

Catalog of Postgraduate Programs and Curricula

Curriculum for PhD(MES) (For students admitted in 2010-11)

Program Requirements for Doctor of Philosophy (PhD) Program in Marine Environmental Science

Credits

1. Students admitted **with a first degree only** are required to complete **at least 12 credits** of coursework, including:
 - 6 credits of core courses;
 - 3 credits from the Marine Environmental Science elective course list; and
 - 3 credits from either the Atmospheric Environmental Science elective course list or the Marine Environmental Science elective course list.
2. Students admitted to the program **with a relevant master's degree** are required to complete **at least 7 credits** of coursework. They may be granted credit transfer of up to 4 credits by the PG Coordinator, based on their background in related subject areas.

Courses

1. Core courses (6 credits):

ENVR	605	<i>Introduction to Oceanography; and</i>
MATH	560	<i>Weather, Climate and Pollution</i>

2. Elective courses:

- (i) Marine Environmental Science:-

BISC	530	<i>Conservation Biology</i>
BISC	532	<i>Ecotoxicology</i>
BISC	621	<i>Special Topics in Marine Biology</i>
CHEM	544	<i>Bioanalytical Chemistry</i>
ENVR	521	<i>Environmental Microbiology</i>
ENVR	603	<i>Special Topics in Marine Environmental Science</i>
ENVR	608	<i>Dynamics of Marine Ecosystems</i>
EVSM	522	<i>Advanced Environmental Chemistry</i>
EVSM	607	<i>Environmental Impact Assessment</i>
MATH	685O	<i>Topics in Applied Mathematics: Numerical Ocean Circulation Modeling</i>

- (ii) Atmospheric Environmental Science:-

CHEM	541	<i>Atmospheric Chemistry</i>
ENVR	602	<i>Special Topics in Atmospheric Environmental Science</i>
ENVR	608	<i>Dynamics of Marine Ecosystems</i>
EVSM	607	<i>Environmental Impact Assessment</i>
MATH	535	<i>Computational Fluid Dynamics for Inviscid Flows</i>
MATH	546*	<i>Time Series Analysis</i>
MATH	551	<i>Mathematical Methods in Science and Engineering I</i>
MATH	685O	<i>Topics in Applied Mathematics: Numerical Ocean Circulation Modeling</i>

MECH 521	<i>Fluid Dynamics</i>
MECH 526	<i>Air Pollution Meteorology</i>

** This course may be replaced by ISOM 553 Multivariate Data Analysis.*

Postgraduate Seminar

To register in ENVS 6011 *Postgraduate Seminar* whenever it is offered. Credits earned from ENVS 6011 cannot be counted toward the credit requirements.

The Qualifying Examination

To pass a qualifying examination.

Research and PhD Thesis Examination

1. To conduct research and enroll in ENVS 7990 *Doctoral Thesis Research*; and
2. To defend the PhD thesis successfully.