

SATISFACTORY NAVAL ARCHITECTURE EXPERIENCE

Naval Architecture design activities require numerical or other analysis (as opposed to review). The majority of these activities will require the regular application of fundamental engineering principles and knowledge of international, state and classification society regulations relating to ship design and associated machinery installation. Please refer to the document "Satisfactory Engineering Experience" for a description of other aspects of experience which are considered as qualifying an individual towards registration as a professional engineer.

Naval Architecture Design Activities

Examples of Naval Architecture design activities can include the following:

- Mission analysis and impact on vessel design, design philosophy, concept and preliminary design;
- Vessel arrangements, crew and passenger spaces, cargo and machinery spaces, tank arrangements, access, escape and safety arrangements;
- Design for transport of dry cargo, passengers, Ro-Ro, containers, liquid cargo, cryogenic and compressed gases;
- Analysis and design of principal hull and deckhouse design loads, stresses and deflections, first principles and FEA structural design;
- Analysis and design of structural components, load sharing, plating systems, alignment and continuity, pillars, girders and stringers, machinery and equipment foundations and seatings;
- Materials and connections, ferrous, light alloy and non-metallic, welding and mechanical fastenings;
- Vessel construction, lofting, cutting and forming, fabrication and erection, dimensional control preservation design and maintenance;
- Structural vibration, analysis, stress and vibration levels, hull, local and propeller frequencies and vibration damping and resonant amplitudes, vibration habitability;
- Resistance and propulsion, model testing and analysis, propeller design and cavitation, displacement, semi-displacement and planing craft; special propulsion devices;
- Vessel maneuvering and control, starting, stopping and backing, control surface design, turning circle, vessel features impact on maneuverability and control maneuvering and control systems, navigation systems;
- Vessel motions, ocean waves, effects of ship motions, impact on design, motion control systems;
- Intact stability, subdivision and damaged stability, weights and centres calculations, effect of liquid and special cargoes, vessel loading, weight control and monitoring, effects of changes in weight, stability evaluation and standards, inclining experiment, stability documentation;
- Safety of crew, passengers and the environment, fire protection, lifesaving systems and equipment, dangerous, hazardous noxious and polluting cargoes;
- Computer applications for lines fairing, hydrostatics, hydrodynamics, structural strength and FEA, ship motions, stability, propeller design, speed and power, maneuvering and control;
- Outfit and fittings, closures, insulation, hotel equipment and outfit, cargo equipment and materials handling.

Naval Architecture Support Activities

Naval Architecture support activities involve engineering concepts, but do not necessarily require technical or numerical analysis.

- Conducting vessel, equipment and system trials or tests;
- Scheduling construction or major overhaul activities;
- Performing formal technical investigations into component or system failures;
- Shipbuilding cost estimating and cost control relating to construction or modification activities;
- Technical review of Non Destructive Testing or health monitoring data;
- Writing and evaluation of technical proposals;
- On-site quality assurance activities relating to shipbuilding or repair;
- Shipbuilding contracts and financing.