

المقارنة المرجعية لنتائج التعلم

Benchmarking of Student Learning Outcomes

قسم الهندسة المدنية – كلية الهندسة – جامعة وارث الأنبياء

الجامعة المرجعية	California State Univ. LA – USA	Reference University	Cal State LA – Los Angeles, CA
القسم المرجعي	قسم الهندسة المدنية (معتمد ABET)	Reference Department	Department of Civil Engineering (ABET)
العام الأكاديمي	2024 – 2025	Academic Year	2024 – 2025
جهة الإعداد	قسم الهندسة المدنية	Prepared By	Civil Engineering Department

تمت المقارنة لنتائج التعلم في قسم الهندسة المدنية بكلية الهندسة – جامعة وارث الأنبياء مع نتائج قسم الهندسة المدنية في جامعة كاليفورنيا الحكومية الأمريكية، وتبين وجود تطابق شامل في الفقرات السبع الشاملة ABET المعتمدة من هيئة (Cal State LA) لوس أنجلوس –

A benchmarking comparison was conducted between the Student Learning Outcomes of the Civil Engineering Department at Warith Al-Anbiyaa University and the ABET-accredited outcomes of the Department of Civil Engineering at California State University, Los Angeles (Cal State LA). The comparison revealed a comprehensive alignment across all seven outcome areas.

Students Outcomes – Civil Engineering Department

نتائج التعلم – قسم الهندسة المدنية

Knowledge:

- 1 - The ability to distinguish, identify, define, formulate and solve engineering problems through the application of the principles of engineering, science and mathematics.
- 2 - The ability to produce engineering designs that meet the required needs within certain constraints through the application of analysis and installation processes in the design process.

Skills:

- 1 - The ability to create and implement appropriate measurements and tests with quality assurance, analysis and interpretation of results and the ability to geometric judgment to reach conclusions.
- 2 - The ability to communicate effectively verbally with a group of people and in writing with different administrative levels and at different levels.
- 3 - The ability to realize the need to continue the self-development of professional knowledge and how to find and evaluate it properly compiled and applied.
- 4 - Ability to work effectively within teams, set goals, plan events, meet deadlines and manage risk.

Ethics:

- 1 - The ability to realize ethical and professional responsibilities in engineering issues and make sound judgments that take into account the consequences in the financial, environmental, societal and global fields.



Students Outcomes – California State University, Los Angeles

Department of Civil Engineering (ABET Accredited)

Source: <https://www.calstatela.edu/ecst/ce/student-outcomes>

- 1 - an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- 2 - an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- 3 - an ability to communicate effectively with a range of audiences.
- 4 - an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- 5 - an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- 6 - an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- 7 - an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Benchmarking Comparison Table | جدول المقارنة المرجعية

رمز Code	نتاج التعلم – وارث الأنبياء (عربي)	Warith Al-Anbiyaa Outcome (English)	Cal State LA	Cal State LA – Civil Eng. Outcome
K-1 Knowledge	القدرة على تمييز وتحديد وصياغة وحل المسائل الهندسية من خلال تطبيق مبادئ الهندسة والعلوم والرياضيات.	The ability to distinguish, identify, define, formulate and solve engineering problems through the application of the principles of engineering, science and mathematics.	1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
K-2 Knowledge	القدرة على إنتاج تصاميم هندسية تلبى الاحتياجات المطلوبة ضمن قيود معينة من خلال تطبيق عمليات التحليل في عملية التصميم.	The ability to produce engineering designs that meet the required needs within certain constraints through the application of analysis and installation processes in the design process.	2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
S-1 Skills	القدرة على إنشاء وتنفيذ القياسات والاختبارات المناسبة مع ضمان الجودة وتحليل وتفسير النتائج، والوصول إلى استنتاجات.	The ability to create and implement appropriate measurements and tests with quality assurance, analysis and interpretation of results and the ability to use engineering judgment to reach conclusions.	6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
S-2 Skills	القدرة على التواصل بفعالية شفهاً وكتابياً مع المستويات الإدارية المختلفة.	The ability to communicate effectively verbally with a group of people and in writing with different administrative levels and at different levels.	3	an ability to communicate effectively with a range of audiences.
S-3 Skills	القدرة على إدراك الحاجة إلى الاستمرار في التطوير الذاتي للمعرفة المهنية وكيفية إيجادها وتقييمها وتطبيقها.	The ability to realize the need to continue the self-development of professional knowledge and how to find and evaluate it properly compiled and applied.	7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
S-4 Skills	القدرة على العمل بفعالية ضمن الفرق وتحديد الأهداف والتخطيط ووضع الجداول الزمنية وإدارة المخاطر.	Ability to work effectively within teams, set goals, plan events, meet deadlines and manage risk.	5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and

رمز Code	نتاج التعلم – وارث الأنبياء (عربي)	Warith Al-Anbiyaa Outcome (English)	Cal State LA	Cal State LA – Civil Eng. Outcome
				inclusive environment, establish goals, plan tasks, and meet objectives.
E-1 Ethics	القدرة على إدراك المسؤوليات الأخلاقية والمهنية في القضايا الهندسية وإصدار أحكام سليمة تراعي التبعات المالية والبيئية والاجتماعية والعالمية.	The ability to realize ethical and professional responsibilities in engineering issues and make sound judgments that take into account the consequences in the financial, environmental, societal and global fields.	4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

الاستنتاج | Conclusion

أظهرت المقارنة المرجعية وجود تطابق شديد في الفقرات السبعة الشمولية لنتائج التعلم والمعتمدة من قبل قسم الهندسة المدنية في جامعة وارث الأنبياء المعترف بها من قبل هيئة الاعتماد (Cal State LA) مع النتائج المعتمدة لدى قسم الهندسة المدنية في جامعة كاليفورنيا الحكومية – لوس أنجلوس. ويعكس هذا التطابق التزام القسم بالمعايير الدولية لجودة التعليم الهندسي. ABET الهندسية الأمريكية.

The benchmarking comparison demonstrated a strong alignment between all seven Student Learning Outcomes adopted by the Civil Engineering Department at Warith Al-Anbiyaa University and the ABET-accredited outcomes of California State University, Los Angeles (Cal State LA). This alignment reflects the department's commitment to international standards in engineering education quality.

التوصيات | Recommendations

نشر نتائج التعلم على الموقع الإلكتروني لكلية الهندسة بجامعة وارث الأنبياء، وجعلها متاحة للطلبة وأعضاء هيئة التدريس وأصحاب العمل - 1، انسجاماً مع متطلبات الاعتماد المؤسسي.

1- Publish the Student Learning Outcomes on the College of Engineering website at Warith Al-Anbiyaa University, making them accessible to students, faculty, and employers, in alignment with institutional accreditation requirements.

وتضمينها في خطط المقررات الدراسية وملفات المادة (ICEED / ABET) إدراج نتائج التعلم ضمن وثائق الاعتماد المؤسسي والبرامجي - 2، (Course File) الدراسية.

2- Incorporate the Student Learning Outcomes into institutional and program accreditation documents (ICEED / ABET) and include them in course plans and course files.

تطوير آليات قياس مدى تحقق كل نتائج تعلم بصورة دورية، من خلال ربطها بنتائج الامتحانات والمشاريع والتقييمات المباشرة وغير المباشرة - 3.

3- Develop periodic assessment mechanisms for each Student Learning Outcome by linking them to exam results, projects, and direct and indirect assessments.

الاستمرار في إجراء المقارنات المرجعية مع جامعات معتمدة دورياً (كل 3-5 سنوات) لمواكبة التطورات في معايير التعليم الهندسي العالمية وتحديث - 4، نتائج التعلم عند الحاجة.

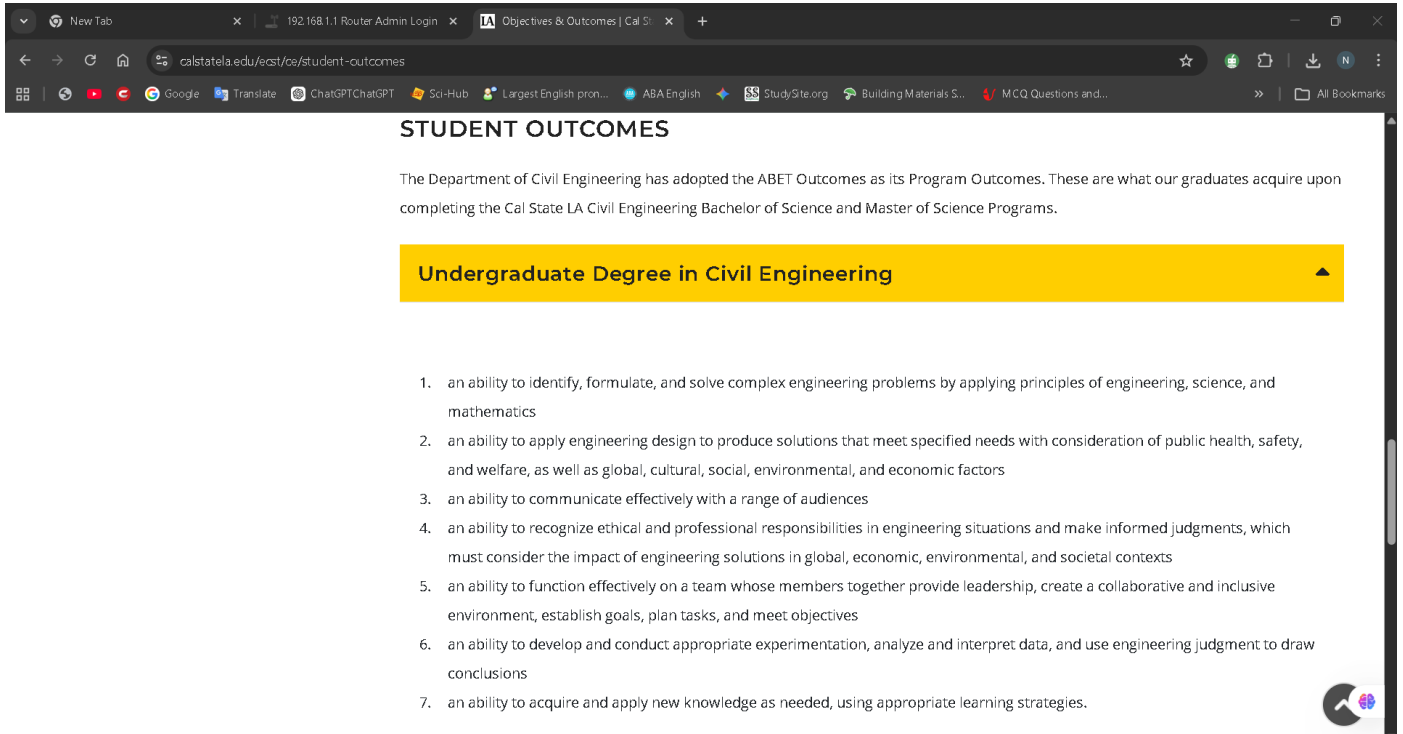
4- Continue conducting benchmarking comparisons with accredited universities periodically (every 3–5 years) to keep pace with developments in global engineering education standards and update outcomes as needed.

توظيف نتائج المقارنة المرجعية في عمليات مراجعة وتحديث المناهج الدراسية، لضمان أن مخرجات التعلم تتسجم مع متطلبات سوق العمل المحلي - 5، والدولي.

5- Utilize the benchmarking results in curriculum review and update processes, ensuring that learning outcomes align with the requirements of local and international labor markets.

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رئيس قسم الهندسة





STUDENT OUTCOMES

The Department of Civil Engineering has adopted the ABET Outcomes as its Program Outcomes. These are what our graduates acquire upon completing the Cal State LA Civil Engineering Bachelor of Science and Master of Science Programs.

Undergraduate Degree in Civil Engineering

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

