

Hayrunnisa

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PROFILE SUMMARY

Chemical Engineering graduate from Institut Teknologi Sumatera with hands-on experience in **cosmetic & pharmaceutical formulation, process development, and quality control**. Skilled in **scale-up processes, In-Process Control (IPC), GMP compliance, and equipment performance evaluation**. Proven ability to optimize formulations and analyze process data to drive operational efficiency. A highly motivated individual with strong work ethic, adaptability, and eagerness to learn, committed to contributing to sustainable industrial advancements.

EDUCATION

Institut Teknologi Sumatera | Way Huwi, Lampung Selatan 

Bachelor of Chemical Engineering (September 2021 – February 2026)

- GPA : 3.15/4.00
- Thesis : Preliminary Design of Isoamyl Acetate Plant from Acetic Acid and Isoamyl Alcohol 
 - Designed end-to-end chemical plant including process selection, equipment sizing, and process flow diagram using Microsoft Visio
 - Optimized raw material usage and recycle streams via mass & energy balance, reducing unreacted reactant waste
 - Evaluated economic feasibility (ROI, PBP, IRR, BEP) and sensitivity analysis, concluding plant is viable at 30.000 tons/years capacity
 - Assessed Health and Safety, utility supply, waste management, and regulatory compliance for sustainable production.
- Research : Production of Nanocellulose from Empty Fruit Bunch using Ultrasonication with Sodium Hydroxide Pretreatment
 - Produced nanocellulose using ultrasonication and NaOH pretreatment, analyzing nano particle size using SEM, interpreted functional groups via FTIR with created data graph using origin software
 - Conducted experiments (ultrasonic cleaner, oven, magnetic stirrer, glassware) and validated hypothesis with data analysis

WORK EXPERIENCE

PT Kilang Pertamina Internasional Refinery Unit II | Dumai, Riau

Engineering and Development Intern | Process Engineering (July 2024)

- Evaluated performance of two heat exchangers (HE-100-E3A and HE-100-E3B) in Crude Distillation Unit by calculating fouling factor, pressure drop, and thermal efficiency using actual operating data, Microsoft Excel, and engineering references
- Identified that increased flow rate reduced thermal efficiency by 25% due to accelerated fouling, leading to recommendation of periodic cleaning every 3 months
- Proposed maintenance schedule that potentially reduces energy loss and extends equipment lifespan
- Collaborated with process engineering team to validate findings, contributing to operational cost reduction strategy in the Hydroskimming Complex

PT Alamanda Global Health | Tangerang, Banten

Research and Development Staff | Formulation (June 2022 – August 2022)

- Developed and optimized skincare formulations (moisturizer, serum, sunscreen, facial wash, lotion, etc) from lab scale to trial batch, ensuring alignment with product specifications and quality standards
- Performed In-Process Control (IPC) tests including viscosity, pH, density, and organoleptic on 15+ batches; identified batches with instability issues and recommended reformulation adjustments
- Successfully supported scale-up process became scale batch, achieving >95% consistency in viscosity and pH between lab and production scale
- Collaborated with QC team to establish raw material acceptance criteria, reducing batch rejection rate by 10% during internship period

PT Metiska Farma | Kebayoran, Jakarta

Research and Development Intern | Formulation (August 2019 – Oct 2019)

- Conducted research and development of pharmaceutical and herbal medicine formulation division with projects titled "Preparation of Flunarizine HCl tablet using wet granulation method"
- Performed 20+ trial batches at lab scale and supported scale-up to pilot batch, ensuring uniformity of content and hardness
- Operated analytical instruments dissolution tester, UV-Vis spectrophotometer, and titration for QC testing; identified 2 batches with out-of-spec hardness and recommended granulation time adjustment
- Supervised IPC testing (hardness, friability, disintegration) for 15+ batches, contributing to 100% batch release compliance during internship period

ORGANIZATIONAL EXPERIENCE

Himpunan Mahasiswa Teknik Kimia ITERA | Way Huwi, Lampung Selatan

Head of Department Media Communication and Information (February 2024 – December 2024)

- Managed and coordinated 3 divisions (Creative Content, Multimedia Design, and Publication & Documentation)
- Supervised and controlled for visual designs, promotional materials, and event documentation in. Led the planning and production of media content for internal and external activities
- Handled social media (Tiktok, Instagram, Youtube) with 1000+ followers and reach more than 1000+ likes.

Lembaga Pers ITERA | Way Huwi, Lampung Selatan

Staff of Videography and Photography (March 2023 – December 2024)

- Managed photo/video documentation for journalistic, organizational events, and digital media publications

SKILLS & OTHERS

Technical Skills : Microsoft Office (especially Word and Excel), Microsoft 365, Microsoft Visio, Aspen HYSYS, SAP Software.

Certifications :

- TOEFL score 607 licensed by ITERA Language Center
- Certified training GMP, HACCP, ISO 22000:2018, FSSC 22000 Version 6.0 licensed by Makin Ahli

Volunteering :

Local Project AIESEC in UNILA

Widyawiyata | (July 2025)

- Contribute with SDG's 4 focused on quality education volunteering activities at orphanages, community reading centers, special schools, kindergarten, elementary, and junior high schools.

Liga BKKMTKI Daerah I Vol. IV

Head of Division Creative Media (May 2023 – August 2023)

- Developed and produced event content, handled Instagram account with 100+ likes