CURRICULUM EVALUATION REPORT

Bachelor of Engineering Management (Sarjana Manajemen Rekayasa)
Institut Teknologi Del

Academic Evaluation Cycle — Strategic Diagnostic for Kurikulum 2019

Executive Summary: Bridging to the Next Four Years

This curriculum evaluation serves as the definitive structural diagnostic of the Bachelor of Engineering Management (Sarjana Manajemen Rekayasa) program at Institut Teknologi Del. Completed as a critical prelude to designing the upcoming four-year block, this report balances rigorous academic benchmarking with real-world market demands.

To get the full technical picture, this qualitative synthesis operates in tandem with the baseline structures mapped in "revisions on curriculum" and the direct stakeholder feedback embedded within "Exit Survey S1MR IT Del year 2018".

1. Strategic Alignment & Program Performance

1.1 Educational Vision and Mission Realization

The program targeted becoming a national benchmark of excellence by 2020–2022. However, internal and external evaluations show that while regional and national competition metrics are exceptionally strong, the program has not yet fully realized its status as an established national reference point. The current 'global competitiveness' objective requires clearer, more quantifiable parameters to accurately track and measure international success metrics over time. Furthermore, Tridarma roadmap implementation (spanning teaching, research, and community service) requires a stronger, more structured framework to move past ad-hoc initiatives into highly integrated, technology-driven applications.

1.2 Admissions Trend and Selectivity Analytics

Since its establishment in the 2014/2015 academic year, the program has generated a robust and steady demand from prospective students. The program maintains a highly competitive average admission selectivity ratio of approximately 1:5, indicating deep societal trust and high institutional prestige from its inception.

Academic Year	Total Applicants	YoY Change	Accepted Students	Selectivity Ratio
2014	145	Base Year	38	1 : 3.8
2015	222	+53%	73	1 : 3.0
2016	294	+32%	70	1 : 4.2
2017	303	+3%	72	1 : 4.2
2018	285	-6%	77	1 : 3.7

1.3 Early Career Placement and Industry Validation

Despite being a remarkably young program, early placement metrics from the pioneer graduating cohort (2014 batch) demonstrated immediate market validation. Prior to formal graduation ceremonies around June–August 2018, several students secured technical and analytical roles at leading corporate organizations and ministries, including PT Metrodata (Business Analysts), PT Sinar Mas (Corporate Social Responsibility Specialists), PT Pulo Sambu, and the Coordinating Ministry for Maritime Affairs. This immediate absorption rate underscores the distinct industrial demand for individuals who can bridge technological execution with strategic enterprise management.

1.4 Internship (Kerja Praktek) Performance Analysis

A crucial barometer of student capability is observed within the mandatory industry internship program (Kerja Praktek). During the 2017 internship cycle, student teams were deployed across prominent corporate environments such as PT Astra Otoparts, PT Garuda Indonesia (GMF AeroAsia), PT Pertamina, PT Unilever Indonesia, and PT Pupuk Kaltim. Comprehensive evaluations returned by corporate field supervisors revealed that 97% of the intern cohort achieved an exemplary grade of 'A', with the remaining 3% scoring 'AB'. Feedback overwhelmingly praised the students' quantitative analysis skills, operational discipline, and cross-functional team adaptation.

2. Curriculum Architecture & Benchmarking

2.1 Credit Distribution and Curricular Domains

The academic architecture consists of a total of 144 credits structured over an 8-semester timeline. The first two semesters comprise the Common First Year (Tahap Persiapan Bersama - TPB), accounting for 36 credits, while the subsequent six semesters form the Major/Sarjana Phase, accounting for 108 credits. When mapped against national curricular classifications (SK Mendiknas No. 232/U/2000), the distribution reveals a heavy focus on professional execution and systems engineering:

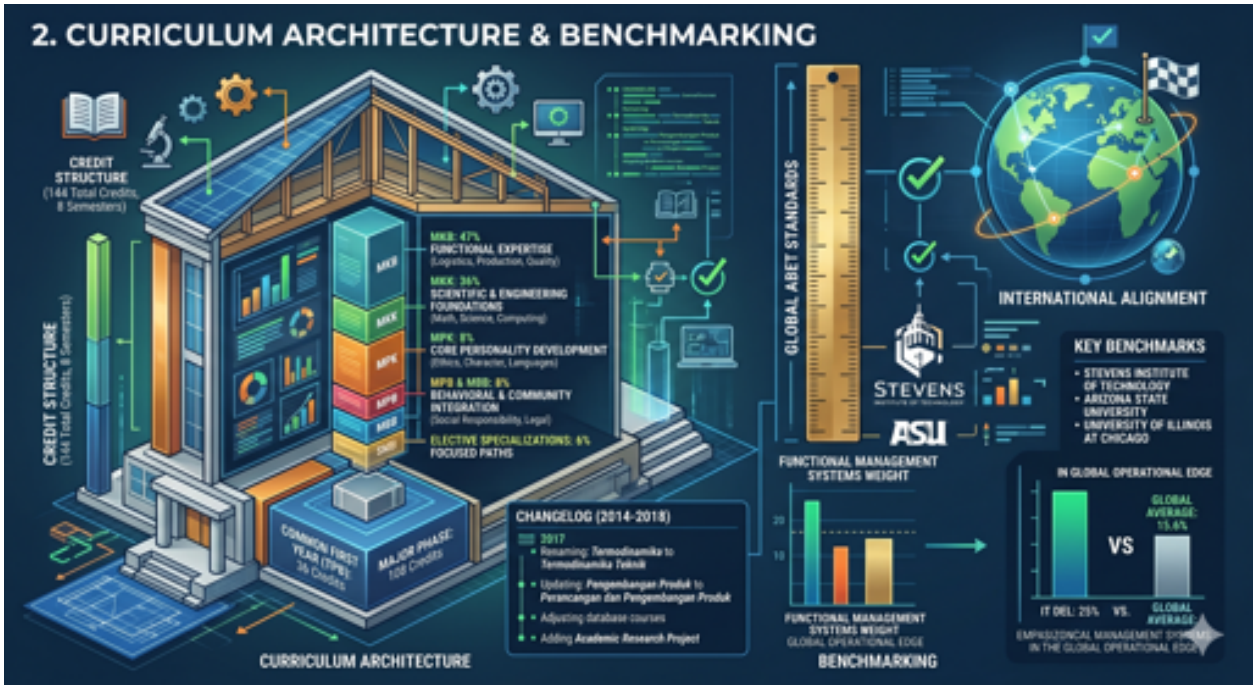
- **Functional Expertise (Matakuliah Keahlian Berkarya - MKB):** 47% of total credits. This forms the dominant core of the program, encompassing production planning, product development, logistics, and quality management.
- **Scientific & Engineering Foundations (Matakuliah Keilmuan & Keterampilan - MKK):** 36% of total credits. Ensures deep mathematical proficiency, basic science mastery, and computational mechanics.
- **Core Personality Development (Matakuliah Pengembangan Kepribadian - MPK):** 8% of total credits. Centers on character building, ethics, and language proficiencies.
- **Behavioral & Community Integration (MPB & MBB):** 8% combined. Focuses on social responsibility, legal frameworks, and environmental impact analysis.
- **Elective Specializations:** 6% of total credits. Allows targeted study in business architecture, innovative design, or quality engineering.

2.2 Comparative Analysis with International Standards

The curriculum was structurally benchmarked against prominent United States institutions offering accredited Bachelor of Science in Engineering Management programs, specifically Stevens Institute of Technology, Arizona State University, and the University of Illinois at Chicago. The comparison reveals that IT Del's structural allocation closely aligns with global ABET criteria. While institutions like Stevens lean heavily into pure basic sciences, IT Del allocates a larger weight to functional management systems (25% at IT Del vs. a 15.6% global average), providing its graduates with a highly focused operational and execution edge tailored to emerging market industrial landscapes.

2.3 Historical Modifications and Changelog (2014-2018)

Continuous quality improvements have driven targeted minor revisions between 2014 and 2018 to ensure currency. Key structural updates executed in the 2017 revision include: changing 'Termodinamika' into 'Termodinamika Teknik' to emphasize engineering application; updating 'Pengembangan Produk' to 'Perancangan dan Pengembangan Produk'; and re-aligning 'Perancangan Basis Data' into 'Pengenalan Sistem Informasi dan Basis Data'. Additionally, the program introduced a dedicated 'Academic Research Project' course in the upper semesters to elevate student analytical and publishing capabilities prior to entering their senior thesis.



3. Comprehensive SWOT Diagnostic

Strengths (S)

- Pre-Lecture Accessibility: Students have full digital transparency to syllabi, lecture slides, and course tracking mechanisms via the centralized Campus Information System (CIS) prior to the start of the semester.
- Continuous Feedback Loop: A formalized student-counseling matrix guarantees that every class meets with their assigned faculty advisor 3 to 4 times per semester to review instructional efficacy, pace, and student welfare.
- Interdisciplinary Core: Perfect alignment between standard quantitative industrial engineering capabilities and multi-criteria business decision models.

Weaknesses (W)

- Fragmented Assignment Systems: The central CIS platform lacks an integrated submission engine, forcing a split workflow across separate portals (e.g., E-Course) and informal external repositories.
- Absence of Integrated Research Roadmaps: Cohesive, department-wide research tracks uniting faculty investigations with student senior projects are missing, leading to isolated thematic clusters.
- Software Depth Deficit: Specialized software utilities (e.g., optimization, simulation, and advanced statistical modeling packages) are introduced conceptually but lack the intensive lab application required for advanced proficiency.

Opportunities (O)

- Strategic Academic Partnerships: Strong existing collaborative pipelines with ITB (Manajemen Rekayasa Industri) and the University of Amsterdam for continuous benchmarking and structural peer reviews.
- External Resource Funding: Significant underutilized public funding buckets (DIKTI, Ristek grants) specifically designated for local research, field labs, and institutional textbook publication.

Threats (T)

- ASEN Economic Free-Market Realities: The emergence of highly unified labor mobility via the ASEAN Economic Community (AEC) raises performance standards, demanding fluent bilingual delivery alongside advanced combined technical-managerial mastery.

4. Actionable Recommendations for Kurikulum 2019

- **Infuse Industry 4.0 Literacies:** The upcoming four-year curriculum blocks must systematically move past traditional boundaries by integrating data literacy, technological literacy, and human literacy natively into fundamental sequences. Explicit learning objectives regarding computational thinking, design thinking, life-cycle analysis, and advanced systems thinking must be explicitly built into standard course modules.
- **Deepen the Logistics & Operational Planning Track:** Because internship data and final year projects indicate an overwhelming concentration of industry problem-solving within Production Planning and Inventory Control (PPIC), the Logistics Engineering and Supply Chain sequences must be structurally deepened. This includes extending lab-based hours and mandating advanced simulation tool mastery.
- **Optimize Undergraduate Thesis (Tugas Akhir) Timelines:** To improve technical depth and execution quality, the formal engineering compilation and defense of the senior thesis proposal should be structurally shifted into Semester 7. By establishing this proposal gate early, students gain an extended active research window to collect field data and refine their technical execution during Semester 8.
- **Transition from Conceptual to Advanced Case Methodologies:** The program must actively shift away from general introductory overviews. Advanced modules should rely entirely on software-assisted, data-driven industrial case studies to better prepare students for the complex engineering realities of modern corporate environments.
- **System and Administrative Integration:** A complete technical overhaul is required to merge the assignment engine with the centralized CIS infrastructure. This will reduce administrative drag and maintain a seamless, auditable log of student progression.

- **Enforce Syllabus Artifact Accountability:** Address remaining gaps in formal course documentation by enforcing complete, weekly digital artifacts (lecture logs, assignments, grading rubrics) across all project-based, experiential, and capstone courses.