

# RIVER-COASTAL SCIENCE AND ENGINEERING, MS (RESIDENTIAL)

## Overview

The River-Coastal Science and Engineering program is an effort by faculty and students to understand a key component of the Earth system—the linked environments of river basins, deltaic river mouths, and coastal ocean systems. Much of our focus surrounds the nexus issue of water: water exerts a strong control over landform evolution and ecosystem health, and is a priority human need for agriculture, industry, and health.

The resident MS degree program is a 2-year program, in which a student will take 24 graduate credit hours of coursework and write a thesis (6 research credits). Alternately, students may pursue a non-thesis pathway that requires 30 classroom credits and has the option of conducting a smaller-scale research project through RCSE 6900 Independent Study. The program is well suited as a stepping stone for students considering pursuing a Ph.D. degree program at Tulane or elsewhere in this discipline or related areas. The program is also useful for students planning to enter more advanced professional degree programs (e.g., law, public health, business, natural resources management, etc.). It can be useful for students interested in seeking employment with environmental agencies of federal, state, and municipal government; non-governmental organizations; education; and in private industry, including environmental consulting firms.

## Requirements

All students must complete 30 graduate credit hours in order to obtain the degree.

- M.S. students can transfer up to 12 credit hours from previous graduate-level coursework to the degree. The RCSE Graduate Advisor must approve all transfer credits.
- Students hoping to transfer graduate credits should prepare and submit the paperwork at the start of their second semester at Tulane. SSE will only transfer credits when the student has completed one semester (it is at that point that a Tulane transcript is available).
- Academic graduate electives from other departments may be applied to the degree up to a limit of 9 credit hours. All other courses must originate from RCSE. If a class is not on the approved list, a student may petition the Graduate Advisor for it to be accepted as an elective.
- Note that resident thesis MS students must register in the summer for health insurance to allow for continuation of the research assistantship.
- Unless students have been exposed previously to the material offered, thesis committees will strongly urge students to take the two introductory technical courses offered by the RCSE, RCSE 6800 Intro to River Science & Eng (3 c.h.) and RCSE 6802 Introduction to Coastal Science and Engineering (3 c.h.) .

| Course ID | Title   | Credits |
|-----------|---|---------|
| RCSE 6010 | Water Resources Engineering I (offered Summer )   | 3       |
| RCSE 6020 | Water Resources Engineering II (offered Fall semester)  | 3       |
| RCSE 6030 | Water Resources Engineering III (offered Spring semester)   | 3       |
| RCSE 6040 | Coastal Marine Geology (offered Spring semester, even years)  | 3       |
| RCSE 6660 | Special Topics (offered periodically)   | 1-3     |
| RCSE 6710 | Open Channel Flow (offered Spring semester, odd years)  | 3       |
| RCSE 6800 | Intro to River Science & Eng (offered Spring semester)  | 3       |
| RCSE 6802 | Introduction to Coastal Science and Engineering (offered Fall semester)                               | 3       |
| RCSE 6810 | River and Stream Restoration (offered Spring semester, even years)                                    | 3       |
| RCSE 6820 | Introduction to River-Coastal Hydrologic and Hydraulic Modeling (offered Spring semester, even years) | 3       |
| RCSE 6830 | River Mechanics & Management (offered Fall semester, even years)                                      | 3       |
| RCSE 6840 | Methods in River Sampling (offered Spring semester, odd years)  | 3       |
| RCSE 6850 | Estuarine Processes (offered Spring, odd years)   | 3       |
| RCSE 6860 | Environmental Data Analysis in the Anthropocene (offered Spring semester, even years)                 | 3       |
| RCSE 6865 | Sea-Level Change (offered Spring semester, odd years)   | 3       |
| RCSE 6870 | Hydroclimatology (offered Fall semester, odd years)   | 3       |
| RCSE 6875 | Ecohydrology (offered Fall semester, even years)  | 3       |
| RCSE 6900 | Independent Study (Every semester)  | 1-3     |
| RCSE 7020 | Research Skills, Information Literacy and Scientific Writing (offered Fall semester)                  | 3       |
| RCSE 7100 | Seminar in River Coastal Science and Engineering (Every semester)                                     | 1       |

|           |                           |      |
|-----------|---------------------------|------|
| RCSE 7940 | Transfer Credit- Graduate | 1-12 |
| RCSE 9980 | Masters Research          | 3    |

All M.S. students must enroll in three semesters of the 1 credit Seminar course (RCSE 7100 Seminar in River Coastal Science and Engineering (1 c.h.) ). Thesis track students must also enroll in RCSE 7020 Research Skills, Information Literacy and Scientific Writing (3 c.h.), a course that is offered each Fall. The goal of this course is to expose students to state-of-the-art research topics and methodologies and prepare a prospectus for their thesis project. Generally students take this class in their third semester.

Additionally, thesis track students must enroll in 3 credits of Masters Research (RCSE 9980 Masters Research (0 to 3 c.h.)) over two semesters (6 credits total). Typically, students do this during their 3rd and 4th semesters. The student may register for more Masters Research credits if desired in prior or subsequent semesters; however, these credits do not count toward the 24 course credits necessary for the degree. Masters Research credits are an additional and different type of credit, and they bring the total credits up to  $24+6=30$ . Note that if all other credit requirements are met, the student can enroll in ONLY 3 hrs of Masters Research to maintain enrollment, i.e. this maintains full time enrollment.

## Contact

For more information, contact the School of Science and Engineering (<https://sse.tulane.edu/river/about/contact/>).