



Outcome Attainment Calculation, and CQI Process



Dr. Md. Abdur Razzak

Senior Member IEEE, Fellow IEB, Fellow JSPS

Professor, Dept. of Electrical & Electronic Engineering
Director, Institutional Quality Assurance Cell (IQAC)
INDEPENDENT UNIVERSITY, BANGLADESH

Outlines

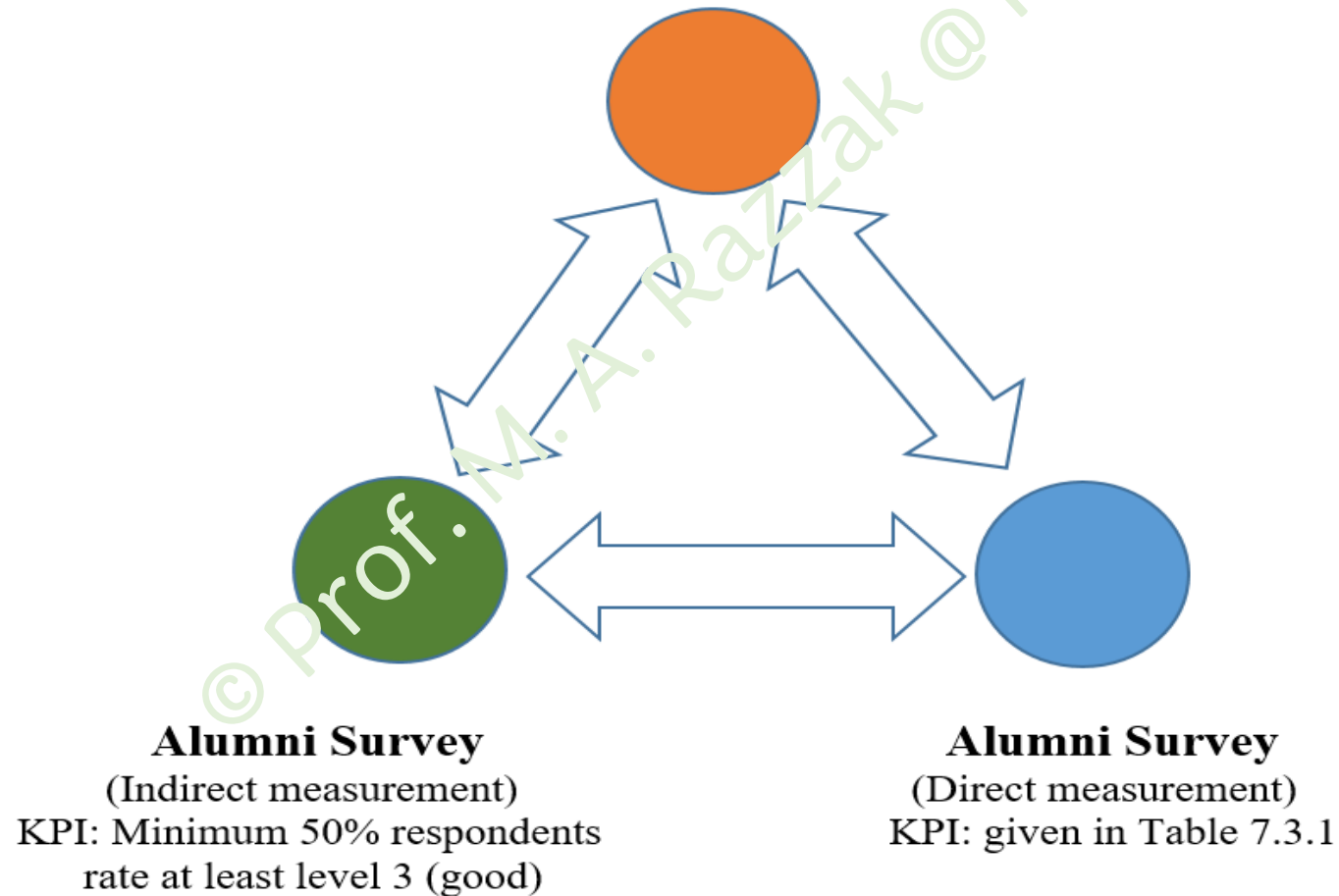
- Outcome Attainment (30 mins)
 - PEO, PO and CO attainment calculation
- CQI Process (10 mins)
 - CQI for PEO, PO & CO

Outcomes

At the end of this seminar / workshop, the participants are expected to

- calculate the attainment of course and program learning outcomes
- prepare and implement the CQI process

Employer Survey
 (Indirect measurement)
 KPI: Minimum 50% respondents rate at least level 3 (good)



| Selected Courses | | | Program Outcomes (POs) | | | | | | | | | | Knowledge Profile | | | | | | | | Complex Engineering Problems | | | | | | | Complex Engineering Activities | | | | | | | | | | |
|------------------|------------------------------------|-----|------------------------|------------------|--------------------|---------------|--------------------|--------------------|------------------------------|--------|-----------------------------|---------------|------------------------------|--------------------|---------|----|----|----|-----|-----|------------------------------|-----|---------|----|----|----|----|--------------------------------|----|------|----|----|----|----|----|----|----|----|
| | | | Engineering Knowledge | Problem Analysis | Design of Solution | Investigation | Modern Tools Usage | Engineer & Society | Environment & Sustainability | Ethics | Individual Work / Team Work | Communication | Project Management & Finance | Life Long Learning | PO1-PO2 | | | | PO3 | PO5 | PO6 or 8 | PO4 | PO1-PO7 | | | | | | | PO10 | | | | | | | | |
| | | | | | | | | | | | | | | | K1 | K2 | K3 | K4 | | | | | K5 | K6 | K7 | K8 | P1 | P2 | P3 | P4 | P5 | P6 | P7 | A1 | A2 | A3 | A4 | A5 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Course ID | Course Title | Cr. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | K1 | K2 | K3 | K4 | K5 | K6 | K7 | K8 | P1 | P2 | P3 | P4 | P5 | P6 | P7 | A1 | A2 | A3 | A4 | A5 | | | | |
| EEE 313 | Electromagnetic Fields and Waves | 3 | C3 | C4 | | | | | | | A3 | | | | √ | √ | √ | | | | | | √ | | √ | | | | | √ | | | √ | | | | | |
| EEE 315L | Electrical and Electronic Project | 1 | | C4 | C6 | | | A3 | A3 | A2 | | C3 | | | | | √ | | √ | √ | √ | √ | √ | √ | | | | | | | | | | | | | | |
| EEE 316L | Engineering Drawing and Electrical | 1 | | P3 | P3 | | P4 | P4 | | | | | | | | | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | | | | | | | | | |
| EEE 321 | Digital Signal Processing | 3 | C3 | C4 | C6 | | | | | | A3 | | | | | √ | √ | √ | √ | √ | √ | | √ | | √ | | | | | | | | | | | | | |
| EEE 321L | Digital Signal Processing Lab | 1 | | | | P4 | P3 | | | | | | | | | | | √ | √ | √ | √ | √ | √ | √ | | | | | | | | | | | | | | |
| ETE 322 | Communication Engineering - II | 3 | C3 | | C6 | | | | | | | A3 | | A3 | | √ | √ | √ | √ | √ | √ | | √ | | √ | √ | | | √ | | | √ | √ | | | | | |
| ETE 322L | Communication Engineering Lab | 1 | | | | P4 | P3 | | | | | | | | | | √ | √ | | √ | | √ | | √ | | | | | | | | | | | | | | |
| EEE334 | Embedded Systems | 3 | | | C6 | P4 | | | | | A3 | A3 | | | | | √ | √ | √ | √ | √ | √ | √ | √ | | | | √ | √ | | | | | √ | | | | |
| EEE 422 | Ethics, Engineering Economics and | 3 | | | | | | C5 | | A3 | | | C5 | | | √ | | | | | √ | | √ | | | | | | | | | | | | | | | |
| EEE 332 | Power Electronics and Drives | 3 | | C4 | C6 | | | | A3 | | | | | A4 | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | | | | | | | | | |
| EEE 332L | Power Electronics and Drives Lab | 1 | | | | P4 | P3 | | | | | | | | | | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | | | | | | | | | |
| EEE 411 | Control Systems | 3 | C3 | C6 | C6 | | | | | | | A3 | | | | √ | √ | √ | √ | √ | √ | | √ | | √ | | | | √ | | | | | √ | | | | |
| EEE 411L | Control Systems Lab | 1 | | | | | P3 | | | | A3 | | | | | | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | | | | | | | | | |
| EEE 400 | Final Year Design Project | 6 | | C4 | C6 | P3 | P3 | A4 | A4 | A3 | A4 | A3 | C4 | A4 | | | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | |

| Sl | ID | Name | CLASS TEST | | CT | MID TERM | | | MT | FINAL EXAM | | | | FE | PROJECT | | PP | ASSIGNMENT | | | AT | Total | Letter Grade |
|----|-----------|-----------|------------|------|------|----------|-----|-----|------|------------|-----|-----|-----|------|---------|------|------|------------|----|----|------|-------|--------------|
| | | | CO1 | CO1 | | CO1 | CO1 | CO2 | | CO2 | CO2 | CO2 | CO2 | | CO2 | CO3 | | | | | | | |
| | | | CT1 | CT2 | 15 | Q1 | Q2 | Q3 | 20 | Q1 | Q2 | Q3 | Q4 | 30 | PRE | REP | 20 | 1 | 2 | 3 | 15 | 100 | |
| | | | 15 | 15 | 30 | 20 | 20 | 20 | 60 | 15 | 15 | 30 | 30 | 90 | 30 | 30 | 60 | 10 | 10 | 50 | 70 | 310 | |
| 1 | 123456789 | XXXX YYYY | 6.0 | 9.0 | 7.5 | 2 | 12 | 10 | 8.0 | 10 | 10 | 9 | 9 | 12.7 | 23.0 | 22.0 | 15.0 | 8 | 8 | 41 | 12.2 | 55.38 | C- (Minus) |
| 2 | 123456789 | XXXX YYYY | 14.0 | 9.0 | 11.5 | 18 | 20 | 18 | 18.7 | 12 | 12 | 25 | 30 | 26.3 | 24.0 | 23.0 | 15.7 | 8 | 8 | 44 | 12.9 | 85.02 | A- (Minus) |
| 3 | 123456789 | XXXX YYYY | 4.0 | 6.0 | 5.0 | 0 | 8 | 16 | 8.0 | 10 | 10 | 20 | 20 | 20.0 | 20.0 | 20.0 | 13.3 | 9 | 9 | 38 | 12.0 | 58.33 | C- (Minus) |
| 4 | 123456789 | XXXX YYYY | 9.0 | 9.0 | 9.0 | 20 | 12 | 16 | 16.0 | 15 | 10 | 20 | 30 | 25.0 | 21.0 | 21.0 | 14.0 | 8 | 8 | 37 | 11.4 | 75.36 | B (Plain) |
| 5 | 123456789 | XXXX YYYY | 7.0 | 12.0 | 9.5 | 16 | 0 | 14 | 10.0 | 15 | 15 | 8 | 30 | 22.7 | 24.0 | 24.0 | 16.0 | 8 | 8 | 38 | 11.6 | 69.74 | C+ (Plus) |
| 6 | 123456789 | XXXX YYYY | 8.0 | 15.0 | 11.5 | 16 | 12 | 12 | 13.3 | 15 | 10 | 25 | 20 | 23.3 | 18.0 | 17.0 | 11.7 | 8 | 8 | 35 | 10.9 | 70.76 | B- (Minus) |
| 7 | 123456789 | XXXX YYYY | 4.0 | 15.0 | 9.5 | 10 | 16 | 8 | 11.3 | 12 | 10 | 20 | 30 | 24.0 | 18.0 | 17.0 | 11.7 | 8 | 8 | 36 | 11.1 | 67.64 | C+ (Plus) |
| 8 | 123456789 | XXXX YYYY | 5.0 | 9.0 | 7.0 | 10 | 16 | 16 | 14.0 | 10 | 10 | 20 | 25 | 21.7 | 9.0 | 20.0 | 9.7 | 9 | 9 | 37 | 11.8 | 64.12 | C (Plain) |
| 9 | 123456789 | XXXX YYYY | 5.0 | 3.0 | 4.0 | 16 | 12 | 4 | 10.7 | 5 | 10 | 15 | 20 | 16.7 | 25.0 | 25.0 | 16.7 | 8 | 8 | 38 | 11.6 | 59.57 | C- (Minus) |
| 10 | 123456789 | XXXX YYYY | 13.0 | 15.0 | 14.0 | 20 | 20 | 20 | 20.0 | 15 | 15 | 20 | 30 | 26.7 | 22.0 | 9.0 | 10.3 | 8 | 8 | 20 | 7.7 | 78.71 | B (Plain) |
| 11 | 123456789 | XXXX YYYY | 14.0 | 15.0 | 14.5 | 16 | 16 | 20 | 17.3 | 12 | 5 | 15 | 25 | 19.0 | 22.0 | 22.0 | 14.7 | 8 | 8 | 25 | 8.8 | 74.29 | B- (Minus) |
| 12 | 123456789 | XXXX YYYY | 9.0 | 9.0 | 9.0 | 20 | 4 | 20 | 14.7 | 15 | 10 | 20 | 10 | 18.3 | 24.0 | 24.0 | 16.0 | 9 | 9 | 20 | 8.1 | 66.14 | C+ (Plus) |
| 13 | 123456789 | XXXX YYYY | 6.0 | 15.0 | 10.5 | 12 | 0 | 15 | 9.0 | 15 | 15 | 15 | 30 | 25.0 | 24.0 | 24.0 | 16.0 | 8 | 8 | 24 | 8.6 | 69.07 | C+ (Plus) |
| 14 | 123456789 | XXXX YYYY | 8.0 | 10.0 | 9.0 | 8 | 4 | 14 | 8.7 | 15 | 10 | 10 | 30 | 21.7 | 24.0 | 24.0 | 16.0 | 8 | 8 | 20 | 7.7 | 63.05 | C (Plain) |
| 15 | 123456789 | XXXX YYYY | 8.0 | 6.0 | 7.0 | 20 | 8 | 20 | 16.0 | 15 | 15 | 12 | 30 | 24.0 | 22.0 | 22.0 | 14.7 | 8 | 8 | 22 | 8.1 | 69.81 | C+ (Plus) |
| 16 | 123456789 | XXXX YYYY | 14.0 | 15.0 | 14.5 | 20 | 20 | 20 | 20.0 | 15 | 15 | 11 | 30 | 23.7 | 19.0 | 19.0 | 12.7 | 8 | 8 | 25 | 8.8 | 79.62 | B (Plain) |
| 17 | 123456789 | XXXX YYYY | 6.0 | 15.0 | 10.5 | 20 | 20 | 14 | 18.0 | 15 | 15 | 10 | 30 | 23.3 | 21.0 | 20.0 | 13.7 | 8 | 8 | 30 | 9.9 | 75.36 | B (Plain) |
| 18 | 123456789 | XXXX YYYY | 7.0 | 15.0 | 11.0 | 20 | 16 | 20 | 18.7 | 15 | 10 | 15 | 30 | 23.3 | 18.0 | 9.0 | 9.0 | 8 | 8 | 40 | 12.0 | 74.00 | B- (Minus) |



8.4 Assessment of COs



| ID | Name | CO MARK OBTAINED | | | | | | | | | | | |
|-------------------------------------|-----------|------------------|-------|------|------|----------------------------|------|------|------|------------------------|---------|---------|---------|
| | | CO MARK OBTAINED | | | | CO MARK IN PERCENTAGE | | | | CO ACHIEVEMENT (>=60%) | | | |
| | | CO1 | CO2 | CO3 | CO4 | CO1 | CO2 | CO3 | CO4 | CO1 | CO2 | CO3 | CO4 |
| | | 100.0 | 100.0 | 50.0 | 60.0 | % | % | % | % | | | | |
| 123456789 | XXXX YYYY | 49.0 | 44.0 | 41.0 | 45.0 | 49.0 | 44.0 | 82.0 | 75.0 | N | N | Y | Y |
| 123456789 | XXXX YYYY | 85.0 | 89.0 | 44.0 | 47.0 | 85.0 | 89.0 | 88.0 | 78.3 | Y | Y | Y | Y |
| 123456789 | XXXX YYYY | 38.0 | 74.0 | 38.0 | 40.0 | 38.0 | 74.0 | 76.0 | 66.7 | N | Y | Y | Y |
| 123456789 | XXXX YYYY | 75.0 | 82.0 | 37.0 | 42.0 | 75.0 | 82.0 | 74.0 | 70.0 | Y | Y | Y | Y |
| 123456789 | XXXX YYYY | 65.0 | 68.0 | 38.0 | 48.0 | 65.0 | 68.0 | 76.0 | 80.0 | Y | Y | Y | Y |
| 123456789 | XXXX YYYY | 76.0 | 73.0 | 35.0 | 35.0 | 76.0 | 73.0 | 70.0 | 58.3 | Y | Y | Y | Y |
| 123456789 | XXXX YYYY | 67.0 | 74.0 | 36.0 | 35.0 | 67.0 | 74.0 | 72.0 | 58.3 | Y | Y | Y | Y |
| 123456789 | XXXX YYYY | 60.0 | 79.0 | 37.0 | 29.0 | 60.0 | 79.0 | 74.0 | 48.3 | Y | Y | Y | N |
| 123456789 | XXXX YYYY | 51.0 | 55.0 | 38.0 | 50.0 | 51.0 | 55.0 | 76.0 | 83.3 | Y | Y | Y | Y |
| 123456789 | XXXX YYYY | 98.0 | 86.0 | 20.0 | 31.0 | 98.0 | 86.0 | 40.0 | 51.7 | Y | Y | N | Y |
| 123456789 | XXXX YYYY | 78.0 | 76.0 | 25.0 | 44.0 | 78.0 | 76.0 | 50.0 | 73.3 | Y | Y | Y | Y |
| 123456789 | XXXX YYYY | 67.0 | 68.0 | 20.0 | 48.0 | 67.0 | 68.0 | 40.0 | 80.0 | Y | Y | N | Y |
| 123456789 | XXXX YYYY | 63.0 | 76.0 | 24.0 | 48.0 | 63.0 | 76.0 | 48.0 | 80.0 | Y | Y | N | Y |
| 123456789 | XXXX YYYY | 55.0 | 70.0 | 20.0 | 48.0 | 55.0 | 70.0 | 40.0 | 80.0 | Y | Y | N | Y |
| 123456789 | XXXX YYYY | 72.0 | 78.0 | 22.0 | 44.0 | 72.0 | 78.0 | 44.0 | 73.3 | Y | Y | N | Y |
| 123456789 | XXXX YYYY | 99.0 | 77.0 | 25.0 | 38.0 | 99.0 | 77.0 | 50.0 | 63.3 | Y | Y | Y | Y |
| 123456789 | XXXX YYYY | 91.0 | 70.0 | 30.0 | 41.0 | 91.0 | 70.0 | 60.0 | 68.3 | Y | Y | Y | Y |
| 123456789 | XXXX YYYY | 83.0 | 81.0 | 40.0 | 27.0 | 83.0 | 81.0 | 80.0 | 45.0 | Y | Y | Y | N |
| TOTAL STUDENT | | 18 | | | | LEVEL OF ATTAINMENT | | | | Level 4 | Level 5 | Level 3 | Level 4 |
| OVERALL CO-PO ATTAINMENT (%) | | | | | | | | | | 88.89 | 94.44 | 72.22 | 88.89 |

Setting up KPI (example):

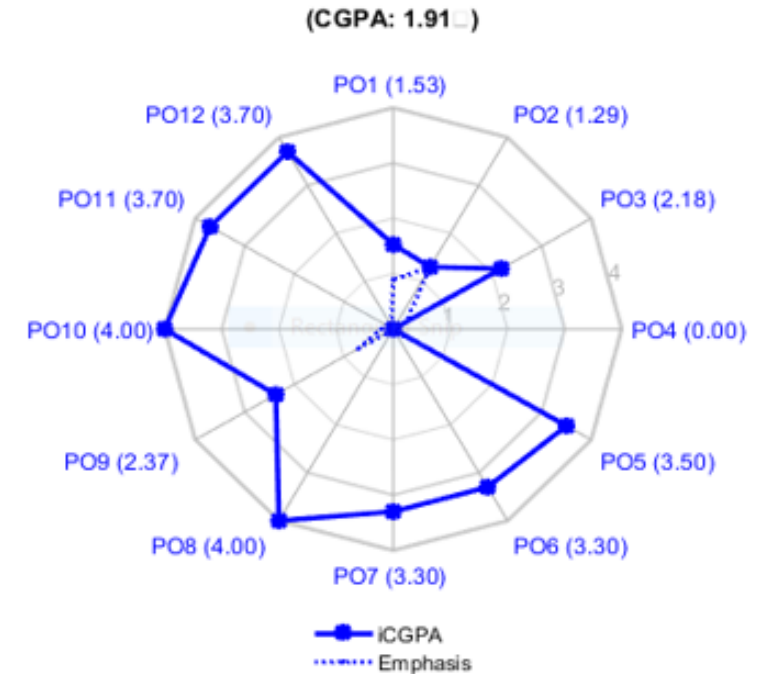
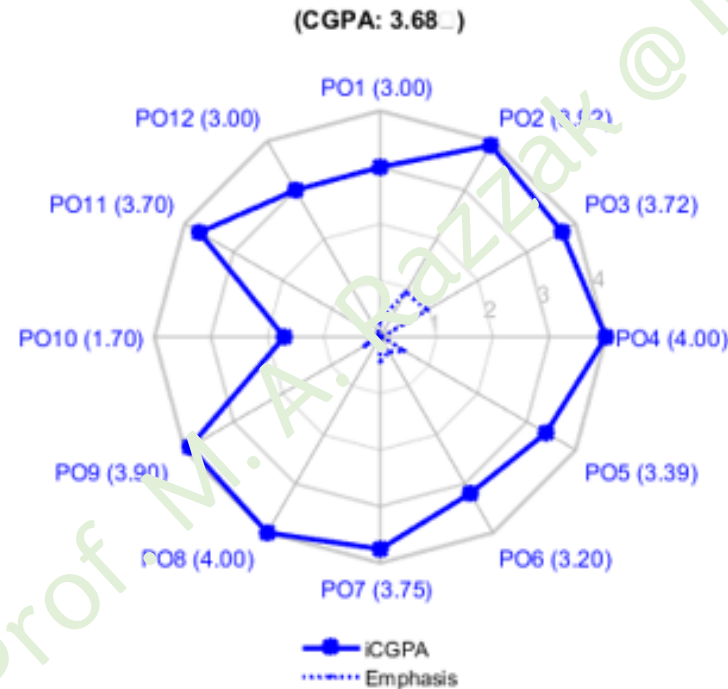
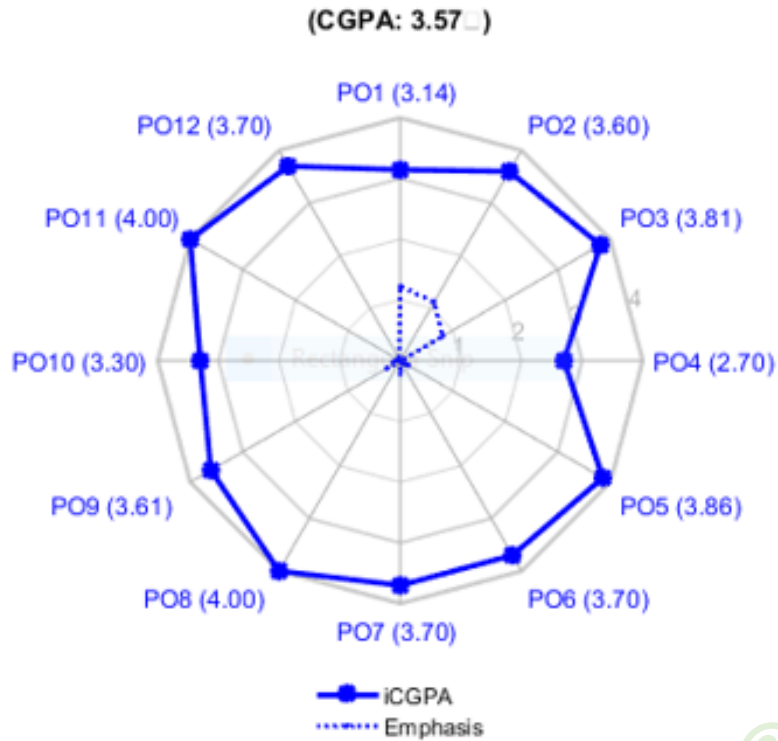
KPI for POs: For a particular PO, 50% students have achieved a collective score of 55% in a graduating cohort.

| 55 % - 100% (KPI Achieved) | | Less than 55% (Below KPI) |
|----------------------------|---------|---------------------------|
| 95% - 100% | Level 5 | N/A |
| 85% - 94.9% | Level 4 | |
| 75% - 84.9% | Level 3 | |
| 65% - 74.9% | Level 2 | |
| 55% - 64.9% | Level 1 | |

8.5 Attainment of POs required by BAETE

| ID | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| 1720256 | 61.67 | 68.05 | 74.22 | 78.80 | 75.71 | 67.80 | 63.41 | 66.32 | 67.19 | 64.57 | 70.87 | 92.02 |
| 1730192 | 84.49 | 69.87 | 88.10 | 73.08 | 83.20 | 79.79 | 83.60 | 100.0 | 83.33 | 95.67 | 97.54 | 92.41 |
| 1730344 | 47.36 | 49.45 | 68.33 | 75.00 | 59.35 | 76.60 | 67.02 | 61.84 | 59.68 | 74.12 | 59.59 | 88.06 |
| 1731473 | 70.91 | 75.68 | 89.96 | 76.54 | 81.52 | 81.92 | 84.90 | 90.09 | 63.26 | 82.08 | 80.03 | 87.67 |
| 1820170 | 83.62 | 79.53 | 88.25 | 93.92 | 79.12 | 76.00 | 79.50 | 100.0 | 67.88 | 90.58 | 100.0 | 92.66 |
| 1820545 | 80.96 | 80.85 | 89.20 | 94.54 | 75.00 | 76.00 | 79.50 | 100.0 | 66.64 | 87.87 | 100.0 | 92.66 |
| 1720261 | 53.41 | 54.17 | 70.56 | 70.63 | 66.32 | 85.16 | 87.20 | 100.0 | 45.45 | 69.75 | 69.85 | 87.20 |
| 1611062 | 39.38 | 67.81 | 68.83 | 72.94 | 69.95 | 88.00 | 87.20 | 100.0 | 74.09 | 73.82 | 69.85 | 87.20 |
| 1822271 | 63.13 | 74.06 | 62.75 | 76.00 | 63.68 | 66.93 | 64.87 | 100.0 | 40.65 | 74.70 | 100.00 | 89.43 |
| 1610315 | 55.13 | 68.07 | 57.47 | 76.00 | 60.20 | 77.30 | 57.51 | 99.61 | 41.33 | 76.72 | 100.00 | 89.43 |
| 1721167 | 67.21 | 60.68 | 87.58 | 87.00 | 77.85 | 95.47 | 79.85 | 100.0 | 77.93 | 87.86 | 97.54 | 95.62 |
| 1721868 | 54.58 | 46.05 | 77.10 | 80.71 | 72.08 | 83.52 | 79.26 | 69.50 | 82.47 | 56.46 | 76.12 | 82.58 |
| 1720912 | 57.54 | 65.95 | 60.54 | 72.00 | 65.00 | 66.97 | 54.70 | 79.24 | 87.96 | 72.24 | 81.99 | 69.02 |
| 1720778 | 46.02 | 60.90 | 68.26 | 71.46 | 77.77 | 66.40 | 59.06 | 100.0 | 72.19 | 64.03 | 97.54 | 71.10 |
| 1720850 | 81.84 | 80.81 | 83.21 | 84.00 | 77.19 | 78.88 | 83.29 | 100.0 | 85.74 | 80.42 | 94.07 | 80.78 |
| 1720423 | 78.16 | 64.95 | 75.12 | 84.57 | 75.23 | 86.96 | 76.23 | 96.88 | 81.53 | 71.00 | 94.07 | 80.78 |
| 1630274 | 60.67 | 64.77 | 78.68 | 82.40 | 80.73 | 67.44 | 78.47 | 67.40 | 95.52 | 80.93 | 56.12 | 83.64 |
| 1721708 | 64.88 | 58.86 | 79.25 | 82.74 | 69.86 | 68.03 | 80.48 | 72.90 | 66.43 | 52.25 | 53.30 | 84.35 |
| 1620521 | 39.79 | 60.99 | 69.16 | 77.33 | 72.62 | 42.33 | 76.02 | 73.15 | 75.04 | 66.27 | 62.08 | 78.42 |
| 1720083 | 57.57 | 60.66 | 54.59 | 71.33 | 61.35 | 70.41 | 60.08 | 97.68 | 40.83 | 67.05 | 78.95 | 71.17 |
| 1620772 | 38.75 | 71.96 | 53.56 | 70.00 | 67.00 | 64.79 | 76.35 | 80.48 | 97.00 | 70.88 | 65.44 | 73.69 |
| 1621463 | 68.44 | 53.71 | 57.78 | 70.00 | 58.48 | 73.03 | 59.01 | 78.01 | 49.15 | 61.24 | 66.18 | 73.97 |

| Collective score (%) | Level | Number out of 22 | | | | | | | | | | | |
|----------------------|-----------|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
| >= 55 | KPI | 15 | 18 | 20 | 22 | 22 | 21 | 21 | 22 | 17 | 21 | 21 | 22 |
| < 55 | Below KPI | 7 | 4 | 2 | 0 | 0 | 1 | 1 | 0 | 5 | 1 | 1 | 0 |
| PO Attainment % | | 68.18 | 81.82 | 90.91 | 100 | 100 | 95.45 | 95.45 | 100 | 77.27 | 95.45 | 95.45 | 100 |
| PO Attainment Status | | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| PO Attainment Level | | Level 2 | Level 3 | Level 4 | Level 5 | Level 5 | Level 5 | Level 5 | Level 5 | Level 3 | Level 5 | Level 5 | Level 5 |
| Collective score (%) | Level | Number of Students (%) | | | | | | | | | | | |
| 95 - 100 | Level 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.55 | 0.00 | 54.55 | 9.09 | 4.55 | 31.82 | 4.55 |
| 85 - 94.99 | Level 4 | 0.00 | 0.00 | 22.73 | 13.64 | 0.00 | 13.64 | 9.09 | 4.55 | 9.09 | 13.64 | 9.09 | 45.45 |
| 75 - 84.99 | Level 3 | 22.73 | 13.18 | 22.73 | 50.00 | 45.45 | 36.36 | 54.55 | 13.64 | 22.73 | 18.18 | 18.18 | 27.27 |
| 65 - 74.99 | Level 2 | 13.64 | 31.82 | 27.27 | 36.36 | 31.82 | 36.36 | 4.55 | 22.73 | 27.27 | 40.91 | 22.73 | 22.73 |
| 55 - 64.99 | Level 1 | 31.82 | 31.82 | 18.18 | 0.00 | 22.73 | 4.55 | 27.27 | 4.55 | 9.09 | 18.18 | 13.64 | 0.00 |
| < 55 | Below KPI | 31.82 | 18.18 | 9.09 | 0.00 | 0.00 | 4.55 | 4.55 | 0.00 | 22.73 | 4.55 | 4.55 | 0.00 |

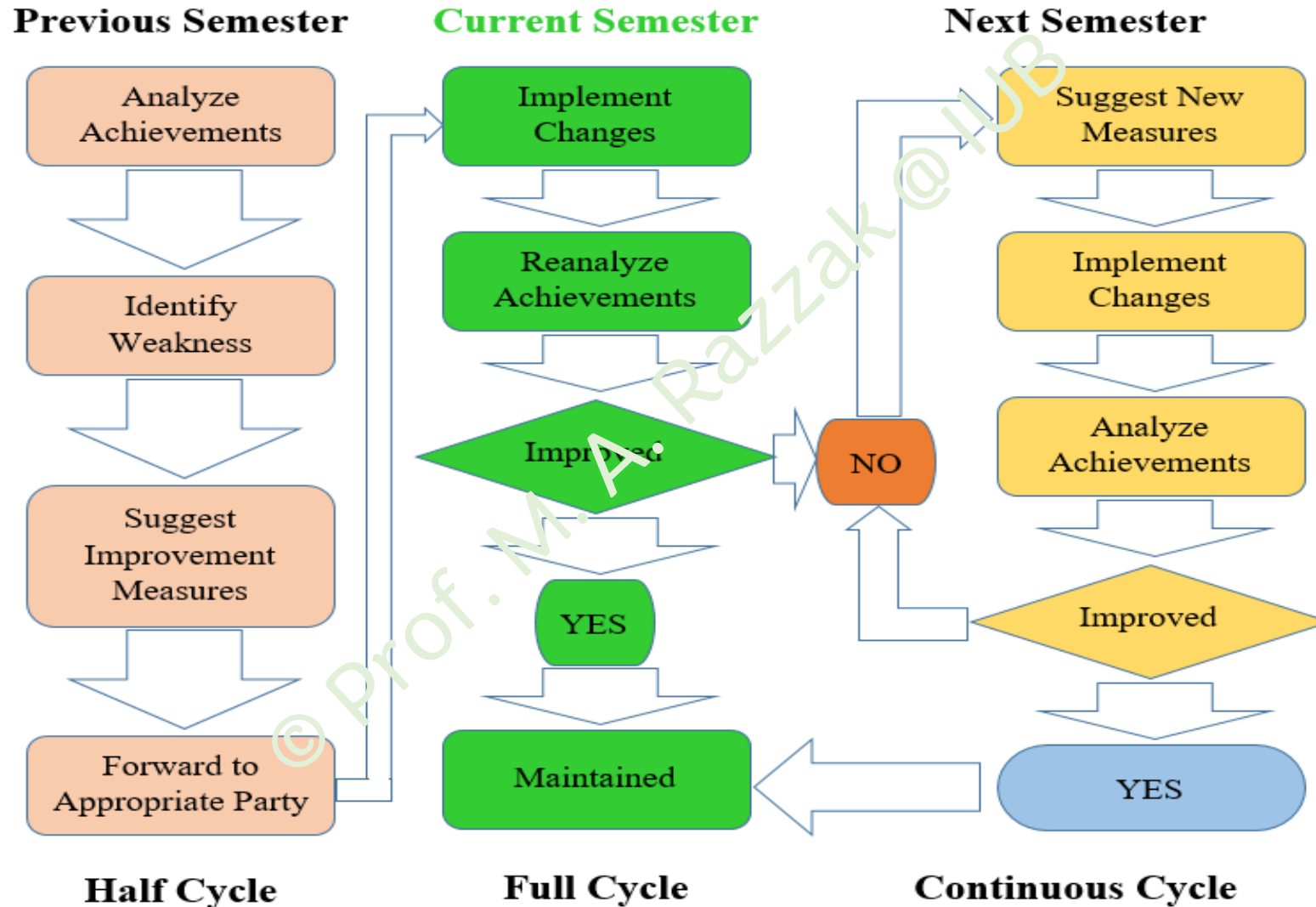


| Course and Instructor's Information | | | | | | |
|---|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Course Title | | Course Code | | | | |
| Semester | | Section | | | | |
| Instructor | | Designation | | | | |
| Student Name | | Student ID | | | | |
| <p>Please indicate how well you believe these course outcomes were effective on the scale of 5-Excellent, 4-Very Good, 3- Good, 2- Average, 1- Poor.</p> | | | | | | |
| CO No | CO statement | 1 | 2 | 3 | 4 | 5 |
| CO1 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CO2 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CO3 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Date | | | | | | |

| Name | | Student ID | | | | |
|---|----------------------------|----------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| E-mail | | Phone | | | | |
| Registration Semester | | Graduation Semester | | | | |
| Program | | Date of survey | | | | |
| <input checked="" type="checkbox"/> EEE <input type="checkbox"/> ETE | | | | | | |
| Please indicate your next goal | | | | | | |
| <input checked="" type="checkbox"/> | Higher study (MSc / PhD) | <input type="checkbox"/> | Employment (EEE / relevant field) | | | |
| <input type="checkbox"/> | Employment (non-EEE field) | <input type="checkbox"/> | Self-employment / Business | | | |
| <input type="checkbox"/> | Others (specify) | | | | | |
| Please indicate (tick the appropriate one) how well each of the 12 program outcomes has been achieved by you on the scale of 5-Excellent, 4-Very Good, 3- Good, 2- Average, 1- Poor. | | | | | | |
| PO No | PO statement | 1 | 2 | 3 | 4 | 5 |
| PO1 | Engineering Knowledge | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| PO2 | Problem Analysis | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| : | : | : | | | | |
| PO12 | Engineering Knowledge | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| PART I: Alumni Information | | | | | | |
|---|--|------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Alumni Name | | Date of Survey | | | | |
| Company / Organization | | Designation | | | | |
| E-mail | | Phone | | | | |
| Your BSc Major | <input type="checkbox"/> EEE | <input type="checkbox"/> ETE | Graduation Year | | | |
| PART II: Program Educational Objectives - Please rate on a scale of 5-Excellent, 4-Very Good, 3- Good, 2- Average, 1- Poor how well has each of these PEO been achieved in you from the day you graduated until now. | | | | | | |
| PEO No | PEO statement | 1 | 2 | 3 | 4 | 5 |
| PEO 1 | Professionalism | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PEO 2 | Continuous Personal Development | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PEO 3 | Ethical Conduct and Societal Engagement | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PART III: Tracer Study for Alumni (Please tick the appropriate one) | | | | YES | NO | |
| 1 | Have been promoted or offered to a better position | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| 2 | Have been involved in research either as member or leader | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| 3 | Have published papers in conference / journal | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| 4 | Have been involved in electrical engineering design project | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| 5 | Have been involved in development / construction projects related to EEE / ETE | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| 6 | Have been attending training program for Continuous Professional Development | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| 7 | Have furthered studies to a higher degree (MSc / PhD) | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| 8 | Have ventured into business (self-owned or partnership) | <input type="checkbox"/> | | <input type="checkbox"/> | | |

| | | | | | | | | | |
|---|--|-----------------------------|--|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| PART I: Employer Details | | | | | | | | | |
| Company / Organization | | | | | | | | | |
| Company Address | | | | | | | | | |
| Company E-mail | | | | Company Phone | | | | | |
| Your Designation | | | | | | | | | |
| PART II: Alumni Statistics | | | | | | | | | |
| Total EEE/ ETE Graduates | | No. of EEE Graduates | | No. of ETE Graduates | | | | | |
| | | | | | | | | | |
| PART III: Graduate Rating (graduated 3 to 5 years ago) | | | | | | | | | |
| Please rate the strength of IUB EEE/ETE graduates on a scale of 5-Excellent, 4-Very Good, 3- Good, 2- Average, 1- Poor. | | | | | 1 | 2 | 3 | 4 | 5 |
| 1 | Graduates are competent professionals in EEE or ETE | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | Graduates are innovative and productive in addressing customer needs. | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | Graduates engage in lifelong pursuit of knowledge and interdisciplinary learning | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | Graduates have soft skills <i>suitable</i> for industrial and academic careers. | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | Graduates <i>have a positive attitude, and demonstrate high standards of ethical conduct, and societal responsibility.</i> | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



| Course and Instructor's Information | | | | | |
|---|--|------------------------------|---|---------------------------|--|
| Course Title | | | | Course Code | |
| Semester | <input type="radio"/> Spring | <input type="radio"/> Summer | <input checked="" type="radio"/> Autumn | Year | |
| Instructor | | | | Designation | |
| No of students enrolled | | No of students Passed | | Passing % | |
| KPI for Course Outcomes (COs) | For a particular CO, 50% students have achieved at least 50% marks. | | | | |
| | 50 % - 100% (KPI Achieved) | | | Less than 50% (Below KPI) | |
| | 90% - 100% | Level 5 | | N/A | |
| | 80% - 89.99% | Level 4 | | | |
| | 70% - 79.99% | Level 3 | | | |
| | 60% - 69.99% | Level 2 | | | |
| | 50% - 59.99% | Level 1 | | | |
| CO1 | | | | | |
| Achievement in current (Autumn '21) semester (%) | Status of Achievement | | <input checked="" type="radio"/> KPI Achieved | Level | |
| | | | <input type="radio"/> Below KPI | | |
| Achievement in previous (Summer '21) semester (%) | Status of Achievement | | <input checked="" type="radio"/> KPI Achieved | Level | |
| | | | <input type="radio"/> Below KPI | | |
| Area of concern | Improvement Measures | | | | |
| Curriculum | | | | | |
| Teaching-Learning | | | | | |
| Assessment | | | | | |

| Program's Information | | | | | |
|---|--|------------------------------|---|---------------------------|--|
| Program Name | | | | Code | |
| Semester | <input type="radio"/> Spring | <input type="radio"/> Summer | <input checked="" type="radio"/> Autumn | Year | |
| No of students enrolled | | No of students Passed | | Passing % | |
| KPI for Program Outcomes (POs) | For each of the 12 POs, 60% students achieved a collective score of 50% in a graduating cohort. | | | | |
| | 50 % - 100% (KPI Achieved) | | | Less than 50% (Below KPI) | |
| | 90% - 100% | Level 5 | | N/A | |
| | 80% - 89.99% | Level 4 | | | |
| | 70% - 79.99% | Level 3 | | | |
| | 60% - 69.99% | Level 2 | | | |
| 50% - 59.99% | Level 1 | | | | |
| PO1 | | | | | |
| Achievement in current (Autumn '21) semester (%) | | Status of Achievement | <input checked="" type="radio"/> KPI Achieved | Level | |
| | | | <input type="radio"/> Below KPI | | |
| Achievement in previous (Summer '21) semester (%) | | Status of Achievement | <input checked="" type="radio"/> KPI Achieved | Level | |
| | | | <input type="radio"/> Below KPI | | |
| Area of concern | Improvement Measures | | | | |
| Curriculum | | | | | |
| Teaching-Learning | | | | | |
| Assessment | | | | | |

The department has an industry advisory panel (IAP), whose responsibilities includes:

- ✓ providing independent advice on curriculum improvements,
- ✓ giving input on internship and final year design projects,
- ✓ identifying specific skills requirements,
- ✓ advising on priority areas of research and
- ✓ advising the faculty members about the emerging developments in the industrial sector.

1. Prepare Course vs PLOs mapping properly.
2. Prepare course outline of all courses properly.
3. Select 10 to 15 dominating courses with 40 to 50% lab & project courses.
4. Apply OBE-based teaching, learning and assessment at all levels (1st semester to 8th semester).
5. Apply final year project / thesis for 4th year's students.
6. **Maintain the course file at all levels.**
7. Construct the following committees:
 - a. Question Moderation Committee (QMC). This committee will check the CLOs, PLOs, domain of taxonomy etc.
 - b. Course Review Committee (CRC)
 - c. Industry Advisory Panel (IAP)
 - d. CSE Alumni Association (consisting 1 faculty advisor + a few members executive committee)
8. Prepare the Self Assessment Report (SAR) of BAETE. You may divide the responsibilities to 10 teachers for 10 criterions.

