

OCEAN SCIENCE AND ENGINEERING



MASTER OF SCIENCE IN HYDROGRAPHIC SCIENCE

The Master of Science in Hydrographic Science at The University of Southern Mississippi is internationally recognized by FIG, IHO and ICA as a Category A program. Hydrographic surveying is an exciting, multidisciplinary profession that is involved with every aspect of the collection, analysis and management of oceanographic data used for charting the ocean frontier and for engineering development projects.

Designed in cooperation with the U.S. Navy to meet internationally recognized Category A certification requirements, The University of Southern Mississippi was the first educational institution in the United States to receive this certification in June 2000.

With over 200 graduates from 27 different nations, this program is the preeminent source of technically educated hydrographers in North America.

The Category A program is a demanding and intensive curriculum covering the theory and application of geodesy and hydrographic science. It is core to the advanced educational requirements of the U.S. Navy and is sought out by government agencies and industry worldwide to meet their needs for highly educated hydrographers trained in state-of-the-art methods and techniques.

The accelerated one-year track includes two semesters of classroom lectures and practical exercises and one semester of application, combining for about 50 continuous weeks of study. Students may also choose to complete the program in two years and conduct

research with USM's Hydrographic Science Research Center (HSRC). Only two-year students are eligible for assistantships. The degree awarded is a non-thesis Master of Science in Hydrographic Science.

All students must complete the eight-week Hydrographic Science Field Project, which is conducted in the summer in the local Gulf Coast area. These are state-of-the-art, ellipsoid-referenced survey operations using multi-beam sonar and satellite positioning technology. The project is comprised of a complete nautical charting hydrographic survey to include:

- Data mining for all existing spatially related information for the project area;
- Development of survey specifications for the project area;
- Installing, interfacing and calibrating all survey equipment and software;
- Data collection using multi-beam, side-scan, interferometric sonar, GNSS, SVP, water level gages, etc.;
- Data processing and analysis;
- Quality assurance checks to determine if international standards have been met;



- Electronic Navigational Chart (ENC) production;
- Completion of a comprehensive Report of Survey meeting the standards of the current NOAA Hydrographic Survey specifications and deliverables; and
- Presentation of the project and results to the examination committee.

EOE/F/M/VETS/DISABILITY



SCHOOL OF OCEAN SCIENCE AND ENGINEERING
usm.edu/ocean

sose@usm.edu
228.214.9010