UNIVERSITAS INDONESIA
Veritas, Probitas, Iustitia | Est. 1849

UI GreenMetric
World University Rankings

Certificate

This certificate is awarded to

Nakhon Pathom Rajabhat University

as The 566th World's Most Sustainable University
in 2023 UI GreenMetric World University Rankings

Jakarta, 5 December 2023

Prof. Dr. Ir. Riri Fitri Sari, M.M., M.Sc.
Chairperson of UI GreenMetric

FACT FILE 2023

UI GREENMETRIC WORLD UNIVERSITY RANKINGS

NAKHON PATHOM RAJABHAT UNIVERSITY

Thailand

85 Malaiman Road. Muang, Nakhon Pathom 73000 Thailand

UNIVERSITY PROFILE

Name	**:**	**Nakhon Pathom Rajabhat University**
Established	**:**	**1970**
Country	**:**	**Thailand**
Tree Rating	**:**	**N/A**

1. VERIFIED DATA

Setting & Infrastructure (SI)
Point: 855 of max. 1500 (57.00 %)

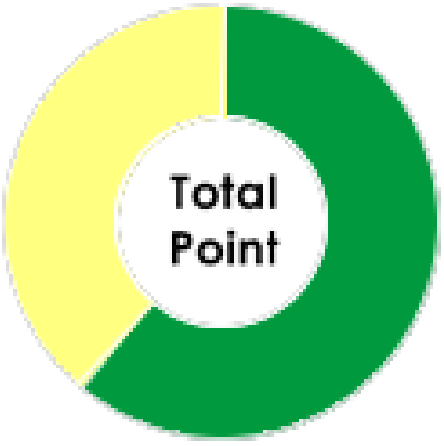
Energy & Climate Change (EC)
Point: 1210 of max. 2100 (57.62 %)

Waste (WS)
Point: 1500 of max. 1800 (83.33 %)

Water (WR)
Point: 600 of max. 1000 (60.00 %)

Transportation (TR)
Point: 1085 of max. 1800 (60.28 %)

Education & Research (ED)
Point: 900 of max. 1800 (50.00 %)



Point: 6150 of max. 10000 (61.50 %)

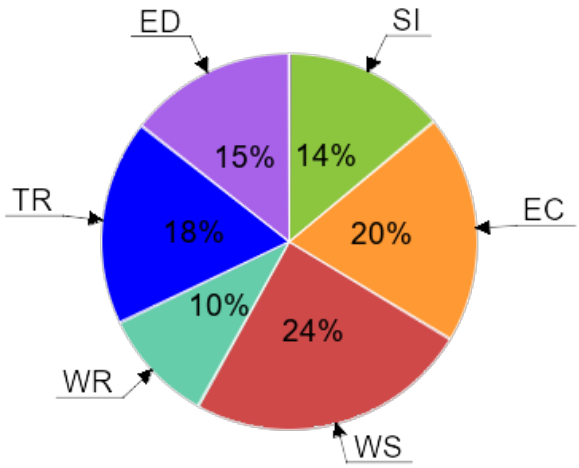


Figure 1.1 Overall Score Diagram

2. RESULTS SUMMARY

World Ranking	SI Ranking	EC Ranking	WS Ranking
566	636	537	219

WR Ranking	TR Ranking	ED Ranking
542	631	875

3. WORLD RANKINGS HISTORY

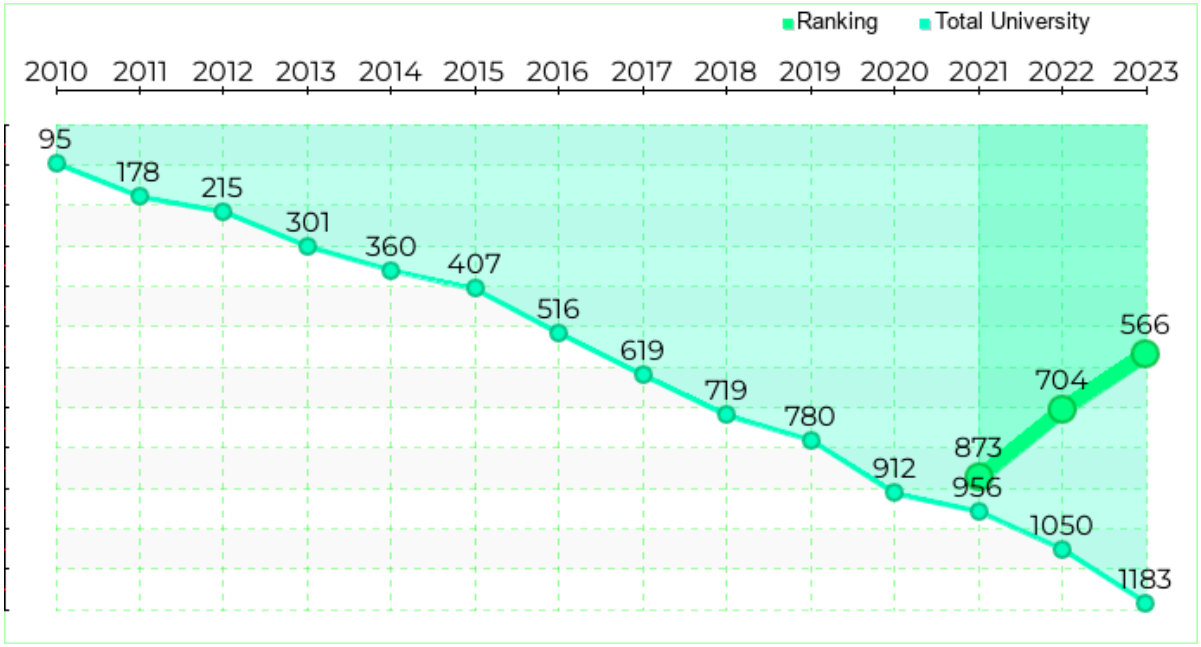


Figure 3.1 World Rankings History Diagram

4. RANKING IN THAILAND

Country Ranking	SI Ranking	EC Ranking	WS Ranking
37	35	27	9

WR Ranking	TR Ranking	ED Ranking
39	44	48

5. RESULTS DETAIL

Setting and Infrastructure

The campus setting and infrastructure information provides the basic information about the university's policy on green environment. The indicators also show whether the campus deserves to be called a Green University. The aim is to encourage the participating universities to provide more spaces for greenery and safeguard the environment

Indicator		Point
SI.1	The ratio of open space area towards total area	100
SI.2	Area on campus covered in forest	100
SI.3	Area on campus covered in planted vegetation	150
SI.4	Area on campus for water absorbance	25
SI.5	The ratio of open space area divided campus population	100
SI.6	University budget for sustainability effort	100
SI.7	Percentage of operation and maintenance activities of building in one year period	25
SI.8	Campus facilities for disabled, special needs and or maternity care	75
SI.9	Security and safety facilities	100
SI.10	Health infrastructure facilities for students, academics and administrative staff's wellbeing	75
SI.11	Conservation: plant, animal and wildlife, genetic resources for food and agriculture secured in either medium or long-term conservation facilities	5

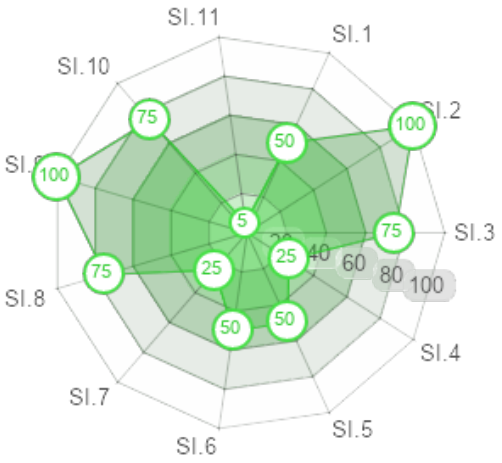


Figure 5.1 Percentage of Score to Maximum Score for Setting and Infrastructure

Energy and Climate Change

The university's attention to the use of energy and climate change issues has the highest score in this ranking. In our questionnaire, we define several indicators for this area of concern, i.e., energy-efficient appliances usage, the implementation of smart buildings/automation buildings/intelligent buildings, renewable energy usage policy, total electricity usage, energy conservation programs, elements of green buildings, climate change adaptation and mitigation programs, greenhouse gas emission reductions policy, and carbon footprint. Within these indicators, the universities are expected to increase their efforts in energy efficiency in their buildings and to care more about nature and alternative energy resources.

Indicator		Point
EC.1	Energy efficient appliances usage	200
EC.2	Smart building program implementation	300
EC.3	Number of renewable energy source in campus	75
EC.4	The total electricity usage divided by total campus population	225
EC.5	The ratio of renewable energy production towards total energy usage per year	10
EC.6	Element of green building implementation	0
EC.7	Greenhouse gas emission reduction program	200
EC.8	The ratio of total carbon footprint divided campus population	100
EC.9	Number of innovative program(s) in Energy and Climate Change	50
EC.10	Impactful university program(s) on climate change	50

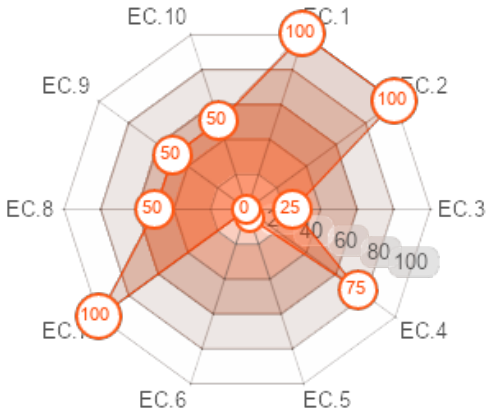


Figure 5.2 Percentage of Score to Maximum Score for Energy and Climate Change

Waste

Waste treatment and recycling activities are major factors in creating a sustainable environment. The activities of university staff, students, and communities around university produce a lot of waste; therefore, some recycling and waste treatments programs should be among the concern of the university, i.e., 3R (Reduce, Reuse, Recycle) program, organic waste treatment, inorganic waste treatment, toxic waste recycling, sewage disposal, policies to reduce the use of paper and plastic on campus.

Indicator		Point
WS.1	3R (Reduce, Reuse, Recycling) program for university's waste	150
WS.2	Program to reduce the use of paper and plastic in campus	300
WS.3	Organic waste treatment	300
WS.4	Inorganic waste treatment	225
WS.5	Toxic waste treatment	300
WS.6	Sewage disposal	225

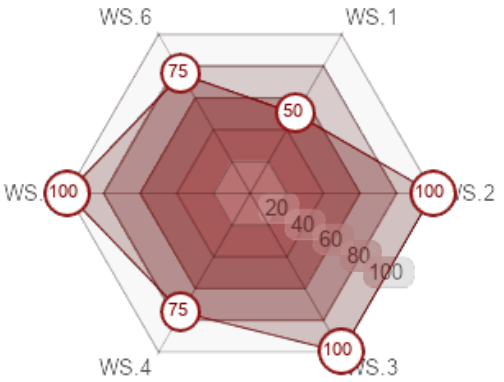


Figure 5.3 Percentage of Score to Maximum Score for Waste

Water

Water usage at university is another important criterion in the UI GreenMetric. The aims are to encourage universities to decrease groundwater usage, increase water conservation programs, and protect habitats. Water conservation programs, water recycling programs, water-efficient appliances usage, and treated water usage are among the criteria

Indicator		Point
WR.1	Water conservation program	150
WR.2	Water recycling program	100
WR.3	The use of water efficient appliances	150
WR.4	Consumption of treated water	100
WR.5	Water pollution control in campus area	100

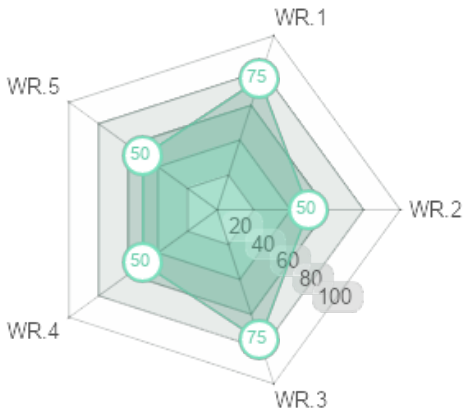


Figure 5.4 Percentage of Score to Maximum Score for Water

Transportation

Transportation systems play an important role in carbon emission and pollutant levels at universities. Transportation policies that limit the number of motor vehicles on campus and encourage the use of campus buses, shared vehicles, and zero emission vehicles (i.e. bicycles, electric cars, electric motorcycles, canoes, snowboards, etc.) will encourage a healthier environment. The pedestrian policy encourages students and staff to walk around campus and minimize the use of private vehicles. The use of environmentally friendly public transportation will decrease the carbon footprint around campus.

Indicator		Point
TR.1	The ratio of total vehicles (cars and motorcycles) divided by total campus population	150
TR.2	Shuttle services	300
TR.3	Zero Emission Vehicles (ZEV) policy on campus	200
TR.4	The ratio of Zero Emission Vehicles (ZEV) divided by total campus population	10
TR.5	Ratio of parking area to total campus area	150
TR.6	Transportation program designed to limit or decrease the parking area on campus for the last 3 years	0
TR.7	Number of transportation initiatives to decrease private vehicles on campus	50
TR.8	Pedestrian policy on campus	225

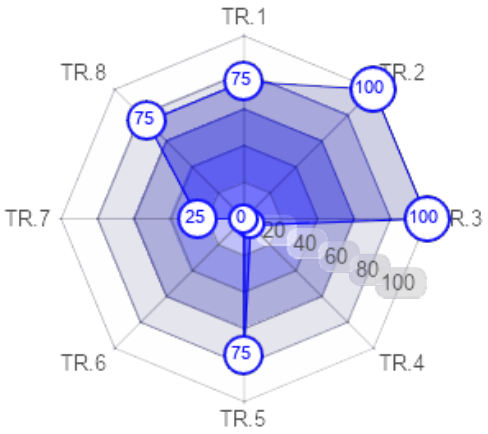


Figure 5.5 Percentage of Score to Maximum Score for Transportation

Education & Research

The university's education and research information provide basic information about the university's policies and actions in creating and supporting their students, academic and non-academic staff with sustainability awareness. This criterion also encourages universities to report their sustainability activities, strategies, and targets to their stakeholders.

Indicator		Point
ED.1	The ratio of sustainability courses towards total courses/modules	75
ED.2	The ratio of sustainability research funding towards total research funding	150
ED.3	Sustainability publications	100
ED.4	Sustainability events	100
ED.5	Activities organized by student organizations related to sustainability per year	0
ED.6	Sustainability websites	150
ED.7	Sustainability report	100
ED.8	Cultural activities on campus	100
ED.9	University sustainability program(s) with international collaborations	0
ED.10	Sustainability community services project organized and/or involving students	100
ED.11	Sustainability-related startups	25

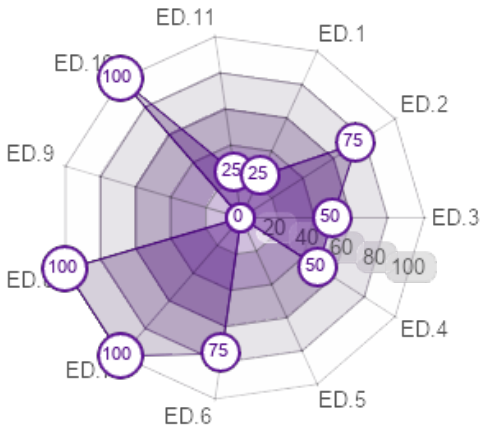


Figure 5.6 Percentage of Score to Maximum Score for Education

UI GREENMETRIC WORLD UNIVERSITY RANKINGS

About UI GreenMetric

UI GreenMetric World University Rankings is an annual publication of university rankings on sustainability. It is an initiative from the University of Indonesia that ranks universities around the world based on their commitment and actions towards sustainability. UI GreenMetric World University Rankings aims to increase university awareness towards sustainability.

History

UI GreenMetric World University Rankings is a non-profit initiative of University of Indonesia developed since 2010.

In 2009 the University of Indonesia hosted an International Conference on World University Rankings. The conference was attended by World University rankers such as Webometrics, HEEACT, and others. In 2010, Prof. Dr. der Soz. Gumilar Rusliwa Somantri as Rector of the University of Indonesia at that time-initiated UI GreenMetric World University Rankings and appointed Prof. Dr. Ir. Riri Fitri Sari, MM., M.Sc. as the chairperson. Soon a team consisting of Dr. Junaidi, S.S., M.A., Dr. Budi Hartono, S.Si., MKM, Dr. Allan Frank Lauder, M.A., and Prof. Ir. Gunawan Tjahjono, M.Arch., Ph.D formulated UI GreenMetric Questionnaire and introduced UI Ranking to the world. In 2011, 11 new indicators in 5 categories have been added. Subsequently Education has been added as a new category in 2012. By the year 2015, a massive improvement was introduced including carbon footprint and a more systematic data collection. In 2016 an online based review and validation system has been set for the assessors.

UI GreenMetric took Policy into Action in 2016; Global Partnership for Sustainable Future in 2017; Universities, Impacts, and Sustainable Development Goals (SDGs) in 2018; Sustainable University in a Changing World: Lessons, Challenges and Opportunities in 2019; Universities' Responsibility for Sustainable Development Goals and World's Complex Challenges in 2020; Universities, UI GreenMetric, and SDGs in the Time of Pandemic in 2021;Collective Actions for Transforming Sustainable Universities in the Post-Pandemic Time in 2022; and Innovation, Impacts and Future Direction of Sustainable Universities in 2023 as its annual themes. In 2023, 1183 universities from 84 countries participate in the rankings.

To reach and coordinate more participating universities, UI GWURN was established in 2017 with a national coordinator in each country. To make it work, Junaidi formulated strategic framework for the network. Currently, there are 39 national coordinators in Asia, America, Africa and Europe. Each voluntarily organizes national workshop inviting other universities in their country. Since its establishment in 2010, it has been increasingly recognized as the first and only universities ranking on sustainability and has been used by participating universities to benchmark and do continuous improvement in the area of sustainability.

Table 1. UI GreenMetric Timeline

UI GreenMetric Timeline	
2010	UI GreenMetric published for 95 Universities
2011	UI GreenMetric added 11 new indicators within 5 categories
2012	Education became one of the categories
2015	Introducing Carbon Footprint and fact file document
2016	Focusing on university action toward sustainability
2017	UIGWURN established
2018	Focusing on SGDs and enlargement of memberships
2019	Improving questionnaire and data collection method
2020	Three new questions on social and economic impacts, such as (1) Startup for the green economy; (2) Public access to open spaces; (3) Community services
2021	Introducing social, cultural, economic, and pandemic aspects in the questionnaire
2022	Adding an indicator related to water pollution and adjusting related to the current pandemic condition
2023	Adding an indicator related to 3R waste program, student organization activities and international collaboration

As a member of IREG, more activities and collaboration among participating universities are expected to achieve our common goal: sustainable university for sustainable future. UI GreenMetric itself developed its own ranking system by studying other ranking systems such as: The Times Higher Education World University Rankings (THE) sponsored by Thompson Reuters, the QS World University Rankings, the Academic Ranking of World Universities (ARWU) published by

Shanghai Jiao Tong University (SJTU), and the Webometrics Ranking of World Universities (Webometrics), published by Cybermetrics Lab, CINDOC-CSIC in Spain.

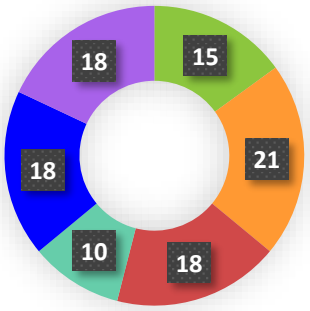
Methodology

UI GreenMetric collects data through an online questionnaire. All participants answered some questions for some period. After that, UI GreenMetric expert members and reviewers validate the answers based on the evidence that participants provide. This year's categories and weighting of points are shown as follows. The specific indicators and their points awarded are shown in Table 3. Each indicator has been uniquely identified by a category code and a number (e.g., SI 5).

In our list, universities with the same total score will be ranked according to the highest weighted indicators, i.e firstly based on its Energy and Climate Change (EC) score, then based on the total score for Waste (WS), Transportation (TR), Education (ED). Subsequently it will be based on its Setting and Infrastructure (SI) score, and last will depend on its Water (WR) score.

Table 2. Categories used in the ranking and their weighting

No	Category	Percentage of Total Points (%)
1	Setting and Infrastructure (SI)	15
2	Energy and Climate Change (EC)	21
3	Waste (WS)	18
4	Water (WR)	10
5	Transportation (TR)	18
6	Education (ED)	18
	TOTAL	**100**



The specific indicators and their points awarded are shown in Table 3. Each indicator has been uniquely identified by a category code and a number (e.g., SI 5).

Table 3 Indicators and categories

No	CRITERIA	Point	Weighting
1	**Setting and Infrastructure (SI)**		**15%**
SI1	The ratio of open space area to the total area	200	
SI2	Total area on campus covered in forest vegetation	100	
SI3	Total area on campus covered in planted vegetation	200	
SI4	Total area on campus for water absorption besides the forest and planted vegetation	100	
SI5	The total open space area divided by the total campus population	200	
SI6	Percentage of university budget for sustainability efforts	200	
SI7	Percentage of operation and maintenance activities of building in one year period	100	
SI8	Campus facilities for disabled, special needs, and/or maternity care	100	
SI9	Security and safety facilities	100	
SI10	Health infrastructure facilities for students, academics, and administrative staff's wellbeing	100	
SI11	Conservation: plant (flora), animal (fauna), or wildlife, genetic resources for food and agriculture secured in either medium or long-term conservation facilities	100	
	Total	**1500**	
2	**Energy and Climate Change (EC)**		**21%**
EC1	Energy-efficient appliances usage	200	
EC2	Smart building implementation	300	
EC3	Number of renewable energy sources on campus	300	
EC4	Total electricity usage divided by total campus' population (kWh per person)	300	
EC5	The ratio of renewable energy production divided by total energy usage per year	200	
EC6	Elements of green building implementation as reflected in all construction and renovation policies	200	
EC7	Greenhouse gas emission reduction program	200	
EC8	Total carbon footprint divided by total campus' population (metric tons per person)	200	
EC9	Number of the innovative program(s) in energy and climate change	100	
EC10	Impactful university program(s) on climate change	100	
	Total	**2100**	

3	Waste (WS)		18%
WS1	3R (Reduce, Reuse, Recycling) program for university's waste	300	
WS2	Program to reduce the use of paper and plastic on campus	300	
WS3	Organic waste treatment	300	
WS4	Inorganic waste treatment	300	
WS5	Toxic waste treatment	300	
WS6	Sewage disposal	300	
	Total	**1800**	
4	**Water (WR)**		**10%**
WR1	Water conservation program & implementation	200	
WR2	Water recycling program implementation	200	
WR3	Water-efficient appliances usage	200	
WR4	Consumption of treated water	200	
WR5	Water pollution control in the campus area	200	
	Total	**1000**	
5	**Transportation (TR)**		**18%**
TR1	The total number of vehicles (cars and motorcycles) divided by the total campus' population	200	
TR2	Shuttle services	300	
TR3	Zero-Emission Vehicles (ZEV) policy on campus	200	
TR4	The total number of Zero-Emission Vehicles (ZEV) divided by the total campus population	200	
TR5	The ratio of the ground parking area to the total campus' area	200	
TR6	Program to limit or decrease the parking area on campus for the last 3 years (from 2020 to 2022)	200	
TR7	Number of initiatives to decrease private vehicles on campus	200	
TR8	The pedestrian path on campus	300	
	Total	**1800**	
6	**Education and Research (ED)**		**18%**
ED1	The ratio of sustainability courses to total courses/subjects	300	
ED2	The ratio of sustainability research funding to total research funding	200	
ED3	Number of scholarly publications on sustainability	200	
ED4	Number of events related to sustainability	200	
ED5	Number of activities organized by student organizations related to sustainability per year	200	
ED6	University-run sustainability website	200	
ED7	Sustainability report	100	
ED8	Number of cultural activities on campus	100	
ED9	Number of university sustainability program(s) with international collaborations	100	
ED10	Number of sustainability community services projects organized and/or involving students	100	
ED11	Number of sustainability-related startups	100	
	Total	**1800**	

UI GreenMetric Office
Integrated Laboratory and Research Center (ILRC)
Building 4th Fl., Universitas Indonesia, Kampus
Baru UI Depok 16424, Indonesia

Contact

62-21-29120936

greenmetric@ui.ac.id