

A PRELIMINARY DESIGN OF CATAMARAN FOR SAILING YACHT

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A PRELIMINARY DESIGN OF CATAMARAN FOR SAILING YACHT

By

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**A thesis submitted in partial fulfilment of
the requirements for the award of the degree of
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DECLARATION AND VERIFICATION REPORT FINAL YEAR RESEARCH PROJECT

It is hereby declared and verified that this research report entitled:
A Preliminary Design of Catamaran for Sailing Yacht by Mohammad Ariffuddin Bin Ismail, Matric No. UK 17954 have been examined and all errors identified have been corrected. This report is submitted to the Department of Maritime Technology as partial fulfillment towards obtaining the **Bachelor Degree of Applied Science (Maritime Technology)**, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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DECLARATION

I hereby declare that this thesis entitled "A Preliminary Design of Catamaran for Sailing Yacht" is my own research except as cited in the references.

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A PRELIMINARY DESIGN OF CATAMARAN FOR SAILING YACHT

ABSTRACT

This study is aim to find the optimal design of catamaran as sailing yacht for east coast Malaysia water. The yacht design has to be suitable with Malaysia weather condition and feasible to operate in Malaysia waters. This project describes a methodology to predict the yacht performance by using Maxsurf software program based on some required input data. The lines plan and general arrangement plan will be generated from the Maxsurf and autoCAD design methods and processes are discussed detailed in this study. Then, be found the most economical and suitable dimension of the selected catamaran to carried 12 persons onboard for long distance sailing or 30 persons onboard for daily sailing which is less power consumption, less hull resistance, more stable and more faster in sailing with maximum wind usage were determined by comparing the result obtained.

REKABENTUK AWAL UNTUK KATAMARAN SEBAGAI KAPAL PELAYARAN

ABSTRAK

Kajian ini bertujuan bagi mengenalpasti rekabentuk katamaran sebagai kapal pelayaran di perairan Pantai Timur Malaysia. Rekabentuk kapal layar ini perlu bersesuaian dengan keadaan cuaca di Malaysia dan munasabah bagi dioperasikan di perairan Malaysia. Projek ini menghuraikan kaedah untuk meramalkan pelaksanaan oleh kapal layar dengan menggunakan Perisian *Maxsurf* berdasarkan data yang diperlukan. Pelan garis dan pelan susunaturam akan dihasilkan dengan program rekabentuk *Maxsurf* dan *AutoCAD* masing-masing dan kaedah rekabentuk dan proses akan diterangkan lebih teliti di dalam kajian ini. Akhir sekali ukuran yang paling sesuai untuk rekabentuk katamaran yang dipilih untuk membawa 12 orang di atas kapal untuk pelayaran jarak jauh atau 30 orang di atas kapal untuk pelayaran harian yang mana lebih stabil, kurang kuasa dan juga rintangan dengan lebih laju dalam pelayaran dengan penggunaan angin yang maksimum akan dikenalpasti dengan membandingkan hasil keputusan.