

**Olu’tomi I. Owoeye**

Director, Developer

**SHEFFL**-generated Timetable Statistics and Diagnostics Report

**Timetable Filename:**

{{ filename }}

**Session/Year/Time frame:**

{{ session }}

{{ institution }}

**ABSTRACT**

Contained within this report are relevant statistical analyses with regard to the timetable with filename: **{{ filename }}** thus generated, as well as a helpfully detailed diagnostics process report that reveals whether the operation was a success or not, and to what degree.

A number of *peculiar* situations could arise in a real-world school or institution. Situations akin to having a number of teachers who (for some reason) teach only on certain days of the week, or teachers who are specialized to teach across only some of the available class categories across which his/her subject/course applies, or class arms that entertain lessons only on some given days of the week, or the presence of subjects which run in parallel (termed *parallel-subjects*) for any class arm that offers them, and maybe more. More than likely, one (or more) of the above *peculiarities* could be applicable to some degree to the operating conditions in {{ institution }}. These nuances significantly compound the problem of making an efficient timetable to optimally serve all its teachers and classes. As a consequence, the user’s input for the number of teachers, given the number of class arms, subjects, days and periods per day is not always guaranteed to be spot on. Some teachers may (due to the real-life constraints) be left stranded. The timetable generation could thus evaluate to *successful* or *unsuccessful.*

If successful, the teachers’ efficiency chart is displayed, and relevant conclusions are drawn. The teachers’ efficiency chart is simply a graphical representation of the measure with which each of the teachers’ teaching times are spaced throughout the day, for all of the teacher’s teaching days during the week.

If unsuccessful, clear details as to where, due to insufficient *resources* (teachers/tutors/handlers, usually) the operation might have performed below what was intended are rendered, as well as helpful mathematical solutions provided to estimate the minimum number of teachers/tutors/handlers to be imputed, to have the timetable generation evaluate to *successful*.

# **STATISTICS**

## GENERAL INFORMATION

In-App Filename:

Institution: {{ institution }}

Session/Year/Time frame: {{ session }}

Acronym/Codename: {{ acronym }}

Director/Principal: {{ director }}

Extra Info: {{ extra\_info }}

**Subject/Course structure Details**

Subjects/courses registered with this timetable project possess the following structural attributes and weights according to their ATPG values.

|  |  |
| --- | --- |
| **Structural (ATPG) Attribute** | **Weight** |
| {% for atpg in atpg\_values %} | |
| **{{ atpg.attribute }}** | **{{ atpg.weight }}** |
| {% endfor %} | |

## CLASS MODELS

### CLASS CATEGORIES

**{{ institution }}** is (class-wise) divided into the following class categories, each sporting its descendant school classes and school class arms.

Class categories available: {{ classcats\_num }}

The school classes represent the grades/levels/ranks into which students in the same class category fall. The school class arms, most interestingly, being the literal classroom in which teachers have lessons with students, are the model with the most details as to the structure of the entire institution.  
{% if classcats %}

{% for classcat in classcats %}

1. **{{ classcat.name }}**

**Description**

{{ classcat.description }}

**Content Details**

Descendant classes: {{ len\_sch\_classes }}.

Descendant school classes and their constituent class arms’ details are outlined below.

{% for sch\_class in classcat.sch\_classes %}

* 1. **{{ sch\_class.sch\_class\_name }}**

Constituent class arms: {{ sch\_class.len\_sch\_class\_arms }}

{% if sch\_class.diversifies %}

The descendant arms of this school class allow for specialization and nuance to some degree because the exact same subjects/courses are not offered across said arms.

{% else %}

The descendant arms of this school class take the exact same subjects, and as such do not support specialization across any of the said arms.

{% endif %}

**{{ sch\_class.sch\_class\_name }}’s constituent class arms**

{% for arm in sch\_class.arms\_list %}

1. {{ arm.arm\_name }}

Class arm’s working days per week: {{ arm.working\_days }}

**Lesson Periods**

* Total periods per week (academic and non-academic): {{ arm.total\_periods }} (average of {{ arm.avg\_total\_periods }} per day).
* Total academic periods per week: {{ arm.all\_acad\_periods }} (average of {{ arm.avg\_all\_acad\_periods }} per day).
* Total occupied academic periods per week: {{ arm.all\_occupied\_acad\_periods }} (average of {{ arm.avg\_occupied\_acad\_periods }} per day).
* Total non-academic periods per week: {{ arm.all\_nonacad\_periods }} (average of {{ arm.avg\_all\_nonacad\_periods }} per day).
* Total free periods per week: {{ arm.free\_periods }}

**Time Span Per Day**

|  |  |  |
| --- | --- | --- |
| {% for day\_info in arm.days\_info %} | | |
| {{ day\_info.day\_name }} | {{ day\_info.day\_range }} | {{ day\_info.duration }} |
| {% endfor %} | | |

**Subjects/Courses**

* Number of offered subjects/courses: {{ arm.subjects\_num }}
* Number of offered academic subjects: {{ arm.acad\_subjs\_num }}
* Number of non-academic engagements: {{ arm.nonacad\_subjs\_num }}

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Subject/Course | Parent Department | ATPG value | Subject’s Assigned Teacher | Subject Parallel or No | Weekly Frequency (Features) |
| {% for subj\_info in arm.subjs\_info %} | | | | | |
| {{ subj\_info.subj\_name }} | {{ subj\_info.mother\_department }} | {{  subj\_info.atpg  }} | {{  subj\_info.teacher }} | {{  subj\_info.parallel }} | {{ subj\_info.weekly\_freq }} |
| {% endfor %} | | | | | |

**Subject/Course** **Teachers/Tutors/Handlers**

Total number of subject teachers (parallel subjects inclusive): {{ arm.subj\_teachers\_num }}

{% endfor %}

{% endfor %}

{% endfor %}

{% else %}  
Class categories are yet to be created.  
{% endif %}

## SUBJECT/COURSE MODELS

### DEPARTMENTS

**{{ institution }}** has a number of departments in operation to house and categorize subjects/courses, as well as subject teachers and to help deal with the intricacies exist between teachers, subjects and class arms.

Departments: {{ departments\_num }}

Each of the departments, alongside its child subjects/courses, subject teachers and other relevant details are displayed below.

{% for department in departments %}

1. **{{ department.name }}**

|  |  |
| --- | --- |
| **Description** | Head of Department |
| {{ department.description }} | {{ department.HOD }} |

**Content Details**

* Child subjects: {{ department.num\_subjs }}
* Total number of teachers: {{ department.num\_teachers }}
* Class category span: {{ department.classcat\_span }}

**Child subjects’ details**

Outlined below are each of the child subjects/courses of this department and their minutiae.

{% for subj in department.subjs %}

1. **{{ subj.name }}**

**Head of subject:** {{ subj.HOS }}

**Subject/Course structure (ATPG) breakdown as regards the user-specified ATPG ratings in the user interface**

|  |  |
| --- | --- |
| **ATPG Attribute** | **Rating** |
| {% for atpg\_info in subj.atpg\_infos %} | |
| {{ atpg\_info.attribute }} | {{ atpg\_info.rating }} |
| {% endfor %} | |
| Total ATPG value | {{ subj.atpg\_val }} |

**Subject Parallelism**

{% if subj.is\_parallel %}

This subject is a ***parallel*** subject. i.e. it comprises of sub-subjects that run side-by-side for all of the class arms that offer them.

Sub-subjects: **{{ subj.para\_subjects }}**

Number of teachers/handlers (sub-subjects inclusive): {{ subj.teachers\_num }}

{% else %}

This subject is **not** a ***parallel*** subject, as it contains no sub-subjects that run in parallel for every class arm that offers it.

Number of teachers/handlers: {{ subj.teachers\_num }}

{% endif %}

* Class category span: {{ subj.classcat\_span }}
* Offering class arms: {{ subj.client\_class\_arms\_num }}
* Teachers actively assigned to arms: {{ subj.assigned\_teachers\_num }}

**Offering class arms details**

|  |  |  |
| --- | --- | --- |
| **Class arm** | **Assigned Teacher** | **Weekly Feature** |
| {% for arm\_info in subj.client\_class\_arms %} | | |
| {{ arm.name }} | {{ arm.teacher }} | {{ arm.freq }} |
| {% endfor %} | | |

{% endfor %}

{% endfor %}

## TEACHER MODELS

**{{ institution }}** employs the services of a number of teachers to handle subjects and consequently serve as the link between class models (class categories, classes and class arms) and subject models (subjects and departments). It is for the teacher that considerations regarding spacing and/or overlapping of lessons apply.

**Overall Staff Information**

Staff count (Total): {{ teachers\_num }}

|  |  |  |
| --- | --- | --- |
| Exclusivity | Exclusive: {{ exclusivity\_num }} | Non-exclusive: {{ non\_exclusive\_num  }} |
| Consistency | Full-Time: {{ fulltime\_staff\_num }} | Part-Time: {{ parttime\_staff\_num }} |
| Class Category specialization | Global (All): {{ global\_staff\_num }} | Localized: {{ local\_staff\_num }} |
| Parallel subject handlers | {{ para\_staff\_num }} | |

## DAYS

## PERIODS

# DIAGNOSTICS