



## KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506015, TELANGANA, INDIA

కాకతీయ ప్రौद्योगिकी एवं विज्ञान संस्थान, వరంగల్ - ౫౦౬౦౧౫, తెలంగాణ, భారత

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - ౫౦౬ ౦౧౫ తెలంగాణ, భారతదేశము

(An Autonomous Institute under Kakatiya University, Warangal)

(Approved by AICTE, New Delhi; Recognised by UGC under 2(f) & 12(B); Sponsored by EKASILA EDUCATION SOCIETY)

website: [www.kitsw.ac.in](http://www.kitsw.ac.in)

E-mail: [principal@kitsw.ac.in](mailto:principal@kitsw.ac.in)

☎ : +91 9392055211, +91 7382564888

### Process of calculating CO attainment

- Course Outcome Attainment is carried out using the following two components.
  - (i). End Semester Examination (ESE)
  - (ii). Continuous Internal Evaluation (CIE)
- There are 4 course outcomes framed for every course.
- Each course outcome is mapped to program outcomes with relevant correlation levels (3-High, 2-Medium, 1-Low, - for no correlation).
- Course Outcome Attainment Level (COAL) of Mid Semester & End Semester examination is set by considering number of students scored more than the threshold mark of that course as shown below.
  - *Course Outcome Attainment Level = 1: 60% students scoring more than threshold*
  - *Course Outcome Attainment Level = 2: 70% students scoring more than threshold*
  - *Course Outcome Attainment Level = 3: 80% students scoring more than threshold*
  - *Where threshold = 50% of maximum marks for that Course Outcome*

**Example:-**

|   |            |            |             |             |
|---|------------|------------|-------------|-------------|
| <b>Total Number of Students</b>                           | 120        |            |             |             |
| <b>Course outcome</b>                                     | <b>CO1</b> | <b>CO2</b> | <b>CO 3</b> | <b>CO 4</b> |
| <b>Maximum Marks</b>                                      | 15         | 15         | 15          | 15          |
| <b>Threshold (Th)</b><br><i>(Th=50% of Maximum Marks)</i> | 7.5        | 7.5        | 7.5         | 7.5         |

|   |                                |     |     |       |
|---|--------------------------------|-----|-----|-------|
| <b>No. of Students Count &gt;= Th</b>             | 110                            | 90  | 108 | 82    |
| <b>% of Students Count &gt;= Th</b>               | 91.6%                          | 75% | 90% | 68.3% |
| <b>Course Outcome Attainment Level<br/>(COAL)</b> | 3                              | 2   | 3   | 1     |
| Course Outcome Attainment Level=1                 | If 60% of Students score >= Th |     |     |       |
| Course Outcome Attainment Level=2                 | If 70% of Students score >= Th |     |     |       |
| Course Outcome Attainment Level=3                 | If 80% of Students score >= Th |     |     |       |

- CO attainment of a course is calculated by using the following formula:

*Course outcome attainment=60% of ESE attainment level + 40% of CIE attainment level. (w.e.f AY 2018-19)*

**CO Attainment Calculation-PARAMETERS**

| <u>Parameters for Assessment</u> | <u>Units Covered</u> | <u>COs Covered</u> |
|----------------------------------|----------------------|--------------------|
| MINOR EXAM-1                     | Unit-1               | CO1                |
| MSE-1                            | Unit-1&2             | CO1& CO2           |
| ASSIGNMENT-1                     | Unit-1&2             | CO1& CO2           |
| MINOR EXAM-2                     | Unit-3               | CO3                |
| MSE-2                            | Unit-3&4             | CO3 & CO4          |
| ASSIGNMENT-2                     | Unit-3&4             | CO3 & CO4          |
| ESE                              | All units            | CO1,CO2,CO3&CO4    |

## Rubrics for calculating CO ATTAINMENT level (COAL)

### MSE-1

|   |           |      |
|---|-----------|------|
| <b>Total Number of Students</b>                                   | <b>60</b> |      |
| <b>Course outcome</b>   | CO 1      | CO 2 |
| <b>Maximum Marks</b>  | 15        | 15   |
| <b>Threshold (Th)</b>   | 7.5       | 7.5  |
| <b>No. of Students Count <math>\geq</math> Th</b>                 | 47        | 43   |
| <b>% of Students Count <math>\geq</math> Th</b>                   | 78%       | 72%  |
| <b>COAL</b>   | 2         | 2    |
| <b>If 60% of Students score <math>\geq</math> Th, CO LEVEL =1</b> | 36        |      |
| <b>If 70% of Students score <math>\geq</math> Th, CO LEVEL =1</b> | 42        |      |
| <b>If 80% of Students score <math>\geq</math> Th, CO LEVEL =3</b> | 48        |      |

### MSE-2

|   |           |       |
|---|-----------|-------|
| <b>Total Number of Students</b>                                   | <b>60</b> |       |
| <b>Course outcome</b>   | CO 3      | CO 4  |
| <b>Maximum Marks</b>  | 15        | 15    |
| <b>Threshold (Th)</b>   | 7.5       | 7.5   |
| <b>No. of Students Count <math>\geq</math> Th</b>                 | 46        | 32    |
| <b>% of Students Count <math>\geq</math> Th</b>                   | 76.6%     | 53.3% |
| <b>COAL</b>   | 2         | 0     |
| <b>If 60% of Students score <math>\geq</math> Th, CO LEVEL =1</b> | 36        |       |
| <b>If 70% of Students score <math>\geq</math> Th, CO LEVEL =1</b> | 42        |       |
| <b>If 80% of Students score <math>\geq</math> Th, CO LEVEL =3</b> | 48        |       |

### ESE

|   |       |     |      |       |
|---|-------|-----|------|-------|
| Total Number of Students                    | 60    |     |      |       |
| Course outcome                              | CO1   | CO2 | CO 3 | CO 4  |
| Maximum Marks                               | 15    | 15  | 15   | 15    |
| Threshold (Th)                              | 8     | 7.5 | 7.5  | 7.5   |
| No. of Students Count >= Th                 | 55    | 45  | 54   | 41    |
| % of Students Count >= Th                   | 91.6% | 75% | 90%  | 68.3% |
| COAL  | 3     | 2   | 3    | 1     |
| If 60% of Students score >= Th, CO LEVEL =1 | 36    |     |      |       |
| If 70% of Students score >= Th, CO LEVEL =1 | 42    |     |      |       |
| If 80% of Students score >= Th, CO LEVEL =3 | 48    |     |      |       |

### Sample Course Attainment

| B.TECH I SEMESTER 2018-19 URR18EE105 BASIC ELECTRICAL ENGINEERING |         |    |       |         |    |       |                    |      |
|---|---------|----|-------|---------|----|-------|--------------------|------|
| U18EE105 / BEE  | Minor 1 | A1 | MSE-1 | Minor-2 | A2 | MSE-2 | Total Internal Avg | ESE  |
| CO1   | 0       | 3  | 2     |         |    |       | 1.67               | 3    |
| CO2   |         | 1  | 2     |         |    |       | 1.5                | 2    |
| CO3   |         |    |       | 0       | 3  | 2     | 1.67               | 3    |
| CO4   |         |    |       | 0       | 3  | 0     | 1                  | 1    |
| AVG INT / EXT   |         |    |       |         |    |       | 1.46               | 2.25 |
| Weightage   |         |    |       |         |    |       | 40%                | 60%  |
|   |         |    |       |         |    |       | 0.58               | 1.35 |
| Final Course Attainment for U18EE105 / BEE                        |         |    |       |         |    |       | 1.93*              |      |

*\*60% ESE attainment level + 40% of CIE attainment level.*