

Kunming University

Civil Engineering Program

SWOT Analysis Report

I. Background

This report applies the SWOT framework to systematically review the Strengths, Weaknesses, Opportunities, and Threats of the Civil Engineering program at Kunming University in the context of applying for German ASIIN international accreditation. Based on the analysis, it proposes targeted improvement measures with clearly defined responsible parties and timelines.

The program originated in 1984 as a civil engineering technology specialty at the former Kunming University, and began enrolling undergraduates in 2007, accumulating over 40 years of educational experience. It offers two tracks—Architectural Engineering and Road and Bridge Engineering—with 582 undergraduates and 75 faculty members (33 PhD holders, 92% with master’s degree or above). The program has more than 10,000 m² of laboratories, over RMB 30 million in equipment, and is recognized as a Provincial First-Class Undergraduate Program under the Ministry of Education’s “Double Ten Thousand Plan.”

II. SWOT Analysis Matrix

2.1 Strengths (S) and Weaknesses (W)

Type	ID	Key Item	Specific Manifestation
S Strength	S1	Provincial First-Class Program	Recognized as a provincial first-class program under the MOE “Double Ten Thousand Plan,” with over 40 years of educational heritage.
S Strength	S2	Excellent Faculty Structure	75 faculty members including 33 PhDs (44%); 92% with master’s or above; 37 dual-qualified teachers; student–faculty ratio <18:1.
S Strength	S3	Solid Practical Training Conditions	Laboratories exceeding 10,000 m ² ; equipment valued over RMB 30 million; provincial-level demonstrative center; 25 internship bases.
S Strength	S4	Standardized Curriculum System	Six curriculum modules; practical credits accounting for 29.8% (European standard); OBE philosophy implemented; full coverage of 12 graduation outcomes.
S Strength	S5	Sound Quality Assurance System	University–college two-tier teaching inspection; three-party teaching evaluation; zero D-level course evaluations; closed-loop examination paper analysis.
S Strength	S6	Steady Employment Performance	On-time graduation rate of 93%–99% over the past five years; employment rate above 90%; employer satisfaction at 90%.
W Weakness	W1	No Formal Advisory Committee	As noted in the ASIIN review, there is no permanent institutional mechanism for external stakeholder engagement.

W Weakness	W2	Low Level of Internationalization	No international degree-seeking students; CET-6 pass rate only 3.5%; no student participation in international programs to date.
W Weakness	W3	Weak Interdisciplinary Courses	Smart construction, BIM, and related new courses are still in early stages; interdisciplinary electives are not yet systematized.
W Weakness	W4	Limited High-Level Competition Results	Awards are mainly at the provincial level; achievements in national or international competitions remain limited.
W Weakness	W5	Curriculum Review Records Need Refinement	A “major revision every four years, annual updates” mechanism exists, but the specific adjustment ledger and effectiveness data are not yet systematic.

2.2 Opportunities (O) and Threats (T)

Type	ID	Key Item	Specific Manifestation
O Opp.	O1	New Engineering Policy Dividend	The state is vigorously promoting smart construction and green buildings, providing policy and funding support for program transformation.
O Opp.	O2	ASIIN Driving Quality Upgrade	The accreditation process compels comprehensive alignment of curriculum and quality assurance with international standards.
O Opp.	O3	South & Southeast Asia Location	Yunnan’s positioning as a regional hub radiating to South and Southeast Asia opens space for engineering exports and international project cooperation.
O Opp.	O4	University Internationalization Starting	The first Sino-foreign cooperative program (with Belarus) has been approved, providing a channel to attract international resources.
O Opp.	O5	Deepening Industry–Academia Integration	25 bases cover the entire industry chain; the dual-tutor system is mature and ready for deeper cooperation.
T Threat	T1	Industry Downturn & Enrollment Competition	Slowed growth in real estate and infrastructure; civil engineering programs nationwide face enrollment cooling.
T Threat	T2	Digital Transformation Pressure	Rapid iteration of BIM and AI-assisted design demands continuous investment in faculty knowledge renewal and software.
T Threat	T3	Intensified Competition from Peer Universities	Stronger universities within the province exert competitive pressure on high-quality student recruitment and employer attraction.
T Threat	T4	Continuously Rising Accreditation Standards	ASIIN imposes stricter requirements on continuous improvement, external engagement, and internationalization; maintaining accreditation requires long-term investment.

III. SWOT Strategic Combinations & Improvement Measures

By cross-combining the four dimensions—Strengths, Weaknesses, Opportunities, and Threats—four categories of strategies and their corresponding improvement measures are formulated as follows:

Strategy Type	Strategic Initiative	Specific Content	Responsible Party	Timeline
SO Growth	Build Smart Construction Micro-Specialization	Leverage provincial first-class status and lab advantages to establish a Smart Construction track.	Program Coordinator / Teaching & Research Office	Before Sept. 2027
SO Growth	Deepen South & Southeast Asia Cooperation	Joint short-term student visits and curriculum exchange with neighboring countries' universities.	Office of International Cooperation / School	Ongoing from 2027
SO Growth	Build Provincial First-Class Course Cluster	Upgrade 11 university-level first-class courses to pursue provincial recognition.	Course Coordinators / Academic Affairs Office	2027–2028
WO Turnaround	Establish Professional Advisory Committee	Per ASIIN commitment, form a committee with $\geq 50\%$ external members.	School / Program Coordinator	By Dec. 31, 2026
WO Turnaround	Build Interdisciplinary Curriculum Module	Add ≥ 3 interdisciplinary electives (Smart Construction, Engineering Big Data, etc.).	Teaching & Research Office / Vice Dean for Teaching	2027 Curriculum Scheme
WO Turnaround	Advance International Education	Leverage the Belarus program to offer summer schools / online courses.	Office of International Cooperation / School	Launch Summer 2027
WO Turnaround	Enhance Foreign Language Competence	Offer Civil Engineering English intensive courses; raise CET-6 pass rate to 8%.	Academic Advisors / School of Foreign Languages	Implement from 2027
ST Defensive	Differentiated Regional Positioning	Focus on Yunnan local infrastructure and South/Southeast Asia markets; avoid direct competition in eastern regions.	School / Program Coordinator	Ongoing
ST Defensive	Strengthen Practice-Based Education Brand	Highlight application-oriented talent cultivation using the provincial lab center and 25 bases.	Practical Training Center	Ongoing
ST Defensive	University–Enterprise Joint Research	Leverage dual-qualified faculty and enterprise bases to jointly apply for industry–academia–research projects.	Research Office / Teaching & Research Office	≥ 2 projects/year
WT Survival	Dynamic Curriculum Optimization	Establish an “annual fine-tuning, triennial major revision” ledger with adjustment and effectiveness data.	Teaching & Research Office / Curriculum Committee	Ledger by Dec. 2026
WT	Enhance Faculty	Organize BIM and AI-assisted	School / Faculty	Ongoing

Survival	Digital Literacy	design training; ≥ 3 faculty on corporate secondment per year.	Development Center	annually
WT Survival	Student Recruitment Quality Assurance	Optimize recruitment publicity, highlighting employment rate and provincial first-class advantages.	Admissions & Career Office / School	Each recruitment season
WT Survival	Competition Capacity Building	Establish dedicated funding for academic competitions; form advising teams; break through at the national award level.	School / Youth League Committee	From 2027

IV. Conclusions

The Civil Engineering program at Kunming University possesses clear strengths in faculty structure, practical training conditions, quality assurance system, and employment performance, laying a solid foundation for ASIIN accreditation. The current core gaps lie in the insufficient institutionalized engagement of external stakeholders, a low level of internationalization, and lagging interdisciplinary curriculum development—precisely the focal points of the ASIIN review experts.

Facing the dual pressures of an industry downturn and tightening accreditation standards, the program should seize the historic opportunities presented by New Engineering policies and the university's internationalization strategy. Following the pathway of “Establish the Committee → Strengthen the Curriculum → Deepen Cooperation → Sustain Monitoring,” the program will complete the formation of the Professional Advisory Committee by December 31, 2026, implement the Smart Construction interdisciplinary module in the 2027 curriculum scheme, and open the internationalization channel through the university's first Sino-foreign cooperative program. Through the coordinated advancement of SO, WO, ST, and WT strategies, the program will achieve systematic improvement in its overall development.