum gift commitment of \$100,000 endowment is required. The annual proceeds from this endowment will be used to pay for honoraria, publicity and the expenses of one or more members of the faculty or visiting lecturers from another institution or organization to present a lecture or series of lectures on campus.

TERM LECTURESHIP

Establishing a Term Lectureship without any provision for endowment requires a minimum gift commitment of \$10,000, payable at the rate of \$5,000 a year for a minimum of two (2) years.

NAMED LABORATORY UNIVERSITY PROGRAM ENDOWMENT

To establish a named laboratory program (not room), a minimum gift commitment of \$100,000 for endowment is required. The annual earnings from the endowment will be used for the purchase of equipment and research expenses.

NAMED ENDOWED STUDENT UNIVERSITY PROGRAM FELLOWSHIP

To establish a Named Student Endowed Fellowship, a minimum gift commitment of \$150,000 for endowment is required. A fellowship is ordinarily awarded to an outstanding student who is working toward an advanced degree in a graduate program. The student will normally have a work assignment in the program area.

NAMED ENDOWED UNIVERSITY PROGRAM GRADUATE ASSISTANTSHIP

To establish a Named Graduate Assistantship Endowment, a minimum commitment of \$100,000 is required. A Named Graduate Assistantship Endowment is awarded to a student who is working toward an advanced degree in a graduate program. The student will normally have a work assignment in the program area.

NAMED ENDOWED FULL UNIVERSITY PROGRAM SCHOLARSHIP

To establish a Named Endowed Full Scholarship, a minimum gift of \$250,000 for endowment is required. An endowed scholarship may be awarded to an undergraduate student on the basis of need or academic merit and can only be used to pay room, board, and all fees at DISL.

NAMED ENDOWED UNIVERSITY PROGRAM SCHOLARSHIP

To establish an Endowed Tuition Scholarship, a minimum gift of \$125,000 is required. Proceeds will be applied toward tuition for an undergraduate student and can only be used to pay room, board, and all fees at DISL.

NAMED ENDOWED UNIVERSITY PARTIAL SCHOLARSHIP

To establish a Named Endowed Partial Scholarship, a minimum gift commitment of \$10,000 for endowment is required. Proceeds from this scholarship will be applied to all or a portion of the costs of room, board, and all fees at DISL.

NAMED DISCOVERY HALL ENDOWED SCHOLARSHIP

To establish a Named Endowed Discovery Hall Scholarship for students, a minimum gift commitment of \$50,000 for endowment is required. A named Discovery Hall S may be awarded to deserving underserved students who otherwise would not be able to participate in Discovery Hall Programs.

OTHER NAMED ENDOWED FUNDS

The endowed funds described above are listed because of their broad appeal to prospective donors. Certain special situations not covered above may be considered for named endowments. For any special case, prior approval of the DISL Executive Director is required.