

# Division of Ocean Systems Engineering

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## Introduction

The Division of Ocean Systems Engineering (OSE) at KAIST (KAIST OSE) was established in 2008 within the School of Mechanical Engineering. Its pillar charters are to educate young talents and conduct research so that its graduates will play leading roles in the new burgeoning frontiers of ocean systems as well as in Korean shipbuilding and offshore industry. The OSE Department's status was further bolstered in November 2008 by winning the World Class University Project funded by Korean Science Foundation that will facilitate KAIST OSE to become a leading ocean systems engineering department in the world.

Ocean systems would be large in spatial dimension and require complex construction and operation procedures. In order to develop a good ocean system, several core technologies have to be integrated such as shipbuilding, ocean engineering, mechanical engineering, electrical and electronic engineering, civil engineering, industrial engineering, petro chemical engineering, technology management, computer science, telecommunications, and perhaps a new field heretofore not identified. Hence, interdisciplinary synergism and collaboration is essential.

To complement the young department, KAIST OSE plans to collaborate with and seek support from Korea's shipbuilding industry and also from the national research laboratories in Daedeok Science town such as MOERI (marine and ocean engineering research institute, [www.moeri.re.kr](http://www.moeri.re.kr)), KIMM (Korea institute of machinery and materials, [www.kimm.re.kr](http://www.kimm.re.kr)), KR (Korea Register of Shipping, [www.krs.co.kr](http://www.krs.co.kr)), Korean Navy ([www.navy.or.kr](http://www.navy.or.kr)), ADD (Agency for Defense Development, [www.add.re.kr](http://www.add.re.kr)), HHI (Hyundai Heavy Industries, [www.hhi.co.kr](http://www.hhi.co.kr)), SHI (Samsung Heavy Industries, [www.shi.samsung.co.kr](http://www.shi.samsung.co.kr)), DSME (Daewoo Shipbuilding & Marine Engineering, [www.dsme.co.kr](http://www.dsme.co.kr)), STX (STX Offshore & Shipbuilding, [www.stxons.com](http://www.stxons.com)), and HHIC (Hanjin Heavy Industries and Construction, [www.hanjinsc.com](http://www.hanjinsc.com))

Postgraduate-level students can select their own course work under the supervision of mentoring faculty members, instead of following pre-defined courseware. The analytical approaches provided by the core courses will help them solve the large and complex problems of ocean systems. Furthermore, hands-on experience gained through work in laboratories and international industry internships will motivate them to recognize world-class requirements and to challenge critical real-world problems.

To foster interdisciplinary education experience, the OSE graduate students will scope out their individualized courses offered not only in the School of Mechanical Engineering but also across the institute with consultations with mentoring faculty members. Hands-on experience through laboratory work and industry internship will help students to grasp the real world requirements and problems.