船舶电力拖动系统 课程简介

课程编号：1713015740

课程名称：船舶电力拖动系统

学分/学时：3/48

先修课程：电力电子技术、电机学 、自动控制理论

适用专业：船舶电子电气工程

课程性质：必修

教　　材：薛征宇.许长青.汪旭明等编. 船舶电力拖动系统.大连海事大学出版社, 2021 年

主要参考书：

[1] 阮毅,杨影,陈伯时.电力拖动自动控制系统——运动控制系统（第 5 版）.机械工业出版社,2016.

[2] 朱景伟.交流电机变频调速原理.大连海事大学出版社.2021.7

内容简介：

《船舶电力拖动系统》是船舶电子电气工程专业的一门专业课程。课程教材旨在通过利用真实的工程案例的分析，使学生能够具有独立思考、独立设计、独立解决复杂工程问题的能力。本课程内容包括船舶电力拖动系统中电机的运行状态特性分析、电机容量的选择、船舶电力拖动系统电机的起动、制动与调速、继电接触器控制系统的分析与设计、船舶电机变频器控制系统、船舶电力推进与动力定位系统、船舶液压传动系统、船舶舵机航向自动控制系统等。

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Course Description

Marine Electrical and Electronic Engineering

Course Code：1713015740

Course Name：Marine Electric Drive System

Credit/Hours：3/48

Textbooks：Xue ZhengYu, Xu ChangQing, Wang XuMing etc. *Marine Electrical Drive System*. DaLian Maritime University Press, 2021.

Reference Books：Chen BoShi. *Electric Drive Automatic Control System*. China Machine Press, 2016.

Course Description：

Marine Electric Drive System is a professional course of Marine Electrical and Electronic Engineering majors. The course aims to develop students' ability to think independently, design independently, and solve complex engineering problems by analyzing real engineering cases. The course content includes: analysis of the operational characteristics of motors in marine electric drive systems, selection of motor capacity, starting, braking, and speed regulation of motors in marine electric drive systems, analysis and design of relay-contactor control systems, variable frequency drive control systems for marine motors, marine electric propulsion and dynamic positioning systems, marine hydraulic transmission systems, and automatic heading control systems for marine steering gear. etc.