



Certificate

This certificate is awarded to

Suranaree University of Technology

as The 75th World's Most Sustainable University
in 2021 UI GreenMetric World University Rankings

Jakarta, 14 December 2021



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World University Rankings



UNIVERSITAS
INDONESIA

Veritas, Probitas, Justitia



FACT FILE 2021

UI GREENMETRIC

WORLD UNIVERSITY RANKINGS



SURANAREE UNIVERSITY OF TECHNOLOGY

Thailand

111 University Avenue, Muang District, Nakhon Ratchasima 30000,
Thailand

UNIVERSITY PROFILE

Name : Suranaree University of
Technology

Established : 1990

Country : Thailand



1. VERIFIED DATA

| Category | Point | Maximum Point | Percentage |
|---------------------------------|--------------|---------------|----------------|
| Setting and Infrastructure (SI) | 1,275 | 1500 | 85.00 % |
| Energy and Climate Change (EC) | 1,375 | 2100 | 65.48 % |
| Waste (WS) | 1,425 | 1800 | 79.17 % |
| Water (WR) | 850 | 1000 | 85.00 % |
| Transportation (TR) | 1,450 | 1800 | 80.56 % |
| Education (ED) | 1,600 | 1800 | 88.89 % |
| Total Score | 7,975 | 10000 | 79.75 % |

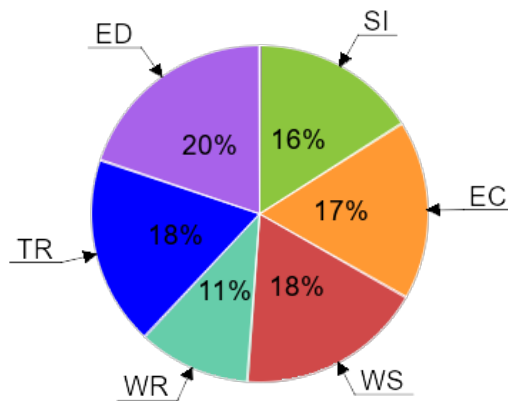


figure 1.1 Overall Score Diagram

2. RESULTS SUMMARY

| | | | |
|-----------------------------------|---------------------------------|---------------------------------|---------------------------------|
| World Ranking 75 | SI Ranking 38 | EC Ranking 171 | WS Ranking 169 |
| | WR Ranking 115 | TR Ranking 117 | ED Ranking 93 |

3. WORLD RANKINGS HISTORY

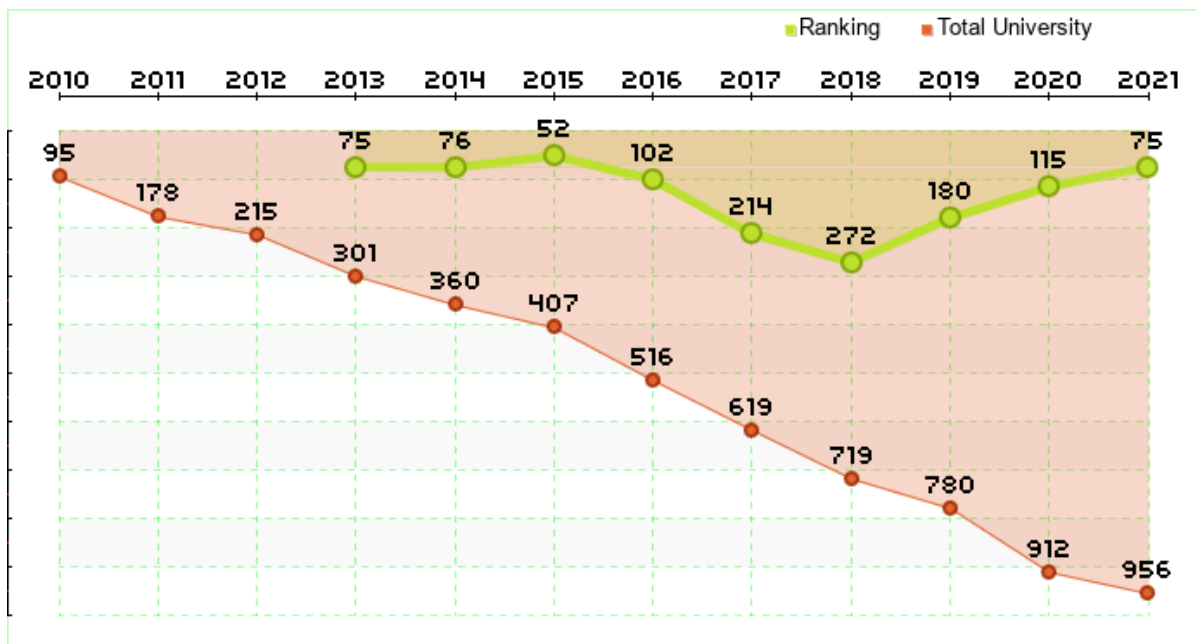


Figure 3.1 World Rankings History Diagram

4. RANKING IN THAILAND

| | | | |
|------------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Country Ranking 3 | SI Ranking 1 | EC Ranking 8 | WS Ranking 4 |
| | WR Ranking 5 | TR Ranking 9 | ED Ranking 8 |

5. RESULTS DETAIL

Setting and Infrastructure

| Indicator | | Score |
|-----------|--|-------|
| SI.1 | The ratio of open space area towards total area | 200 |
| SI.2 | Area on campus covered in forest | 100 |
| SI.3 | Area on campus covered in planted vegetation | 100 |
| SI.4 | Area on campus for water absorbance | 50 |
| SI.5 | The ratio of open space area divided campus population | 200 |
| SI.6 | University budget for sustainability effort | 200 |
| SI.7 | Percentage of operation and maintenance activities of building during Covid-19 pandemic | 50 |
| SI.8 | Campus facilities for disabled, special needs and or maternity care | 100 |
| SI.9 | Security and safety facilities | 100 |
| SI.10 | Health infrastructure facilities for students, academics and administrative staff's wellbeing | 100 |
| SI.11 | Conservation: plant, animal and wildlife, genetic resources for food and agriculture secured in either medium or long-term conservation facilities | 75 |

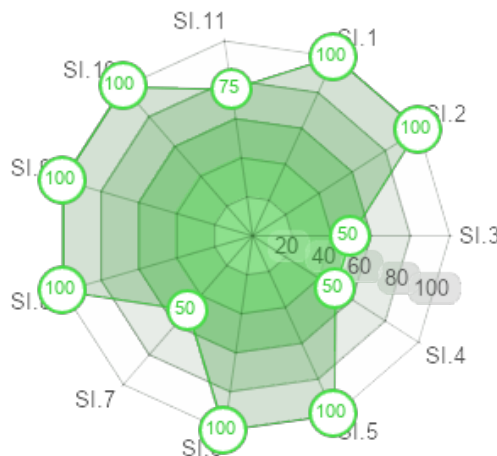


Figure 5.1 Percentage of Score to Maximum Score for Setting and Infrastructure

Energy and Climate Change

| Indicator | | Score |
|-----------|--|-------|
| EC.1 | Energy efficient appliances usage | 150 |
| EC.2 | Smart building program implementation | 225 |
| EC.3 | Number of renewable energy source in campus | 225 |
| EC.4 | The total electricity usage divided by total campus population | 75 |
| EC.5 | The ratio of renewable energy production towards total energy usage per year | 100 |
| EC.6 | Element of green building implementation | 200 |
| EC.7 | Greenhouse gas emission reduction program | 150 |
| EC.8 | The ratio of total carbon footprint divided campus population | 50 |
| EC.9 | Number of innovative program(s) during covid-19 pandemic | 100 |
| EC.10 | Impactful university program(s) on climate change | 100 |

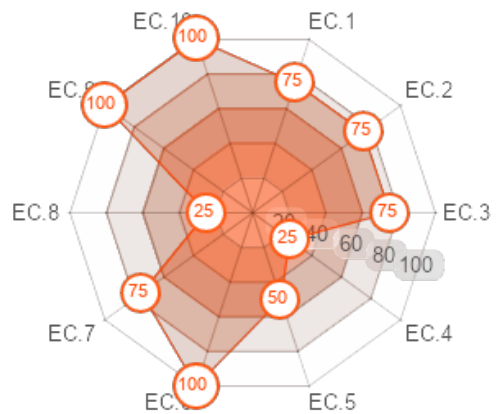


Figure 5.2 Percentage of Score to Maximum Score for Energy and Climate Change

Waste

| Indicator | | Score |
|-----------|--|-------|
| WS.1 | Recycling program for university waste | 225 |
| WS.2 | Program to reduce the use of paper and plastic in campus | 300 |
| WS.3 | Organic waste treatment | 225 |
| WS.4 | Inorganic waste treatment | 225 |
| WS.5 | Toxic waste treatment | 225 |
| WS.6 | Sewerage disposal | 225 |

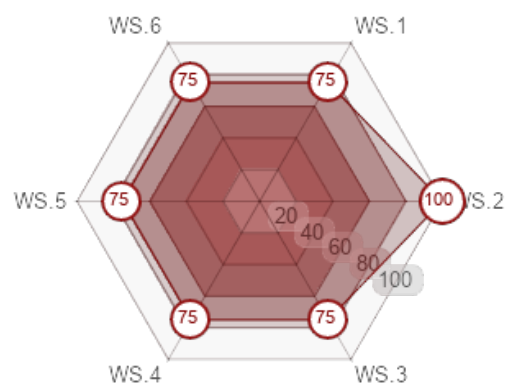


Figure 5.3 Percentage of Score to Maximum Score for Waste

Water

| Indicator | | Score |
|-----------|---|-------|
| WR.1 | Water conservation program | 150 |
| WR.2 | Water recycling program | 200 |
| WR.3 | The use of water efficient appliances | 200 |
| WR.4 | Piped water consumed | 150 |
| WR.5 | Percentage of additional handwashing and sanitation facilities during Covid-19 pandemic | 150 |

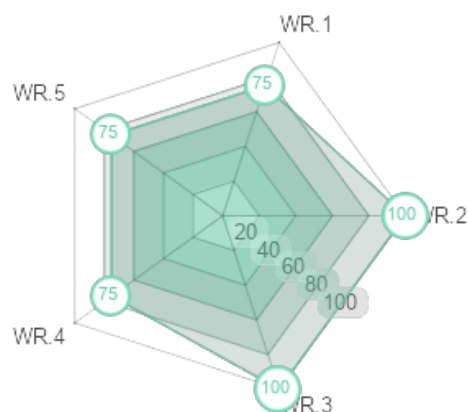


Figure 5.4 Percentage of Score to Maximum Score for Water

Transportation

| Indicator | | Score |
|-----------|--|-------|
| TR.1 | The ratio of total vehicles (cars and motorcycles) divided by total campus population | 100 |
| TR.2 | Shuttle services | 225 |
| TR.3 | Zero Emission Vehicles (ZEV) policy on campus | 200 |
| TR.4 | The ratio of Zero Emission Vehicles (ZEV) divided by total campus population | 200 |
| TR.5 | Ratio of parking area to total campus area | 200 |
| TR.6 | Transportation program designed to limit or decrease the parking area on campus for the last 3 years | 100 |
| TR.7 | Number of transportation initiatives to decrease private vehicles on campus | 200 |
| TR.8 | Pedestrian policy on campus | 225 |

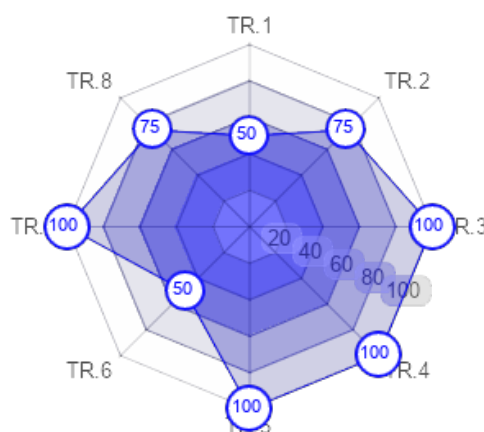


Figure 5.5 Percentage of Score to Maximum Score for Transportation

Education

| Indicator | | Score |
|-----------|---|-------|
| ED.1 | The ratio of sustainability courses towards total courses/modules | 150 |
| ED.2 | The ratio of sustainability research funding towards total research funding | 200 |
| ED.3 | Sustainability publications | 150 |
| ED.4 | Sustainability events | 200 |
| ED.5 | Sustainability student organizations | 200 |
| ED.6 | Sustainability websites | 200 |
| ED.7 | Sustainability report | 100 |
| ED.8 | Sustainability report | 100 |
| ED.9 | Sustainability report | 100 |
| ED.10 | Sustainability report | 100 |
| ED.11 | Sustainability report | 100 |

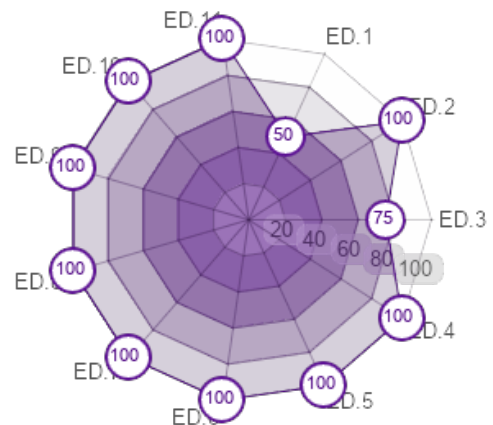


Figure 5.6 Percentage of Score to Maximum Score for Education



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. Gumilar Rusliwa Somantri as Rector of the University of Indonesia at that time-initiated UI GreenMetric World University Rankings and appointed Prof. Riri Fitri Sari as the chairperson. Soon a team consisting of Junaidi, Budi Hartono, Allan Lauder, and Prof. Dr. Ir. Gunawan Tjahjono formulated UIGM 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.

UIGM 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; and Universities, UI GreenMetric, and SDGs in the Time of Pandemic in 2021 as its annual themes. In 2021, 956 universities from 80 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 32 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.

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 online questionnaire. All participant answered some questions for some period. After that, UI GreenMetric expert members and reviewers validate the answers based on 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).

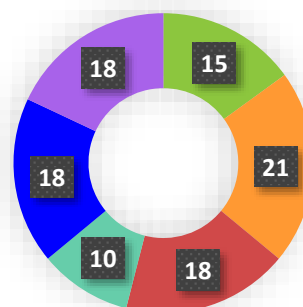
Table 1. UI GreenMetric Timeline

| 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 factfile document |
| 2016 | Focusing on university action towards sustainability |
| 2017 | UIGWURN established |
| 2018 | Focusing on SDGs 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 |

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 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 total campus population | 200* | |
| SI6 | Percentage of university budget for sustainability efforts | 200 | |
| SI7 | Percentage of operation and maintenance activities of building during Covid-19 pandemic | 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, animal and 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 innovative program(s) during covid-19 pandemic | 100* | |

| | | | |
|-------------|--|-------------|------------|
| EC10 | Impactful university program(s) on climate change | 100* | |
| | Total | 2100 | |
| 3 | Waste (WS) | | 18% |
| WS1 | 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 | Percentage of additional handwashing and sanitation facilities during Covid-19 pandemic | 200* | |
| | Total | 1000 | |
| 5 | Transportation (TR) | | 18% |
| TR1 | The total number of vehicles (cars and motorcycles) divided by 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 total campus population | 200 | |
| TR5 | Ratio of ground parking area to total campus' area | 200 | |
| TR6 | Program to limit or decrease the parking area on campus for the last 3 years (from 2018 to 2020) | 200 | |
| TR7 | Number of initiatives to decrease private vehicles on campus | 200 | |
| TR8 | 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 student organizations related to sustainability | 200* | |
| ED6 | University-run sustainability website | 200 | |
| ED7 | Sustainability report | 100 | |
| ED8 | Number of cultural activities on campus | 100* | |
| ED9 | Number of university program(s) to cope with Covid-19 pandemic | 100* | |
| ED10 | Number of sustainability community services project organized and/or involving students | 100* | |
| ED11 | Number of sustainability-related startups | 100* | |
| | Total | 1800 | |