AOU Mechanical Engineering Options — Curriculum

5-year B.Eng. · 207 units · MP / NA / MC options · CCMAS alignment · Draft

AKPAKIP ORO UNIVERSITY (AOU)
Faculty of Engineering — Department of Mechanical Engineering
CURRICULUM (Draft)
Mechanical Engineering (Manufacturing & Production; Naval Architecture & Boat Building; Materials & Corrosion options)

1. Preamble
Five-year B.Eng. Mechanical Engineering with three options. Meets NUC CCMAS and COREN requirements. Codes/units provisional until reconciled with official CCMAS.

2. Aims and Objectives
• Mechanical engineers who design, manufacture and maintain machines, materials and vessels.
• Three options: Manufacturing and Production (with Additive Manufacturing track); Naval Architecture and Boat Building; Materials and Corrosion.
• Strong foundations in mathematics, mechanics, thermal and fluid systems, and materials.
• Preparation for COREN registration, employment or postgraduate study.

3. Graduate Competencies
Mechanics and design · Thermal and fluid systems · Materials · Manufacturing processes · Production systems · Additive manufacturing · Corrosion and surface engineering · Marine engineering · Measurement and quality · Professional practice.

4. Programme Structure
80 courses · 207 units across 10 semesters.
Year 1: 35 · Year 2: 44 · Year 3: 44 · Year 4: 44 · Year 5: 40.

Track: Core · MP (Manufacturing & Production) · AM (Additive Manufacturing within MP) · NA (Naval Architecture & Boat Building) · MC (Materials & Corrosion).

5. Option Emphasis
Manufacturing & Production / Additive: advanced processes, DfMA, lean, CAM, automation, AM design/quality/certification.
Naval Architecture: hydrostatics & stability, resistance & propulsion, marine structures, ship design, seakeeping, vessel construction & survey.
Materials & Corrosion: corrosion fundamentals, electrochemistry, polymers/composites, surface engineering, failure analysis, advanced corrosion, asset integrity.

6–9. Assessment framework · Industrial training & projects · Resource requirements · Quality assurance & CCMAS alignment
Companion documents: Students' Handbook and Lecturers' Handbook.

Draft for departmental, Faculty and Senate review.
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