The Use of SDG as an Indicator to Revisit the Overall Course Structure in a Comprehensive University: A Case Study of NUK in Taiwan

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Outline

■ Introduction to National University of Kaohsiung (NUK)
■ NUK’s SDG-Inside Policy Promotion
■ NUK links to SDG through Research & Curriculum
■ Conclusion
Introduction to National University of Kaohsiung

- 5500 Students
- EST. 2000
- 82.5ha
- 250 Faculty
National University of Kaohsiung

Department of Western Languages and Literature
Department of Kinesiology, Health, and Leisure Studies
Department of Architecture
Department of Crafts and Creative Design
Department of East Asian Languages and Literature
Department of Athletic Performance

Department of Law
Department of Government and Law
Department of Economic and Financial Law
PhD Program in College of Law

Department of Applied Economics
Department of Asia Pacific Industrial and Business Management
Department of Finance
Department of Information Management

Department of Applied Mathematics
Department of Applied Chemistry
Department of Life Sciences
Department of Applied Physics

EMBA Center
International Executive Master of Business Administration (Vietnam-Shanghai-Ha Noi)

Teaching Development Group
General Education Course Group
Common Course Group

5 colleges / 21 departments / 23 master programs / 3 PhD programs / 2 two-year in-service undergraduate programs / 13 in-service master programs

Undergraduate program □ Master program ▲ PhD program □ Two-year in-service undergraduate program ▲ in-service master program
National University of Kaohsiung’s SDG-Inside Policy Promotion

- Our Philosophy: Green University 1.0
- Green University 2.0: Green University 2.0
- External recognition
Green University 1.0

- The first university in the country to sign the Talloires Declaration
- One of the best examples of "Green University" in Taiwan by the Ministry of Education in 2009.

Campus Green Building Labeling
Renewable energy (solar/windmill)
Water resources (rainwater recycling)

Ecological campus
- Ecological lake
- Constructed wetland

Campus Facilities
Green University 2.0: SDGs-Inside

- **Organizational Environment**
  - SDGs are integrated into university organization and operations, affecting university culture and surrounding areas

- **Research**
  - Assisting the society in aware of localized SDGs issues and development solutions
  - Promote teachers to engage in SDGs research
  - Organizing seminars on sustainable development

- **Education**
  - Empower citizens with sustainable concept
  - Cooperate with non-profit organizations for workshops.
  - Encourage teachers to apply SDG into existing course contents.
  - Encourage students to work with sister schools to discuss SDGs issues.

- **External Practice**
  - Linking domestic and foreign universities and organizations to carry out cross-sector cooperation activities
External recognition

Published NUK Sustainability Report (2018)

- British standards institution (Certificate)
- Executive Yuan National Sustainable Development Awards Taiwan
- Corporate Sustainability Awards (TCSA) Gold Award (2019)
- Times Higher Education (THE) World University Rankings
National University of Kaohsiung links to SDG through Research & Curriculum

- SDG-related Research at NUK
- SDG-related Curriculum at NUK
SDG-related Research at NUK in 2018

Peer review Journal articles

Thesis of Graduate Programs
SDG-related Curriculum at NUK

1. Data Collection and analysis

NUK has already established an on-line syllabus system that faculty/instructor can access to upload an individual course syllabus for public since 2006.

We have further embedded indicative learning objectives for each SDG according to the Curriculum Framework for the SDGs published by the Commonwealth Secretariat into the current on-line syllabus system to explore the relationship between curriculum and SDGs since 2018.
**NUK on-line syllabus system**

<table>
<thead>
<tr>
<th>Klass Year:</th>
<th>[ ] 1</th>
<th>[ ] 2</th>
<th>[ ] 3</th>
<th>[ ] 4</th>
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</thead>
<tbody>
<tr>
<td>Course Period:</td>
<td>[ ] 1st Period</td>
<td>[ ] 2nd Period</td>
<td>[ ] 3rd Period</td>
<td>[ ] 4th Period</td>
</tr>
<tr>
<td>Department:</td>
<td>[ ]</td>
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<tr>
<td>Course Code:</td>
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<td>[ ]</td>
</tr>
<tr>
<td>Lecturer:</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Lecture Time:</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Language:</td>
<td>[ ] Mandarin</td>
<td>[ ] English</td>
<td>[ ] Other</td>
<td></td>
</tr>
</tbody>
</table>

Search for course details by entering keywords or selecting options.

Submit Search | Reset Settings
# SDG-attribute Inventory

## 教學目標 (Objectives)

1. 清除貧窮 (No Poverty)
2. 清除飢餓 (Zero Hunger)
3. 健康生活 (Good Health and Well-Being)
4. 教育普及 (Quality Education)
5. 性別平等 (Gender Equality)
6. 淨水與衛生 (Clean Water and Sanitation)
7. 可負擔的住宅 (Affordable and Clean Energy)
8. 綠色經濟成長 (Decent Work and Economic Growth)
9. 工業、創新、基礎建設 (Industry, Innovation and Infrastructure)
10. 減少不平等 (Reduced Inequalities)
11. 持續城市與社區 (Sustainable Cities and Communities)
12. 責任消費與生產 (Responsible Consumption)
13. 海洋行動 (Life Below Water)
14. 陸地生態系 (Life on Land)
15. 和平與公義 (Peace and Justice)
16. 合作夥伴關係 (Partnerships for the Goals)

## SDGs目標：淨水與衛生 (Clean Water and Sanitation)

- 清除全球一切形式的貧窮
- 清除飢餓，實現糧食安全，改善營養和促進永續農業。
- 健康生活，並確保所有人享有良好的健康和福祉。
- 教育普及，並確保所有人，特別是女性和孩童，都有機會接受教育。
- 性別平等，並確保所有人享有平等權利，包括工作和學習的機會。
- 淨水與衛生，並確保所有人享有安全的飲用水和基本衛生設施。
- 可負擔的住宅，並確保所有人享有安全、可負擔的可獲得住宅。
- 綠色經濟成長，並確保所有人均可享有永續的就業機會，並在適度的社會、環境和治理機制下成長。
- 工業、創新、基礎建設，並確保所有人享有工業、創新和基礎設施的公平分配，並建立更強的基礎設施。
- 減少不平等，並確保所有人享有平等權利，並消除一切形式的不平等。
- 持續城市與社區，並確保所有人享有以人民為中心、可持續的、公平的城鎮和城市化。
- 責任消費與生產，並確保所有人享有負責任的消費及生產模式。
- 海洋行動，並確保所有人享有海洋經濟和海洋資源的永續發展。
- 陸地生態系，並確保所有人享有永續和永續的利用森林、淡水、海洋和海洋資源，確保永續發展。
- 和平與公義，並確保所有人享有和平與公義的社會，以及可持續的生產和消費方式。
- 合作夥伴關係，並確保所有人享有合作夥伴關係的整合，以實現永續發展目標，並建立更多的夥伴關係和更強的社會合作。
Data Collection: SDG-attribute Inventory

Collected from Fall semester of 2018 to Spring semester of 2019.

The number of courses offered in each semester is around 1200-1500.

SDG-attribute Inventory
Courses identified to be related to SDG attributes in each semester is about 55%.
A total of 1347 courses, 733 courses were indicated to connect with SDGs in Fall 2018.

- SDG 4 (34.1%), 8 (33.0%) and 9 (28.9%) were prioritized as the most relevant ones.

- Similar patterns of Curriculum framework related to SDGs.
## Results: College Level

<table>
<thead>
<tr>
<th>College</th>
<th>The 1\textsuperscript{st} relevant SDG</th>
<th>The 2\textsuperscript{nd} relevant SDG</th>
<th>The 3\textsuperscript{rd} relevant SDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>4</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Law</td>
<td>16</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Management</td>
<td>8</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Science</td>
<td>9</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Engineering</td>
<td>9</td>
<td>8</td>
<td>11</td>
</tr>
</tbody>
</table>
# Data Analysis: Department Level

<table>
<thead>
<tr>
<th>Attribute</th>
<th>The first most relevant Department</th>
<th>The second most relevant Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDG 6</td>
<td>Environ. &amp; Civil Eng. (12/38)</td>
<td>Applied Chemistry (7/36)</td>
</tr>
<tr>
<td>SDG 7</td>
<td>Electrical Eng. (10/78)</td>
<td>Applied Chemistry (8/36)</td>
</tr>
<tr>
<td>SDG 10</td>
<td>Economic &amp; Financial Law (16/55)</td>
<td>Law (11/55)</td>
</tr>
<tr>
<td>SDG 12</td>
<td>Law (10/55)</td>
<td>A. P. Indust. &amp; Bus. Manage. (8/47)</td>
</tr>
<tr>
<td>SDG 13</td>
<td>Environ. &amp; Civil Eng. (9/38)</td>
<td>Applied Chemistry (5/36)</td>
</tr>
<tr>
<td>SDG 14</td>
<td>Life Science (16/45)</td>
<td>Environ. &amp; Civil Eng. (4/38)</td>
</tr>
<tr>
<td>SDG 15</td>
<td>Life Science (18/45)</td>
<td>Environ. &amp; Civil Eng. (5/38)</td>
</tr>
</tbody>
</table>

**From Dept. of Environmental and Civil Engineering to Dept. Sustainable Engineering**

- For certain SDGs, their attributes are clearly aligned with specific Departments in our University.
Conclusions

• The SDG course inventory offers academic administration very useful information to better understand the internal collaboration opportunity in the University.

• SDG can serve as a platform to develop innovative and interdisciplinary programs through the collaboration of various colleges where their faculties may engage same SDG with different approaches.
Conclusions

• For certain SDGs, their attributes are clearly aligned with specific Departments in our University.

• Even though for the department provides the largest number of courses related to a certain SDG in the university, it does not necessarily mean the department is well-prepared for that particular SDG because the significance and impact of global climate change was not taken into consideration in curriculum design before.
Thank you for listening.
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National University of Kaohsiung
Higher Education Sprout Project
http://sprout.nuk.edu.tw