獎學金 Scholarship

- 澳門大學理工科課程獎學金
  STEM Scholarship

  詳情請到研究生院網站了解：
  For details, please visit the website of Graduate School or scan below QR code:
  https://grs.um.edu.mo/index.php/stem-scholarship/

- 澳門大學研究助理及教學助理
  Research Assistantships & Teaching Assistantships

  詳情請到研究生院網站了解：
  For details, please visit the website of Graduate School or scan below QR code:
  https://grs.um.edu.mo/index.php/prospective-students/assistantship/

入學章程 Admission Guideline

詳情請到研究生院網站了解：
For details, please visit the website of Graduate School or scan below QR code:
https://grs.um.edu.mo/index.php/prospective-students/assistantship/

FST website　　fstuniversityofmacau　　fst_um　　Wechat: 澳大 FST　　澳門大學科技学院

Produced by Faculty of Science and Technology, University of Macau
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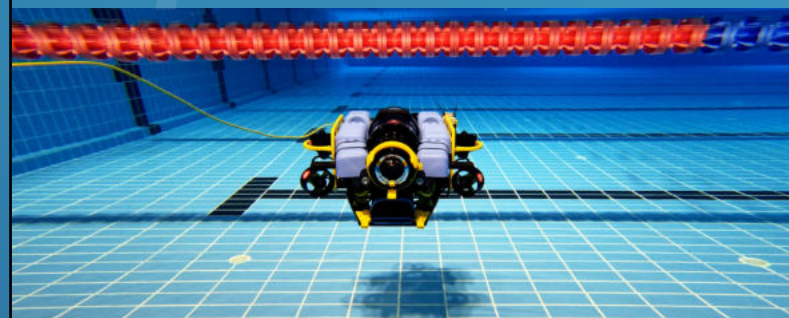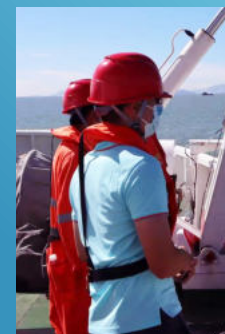

澳 門 大 學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU

科技學院
Faculdade de Ciências e Tecnologia
Faculty of Science and Technology

澳門大學科技學院
理學碩士學位 –
智慧海洋技術

Master of Science in Smart Ocean Technology

海洋環境監測與預報
Marine Environmental Monitoring and Forecasting

海事管理
Marine Management

海洋技術
Ocean Technology

(853) 8822-4963

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Faculty of Science and Technology,
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澳门大学科技学院

課程目標 Programme Aims

課程旨在培養學生掌握海洋信息和數據採集、大數據科學、先進的數據處理、水下聲學與成像、水下通信和海洋傳感器的原理和技術，並應用於海洋裝備研發、海洋觀測預報、海洋管理等領域。學生將具備勝任海洋觀測監測、海洋研究和海洋高新技術產業的專業技能。

The programme is designed to train students to master the principles and techniques of the information and data acquisition in oceans, big data science, advanced data processing, underwater acoustics and imaging, underwater communication and ocean sensors, and to apply them to the research and development of marine equipment, marine observation and forecasting, and marine management. Students will have the professional skills to be competent in marine observation and monitoring, marine research and marine high-tech industries.

課程架構 Programme Curriculum

1. 開辦學年：2024/2025
2. 修讀學分：30學分
3. 修讀年期：2年
4. 教學語言：英語
5. 畢業要求: 學生必須完成修讀所要求的學科，並完成"項目報告"或"實習及報告"

1. Programme to be offered in academic year: 2024/2025
2. Total programme Credits: 30
3. Duration of Study: 2 years
4. Medium of Instruction: English
5. Graduation Requirements: Students must complete the required courses and "Project Report" or "Internship and Report"

必修及選修科目 Compulsory and Elective Courses

學生可透過以下任一方式完成修讀課程取得 30學分:

1. 四門必修科目（12學分）、四門選修科目（12學分），以及項目報告（6學分）；

2. 四門必修科目（12學分）、五門選修科目（15學分），以及實習及報告（3學分）

Student is required to obtain 30 credits by either of the following methods:

1. 4 compulsory courses to obtain 12 credits, 4 required elective courses to obtain 12 credits, and "Project Report" to obtain 6 credits, or

2. 4 compulsory courses to obtain 12 credits, 5 required elective courses to obtain 15 credits, and "Internship and Report" to obtain 3 credits.

Courses 學科單元/科目	Type 種類	Credits 學分
Ocean Remote Sensing 海洋遙感	Compulsory 必修科	3
Introduction to Oceanography 海洋學導論		3
Physical Oceanography 物理海洋學		3
Database and Data Mining Technologies 資料庫和資料挖掘技術		3

Courses 學科單元/科目	Type 種類	Credits 學分
Ocean Acoustics 海洋聲學	Required Elective 選修科	3
Ocean Sensors 海洋傳感器		3
Machine Learning and Applications in Ocean Science 機器學習在海洋科學的應用		3
Marine Robotics and Application 海洋機器人及應用		3
Special Topics in Ocean Observation and Modeling 海洋觀測與模擬專題		3
Special Topics in Underwater Communication and Networks 水下通訊與網路專題		3
Cloud Computing 雲計算		3

Courses 學科單元/科目	Type 種類	Credits 學分
Project Report 項目報告	Required Elective 選修科	6
Internship and Report 實習及報告		3

預期學習成效 Intended learning outcomes

1. 具備適用於海洋科學和技術的知識並將其應用於學位學科或專業領域的能力；
2. 設計和執行實驗，分析和解釋與海洋學和技術相關的數據的能力；
3. 在現實約束條件下（如經濟、環境、社會、政治、倫理、健康與安全、可製造性和可持續性），設計系統、零部件或流程以滿足所需的能力；
4. 識別、制定和解決與海洋科學和技術相關的複雜問題的能力；
5. 使用與海洋科學和技術工程實踐相適應的技術、技能和現代工程工具的能力；
6. 使用與海洋科學和技術相關的計算機工具，並了解其過程和限制的能力。

1. An ability to apply knowledge of ocean science and technology appropriate to the degree discipline or professional field;
2. An ability to design and conduct experiments, as well as to analyze and interpret data related to ocean science and technology;
3. An ability to design a system, component or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability;
4. An ability to identify, formulate and solve complex problems related to ocean science and technology;
5. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice appropriate to ocean science and technology;
6. An ability to use the computer tools relevant to ocean science and technology along with an understanding of their processes and limitations.

入學資格 Admission Requirements

1. 須具有學士學位或澳大認可的同等學歷。

2. 申請人學士學位畢業總平均分達到相等於*C+或以上成績; *相等於4分制GPA之2.3分，20分制之14分或100分制之70分。

3. 申請人必需符合澳大之基本入學英語水平。

1. Applicants must possess a Bachelor's degree or academic background recognized as equivalent by the University of Macau.

2. Applicants should have achieved the equivalent* of an overall result of Grade C+ or better in the Bachelor's degree studies. * The equivalent means 2.3 on the 4.0 GPA scale, 14 on the 20-point scale or 70 out of 100.

3. Applicants must also meet the English proficiency requirement of the University.

申請及學費 Application & Tuition Fee

申請人可透過澳門大學研究生院網站或掃描以下二維碼提交申請: https://grs.um.edu.mo/

Prospective applicant can submit applications through the website of the Graduate School of the University of Macau or by scanning the QR code below:

碩士課程最新學費: https://grs.um.edu.mo/index.php/current-students/tuition-fee/

The latest tuition fees for master programmes: https://grs.um.edu.mo/index.php/current-students/tuition-fee/