AOU Mechatronics & Robotics — Curriculum

5-year B.Eng. · 207 units · IA & RS options · CCMAS alignment · Draft

AKPAKIP ORO UNIVERSITY (AOU)
Faculty of Engineering — Department of Mechatronics and Robotics Engineering
CURRICULUM (Draft)
Mechatronics and Robotics Engineering — with Industrial Automation and Robotics Systems options

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

2. Aims and Objectives
• Mechatronics and robotics engineers who integrate mechanical, electrical, control and software systems.
• Two pathways: Industrial Automation · Robotics Systems.
• Strong foundations in mathematics, mechanics, electronics and programming.
• Preparation for COREN registration, employment or postgraduate study.

3. Graduate Competencies
Mechanical design · Electrical and electronic systems · Control systems · Sensors, actuators and embedded systems · Industrial automation · Robotics · Intelligent and autonomous systems · Design and integration · Professional practice.

4. Programme Structure
80 courses · 207 units across 10 semesters.
Year 1: 35 · Year 2: 45 · Year 3: 44 · Year 4: 44 · Year 5: 39.

Track: Core (all students) · IA (Industrial Automation) · RS (Robotics Systems).

5. Option Emphasis
Industrial Automation: PLCs, SCADA, hydraulics/pneumatics, industrial automation design, IIoT, safety systems, commissioning.
Robotics Systems: robot kinematics/dynamics, industrial & mobile robotics, robot control, AI for robotics, HRI, robot deployment.

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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