

# Scoring Logic & Thresholds

The Student Scoring System is a rule-based intelligence framework designed to transform raw student attributes into structured, interpretable indicators that mentors can use for decision-making. Instead of treating all features equally, the system applies weighted logic that reflects how academic performance, wellbeing, productivity, and career readiness interact in real student environments.

Each dimension score is scaled to a **0–100 range** to ensure consistency and ease of interpretation.

## 1. Academic Performance Score (APS)

### Purpose:

To measure the academic strength and consistency of a student.

### Logic Behind the Formula:

- **GPA (50% weight)** represents conceptual understanding and exam performance, making it the most important academic indicator.
- **Attendance (25% weight)** reflects discipline and engagement in learning activities.
- **Assignment Completion (25% weight)** captures consistency and responsibility.

### Why this works:

A student with a high GPA but poor attendance or incomplete assignments may struggle in the long run. Therefore, APS balances *performance* and *consistency*.

## 2. Wellness & Wellbeing Score (WWS)

### Purpose:

To assess the psychological and physical wellbeing of students.

### Logic Behind the Formula:

- **Mental Wellbeing (40%)** directly reflects emotional stability and resilience.
- **Sleep Hours (30%)** is a key biological factor affecting focus and stress.
- **Stress Level (30%, inverse relationship)** reduces the score as stress increases.

**Why this works:**

Students under high stress with poor sleep often show burnout, anxiety, and reduced academic performance. This score helps mentors identify invisible struggles beyond grades.

### 3. Productivity & Time Management Score (PTMS)

**Purpose:**

To evaluate how effectively students manage time and maintain focus.

**Logic Behind the Formula:**

- **Productivity Score (50%)** directly measures self-reported efficiency.
- **Distractions (30%, inverse)** accounts for time lost to non-productive activities.
- **Attendance (20%)** acts as an external validation of time discipline.

**Why this works:**

Students may be academically capable but underperform due to poor time management. PTMS highlights execution ability rather than intelligence.

### 4. Career Readiness Score (CRS)

**Purpose:**

To measure how prepared a student is for future career opportunities.

**Logic Behind the Formula:**

- **Career Clarity (40%)** reflects goal direction.
- **Skill Readiness (40%)** measures practical employability skills.
- **Engagement Score (20%)** indicates proactive participation in learning platforms.

**Why this works:**

High GPA alone does not ensure employability. CRS captures alignment between goals, skills, and initiative.

## 5. Student Readiness Index (SRI)

### Purpose:

To provide a holistic readiness indicator for mentoring decisions.

### Weight Distribution:

Component	Weight
APS	25%
WWS	25%
PTMS	20%
CRS	20%
Engagement	10%

### Reasoning:

Academic and wellness factors are given higher priority because they strongly influence student stability, while productivity and career readiness determine long-term outcomes.

## Student Category Thresholds

SRI Range	Category	Interpretation
80–100	Green	Well-balanced, high-performing students
65–79	Blue	Stable students needing minor guidance
50–64	Yellow	At-risk students requiring mentoring support
Below 50	Red	Critical cases needing immediate intervention

### Why Thresholds Work:

- **Green** students are self-sustaining.
- **Blue** students are functional but benefit from light mentoring.
- **Yellow** students show imbalance in one or more dimensions.
- **Red** students display risk signals across multiple areas (low wellbeing, productivity, or academics).

## Conclusion

This rule-based system mirrors real mentoring decision processes by combining academic, psychological, behavioral, and career-related indicators. The model ensures transparency, interpretability, and actionability, making it suitable for early-stage intelligent mentoring systems before deploying machine learning models.