

PEO and PO Feedback

Department of Electrical Engineering

Session 2020/2021

Programme Educational Objectives (PEOs)

PEO1- Professionalism

Graduates will establish themselves as practicing professionals in Electrical Engineering or related fields.

PEO2- Continuous Personal Development

Graduates will engage in lifelong pursuit of knowledge and interdisciplinary learning appropriate for industrial and academic careers.

PEO3- Societal Engagement

Graduates will contribute to sustainable development and the well-being of society.

Programme Outcomes (POs)

| | | |
|----|--|---|
| 1 | Engineering Knowledge | Apply knowledge of mathematics, science, engineering fundamentals and electrical engineering specialization to solve complex engineering problems. |
| 2 | Problem Analysis | Identify, formulate, research, analyze and reach substantiated conclusions along with recommendations for complex electrical engineering problems, using principles of mathematics, natural science and engineering science. |
| 3 | Design/Development of Solutions | Develop solutions for complex electrical engineering problems and systems, components or processes to meet specified needs with appropriate consideration for public health and safety, culture, society and the environment. |
| 4 | Investigation | Conduct investigation of complex electrical engineering problem using relevant research methodology including literature review, design of experiments, analysis and interpretation of results to derive scientifically sound conclusions. |
| 5 | Modern Tool Usage | Utilize systematic approach to select/create appropriate IT tools, with full understanding of their limitations, to model, simulate and solve complex electrical engineering problems. |
| 6 | The Engineer and Society | Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex electrical engineering problems. |
| 7 | Environment and Sustainability | Understand the impact of professional engineering solutions of complex electrical engineering problems towards society and the environment, and demonstrate knowledge of and the need for sustainable development. |
| 8 | Ethics | Apply norms of professional engineering practice ethically |
| 9 | Communication | Communicate effectively on complex electrical engineering activities with both engineers and the community at large through discussions, reports and presentations. |
| 10 | Individual and Team Work | Function effectively as an individual, and as a team member or leader in a multi-disciplinary environment. |
| 11 | Life Long Learning | Recognize the need to undertake life-long learning and possess the capacity to do so independently. |
| 12 | Project Management and Finance | Demonstrate knowledge and understanding of engineering and management/finance principles and apply these to one's own work as an individual, team member or leader in a multi-disciplinary environment. |

PO to course mapping (Faculty courses)

| Code | Course | Credit | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---------|-----------------------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| KIX1001 | Engineering Mathematics 1 | 3 | ✓ | ✓ | | | | | | | | | | |
| KIX1002 | Engineering Mathematics 2 | 3 | ✓ | ✓ | | | | | | | | | | |
| KIX1003 | Thinking and Communication Skills | 2 | | | | | | | | | ✓ | ✓ | ✓ | |
| KIX2001 | Integrated Design I | 2 | | | ✓ | | | | | | ✓ | ✓ | | |
| KIX2002 | Engineering Economics Analysis | 3 | | | | | | | | | | | | ✓ |
| KIX2003 | Law and Ethics in Engineering | 2 | | | | | | ✓ | ✓ | ✓ | | | | |
| KIX2004 | Engineering Project Management | 3 | ✓ | | | | ✓ | | | | | | | ✓ |
| KIX3001 | Integrated Design II | 4 | | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| KIX3002 | Engineering Entrepreneurship | 2 | | | | | | ✓ | ✓ | ✓ | | | | ✓ |
| KIX3003 | Sustainable Engineering | 2 | | | | | ✓ | ✓ | ✓ | | | | | |
| KIX3004 | Python Programming | 2 | | | ✓ | | ✓ | | | | | | ✓ | |

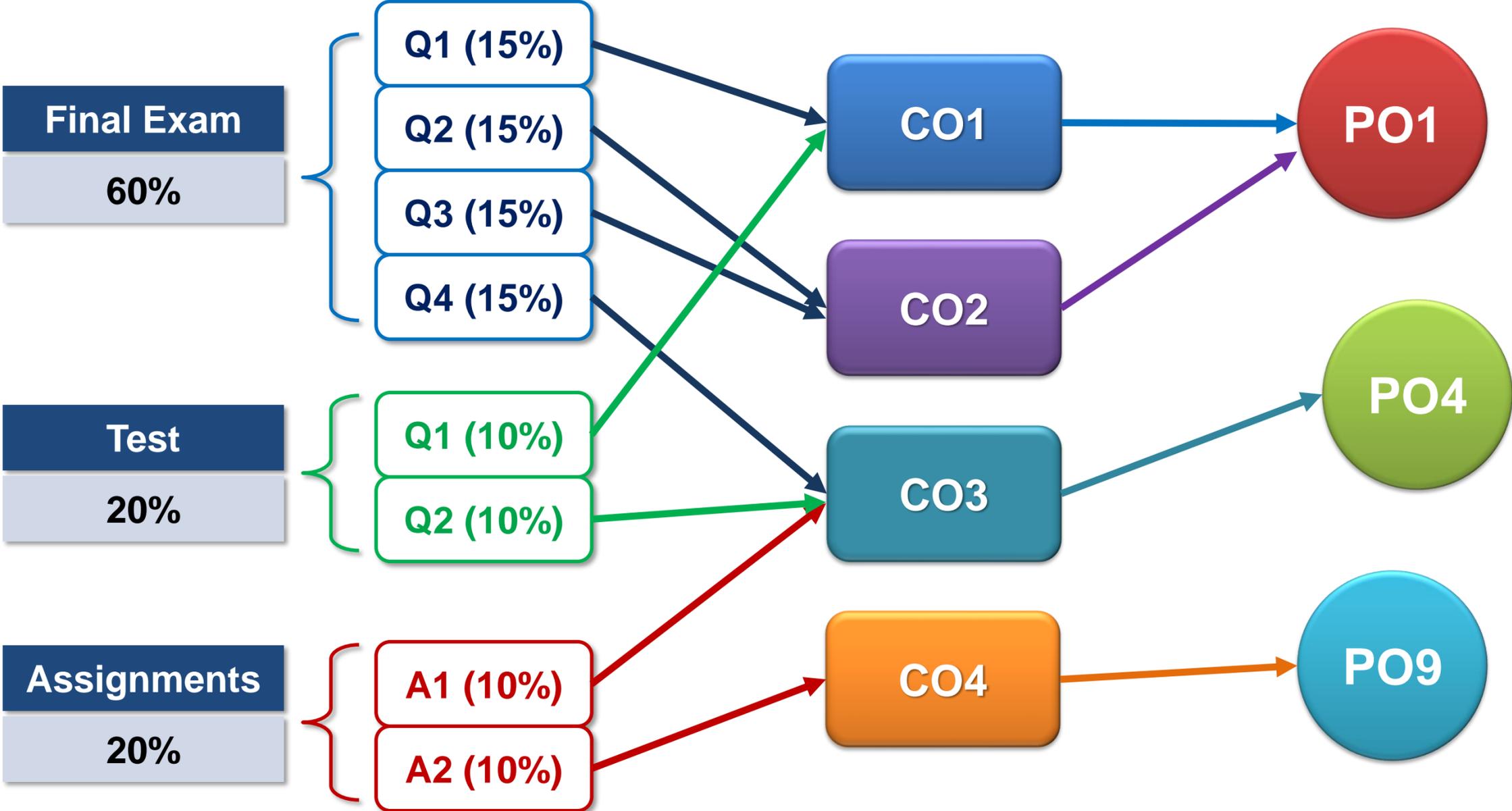
PO to course mapping (Department courses)

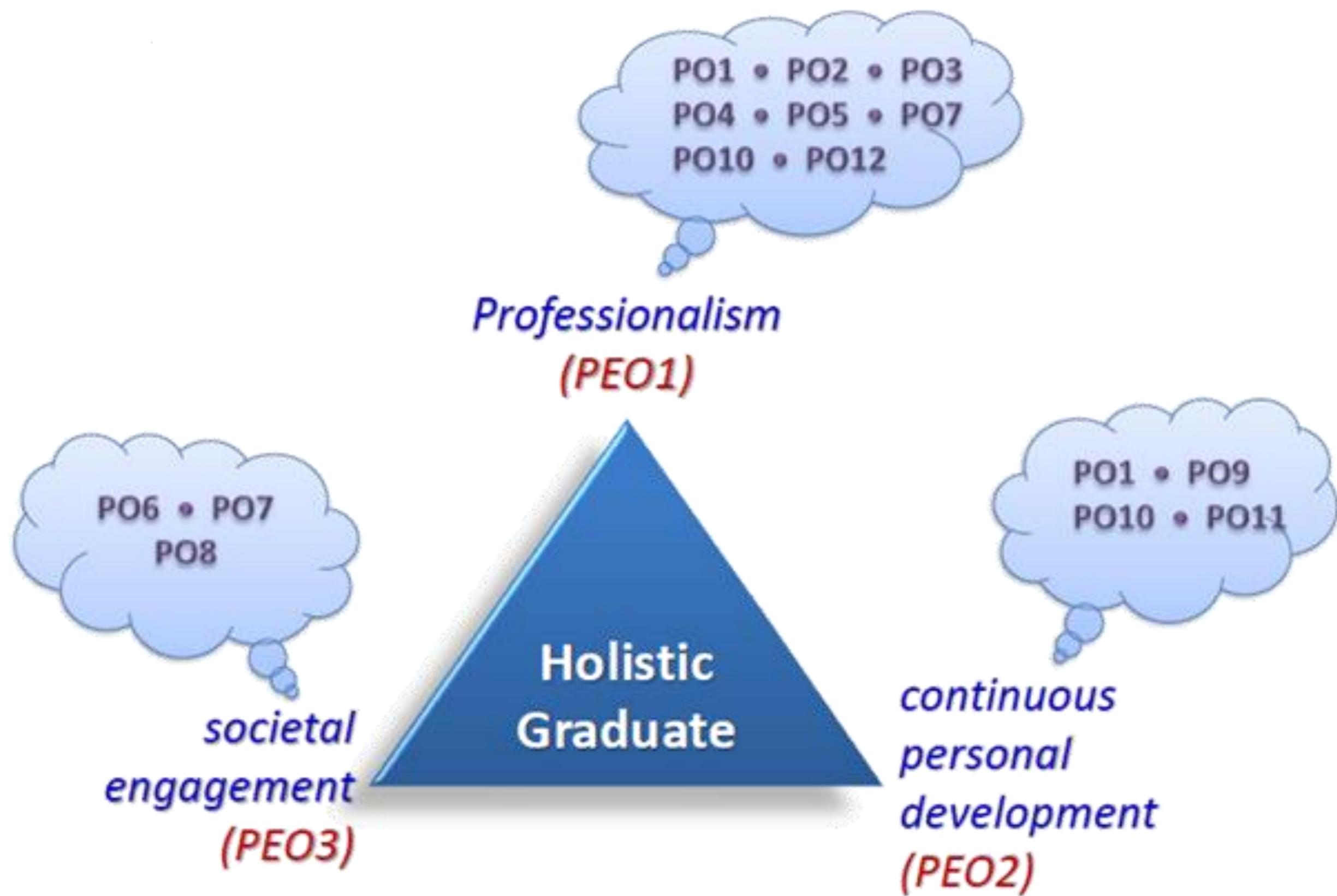
| Code | Course | Credit | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---------|---|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| KIE1001 | Laboratory 1 | 1 | | | | | | | | | ✓ | ✓ | | |
| KIE1002 | Laboratory 2 | 1 | | | | | | | | | ✓ | ✓ | | |
| KIE1003 | Digital System | 3 | ✓ | ✓ | | | | | | | ✓ | | | |
| KIE1004 | Programming I | 3 | | ✓ | ✓ | | ✓ | | | | | | | |
| KIE1005 | Circuit Analysis I | 3 | ✓ | ✓ | | | ✓ | | | | | | | |
| KIE1006 | Electronic Physics | 3 | ✓ | ✓ | | | | | | | ✓ | | | |
| KIE1007 | Electronic Circuit I | 3 | ✓ | | | | ✓ | | ✓ | | | | | |
| KIE1008 | Programming II | 3 | | ✓ | ✓ | | ✓ | | | | | | | |
| KIE2001 | Laboratory 3 | 1 | | | | | | | | | ✓ | ✓ | | |
| KIE2002 | Laboratory 4 | 1 | | | | | | | | | ✓ | ✓ | | |
| KIE2003 | Probability and Random Signal | 3 | ✓ | ✓ | | | | | ✓ | | | | | |
| KIE2004 | Electronic Circuit II | 3 | | ✓ | | | ✓ | | ✓ | | | | | |
| KIE2005 | Circuit Analysis II | 3 | ✓ | | ✓ | | | | | | | ✓ | | |
| KIE2006 | Signal and System | 3 | | | ✓ | ✓ | | | | | ✓ | | | |
| KIE2007 | Basic Electromagnetics | 3 | ✓ | | | | ✓ | | | | | ✓ | | |
| KIE2008 | Communication System | 3 | ✓ | ✓ | | | | | | | | | ✓ | |
| KIE2009 | Machines and Drives | 3 | ✓ | ✓ | | | | | | | ✓ | | | |
| KIE3001 | Laboratory 5 | 1 | | | | | | | | | ✓ | ✓ | | |
| KIE3002 | Laboratory 6 | 1 | | | | | | | | | ✓ | ✓ | | |
| KIE3003 | Industrial Training | 5 | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| KIE3004 | Applied Electromagnetics | 3 | ✓ | ✓ | | ✓ | | | | | | | | |
| KIE3005 | Numerical Analysis | 3 | | ✓ | | | ✓ | | | | | | ✓ | |
| KIE3006 | Control System | 3 | | ✓ | | ✓ | | | | | | ✓ | | |
| KIE3007 | Digital Signal Processing | 3 | | | ✓ | | ✓ | | | | | | ✓ | |
| KIE3008 | Power Electronics | 3 | | | ✓ | ✓ | | | ✓ | | | | | |
| KIE3009 | Energy Conversion and High Voltage Transmission | 3 | ✓ | | ✓ | | ✓ | | | | | | | |
| KIE3010 | Instrumentation | 3 | ✓ | | ✓ | | ✓ | | | | | | | |

PO to course mapping (Department courses)

| Code | Course | Credit | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---------|---|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| KIE4001 | Laboratory 7 | 1 | | | | | | | | | ✓ | ✓ | | |
| KIE4002 | Final Year Project | 6 | | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ |
| KIE4004 | Power System | 3 | | | ✓ | | ✓ | | ✓ | | | | | |
| KIE4005 | Power Quality | 3 | | | ✓ | | ✓ | | ✓ | | | | | |
| KIE4010 | Electrical Energy Conversion Technologies | 2 | | | ✓ | ✓ | ✓ | | | | | | | |
| KIE4011 | Renewable Energy Technologies | 2 | | | ✓ | ✓ | | | ✓ | | | | | |
| KIE4012 | Nanotechnology for Sustainable Energy | 2 | | | | ✓ | ✓ | | ✓ | | | | | |
| KIE4013 | High Voltage Engineering | 2 | | | ✓ | | ✓ | | ✓ | | | | | |
| KIE4014 | Wireless Communications | 2 | ✓ | ✓ | | ✓ | | | | | | | | |
| KIE4015 | Optical Communications | 2 | | | ✓ | ✓ | | | ✓ | | | | | |
| KIE4016 | Antenna and Propagation | 2 | | ✓ | ✓ | | | | ✓ | | | | | |
| KIE4017 | Optical Waveguides | 2 | | | ✓ | ✓ | ✓ | | | | | | | |
| KIE4018 | VLSI Design | 2 | | | ✓ | ✓ | | | ✓ | | | | | |
| KIE4019 | Analog VLSI Circuit Design | 2 | | | ✓ | ✓ | ✓ | | | | | | | |
| KIE4020 | Microwave Electronics and Systems | 2 | | | ✓ | ✓ | | | ✓ | | | | | |
| KIE4021 | Analog Electronics Design | 2 | | | ✓ | ✓ | | | ✓ | | | | | |
| KIE4022 | Embedded Systems | 2 | | | ✓ | ✓ | ✓ | | | | | | | |
| KIE4023 | Digital Control System | 2 | ✓ | ✓ | | | ✓ | | | | | | | |
| KIE4024 | Optimization | 2 | | | ✓ | | ✓ | | ✓ | | | | | |
| KIE4025 | Pattern Recognition | 2 | | | ✓ | ✓ | ✓ | | | | | | | |
| KIE4026 | Data Communication Networks | 2 | | | ✓ | ✓ | ✓ | | | | | | | |
| KIE4027 | Power Utilization | 2 | | ✓ | ✓ | | | | ✓ | | | | | |

PO attainment calculation





How to access your OBE report card?

1. Go to the link: <https://bit.ly/2YttAlv>
2. To login, use the office 365 email account: siswamail-username@siswa365.um.edu.my. The password is the same as your siswamail.
Note: If you are unable to sign in to your office 365 account, you can request helpdesk to fix the problem.
3. Once you have signed in, you need to give permission to the web app to access the SharePoint files (one time only).
4. If your browser settings block 3rd party cookies, you may need to reconfirm sign in multiple times.

Example 1

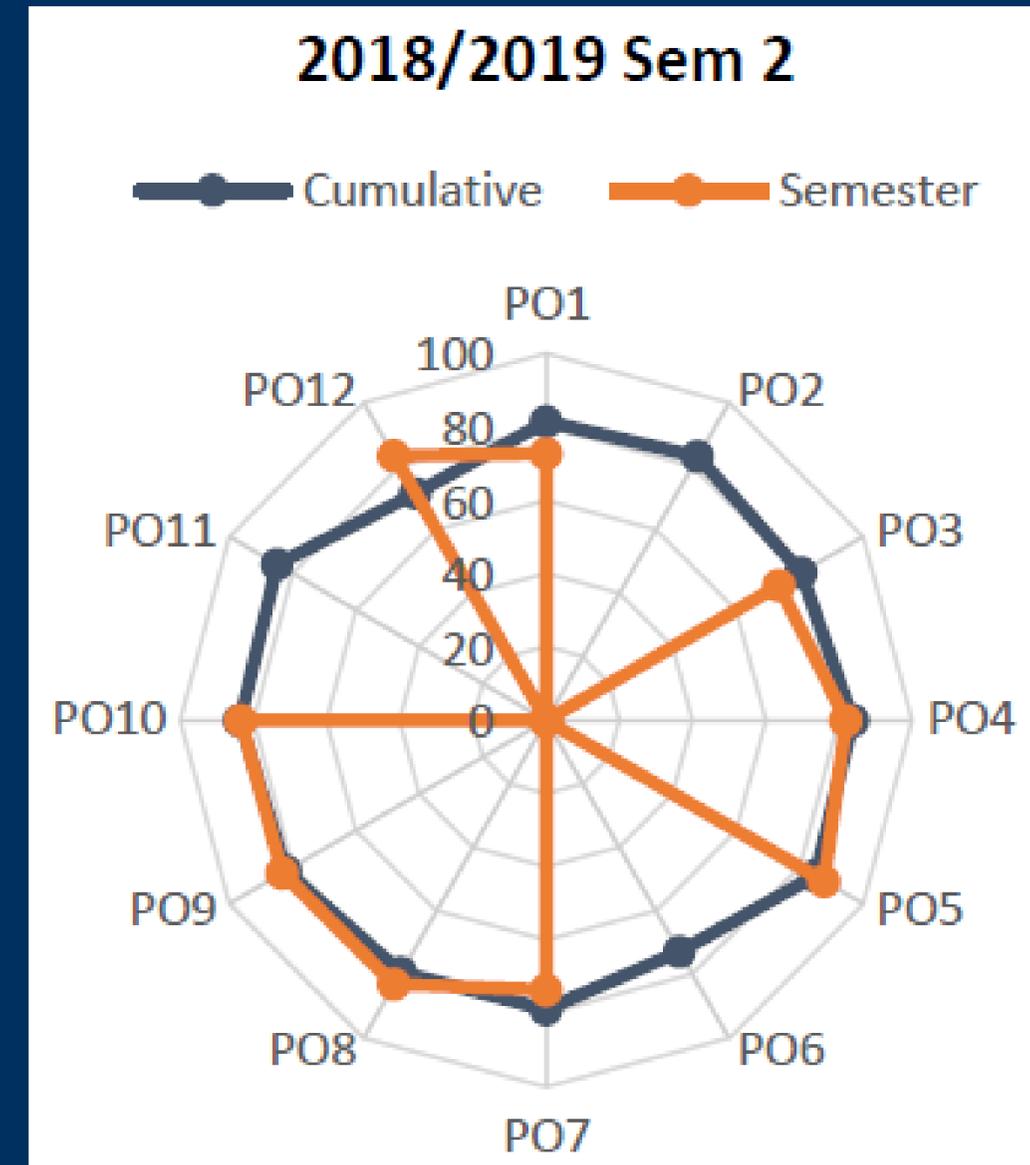
Final-Year Student 1

- Performed very good in most of the POs except PO6 (The Engineer and Society) and PO12 (Project Management and Finance).
- Can work a bit harder to get an A for PO7 (Environment and Sustainability) and improve the grade for PO12.
- Not possible to improve for PO6 and PO8 (Ethics).

Potential subjects to focus on:

KIE4002 Final Year Project (PO7 & PO12), KIE4004 Power

System , KIE4005 Power Quality



| PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| 81 | 83 | 80 | 84 | 85 | 73 | 79 | 79 | 82 | 84 | 85 | 71 |

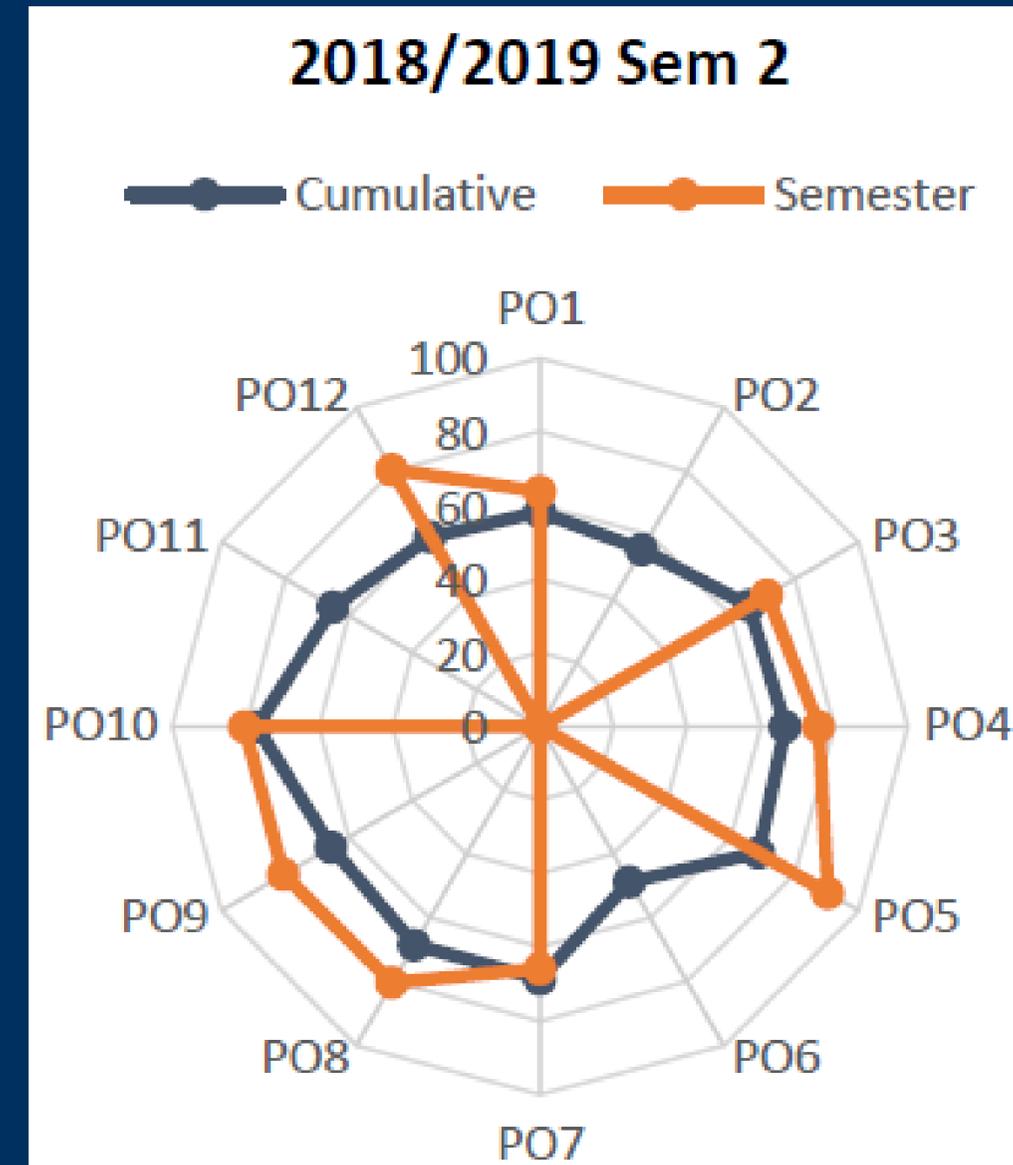
Example 2

Final-Year Student 2

- Performed average in most of the POs and failed PO6 (The Engineer and Society).
- Can work harder to improve the grade for PO1 (Engineering Knowledge), PO5 (Modern Tool Usage), PO7 (Environment and Sustainability) and PO12 (Project Management and Finance).
- Not possible to improve for PO6 and PO8 (Ethics).

Potential subjects to focus on:

KIE4014 Wireless Communications / KIE4023 Digital Control System (PO1 & PO2), KIE4002 Final Year Project (PO7 & PO12)



| PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| 58 | 55 | 66 | 67 | 69 | 49 | 69 | 68 | 66 | 77 | 65 | 59 |

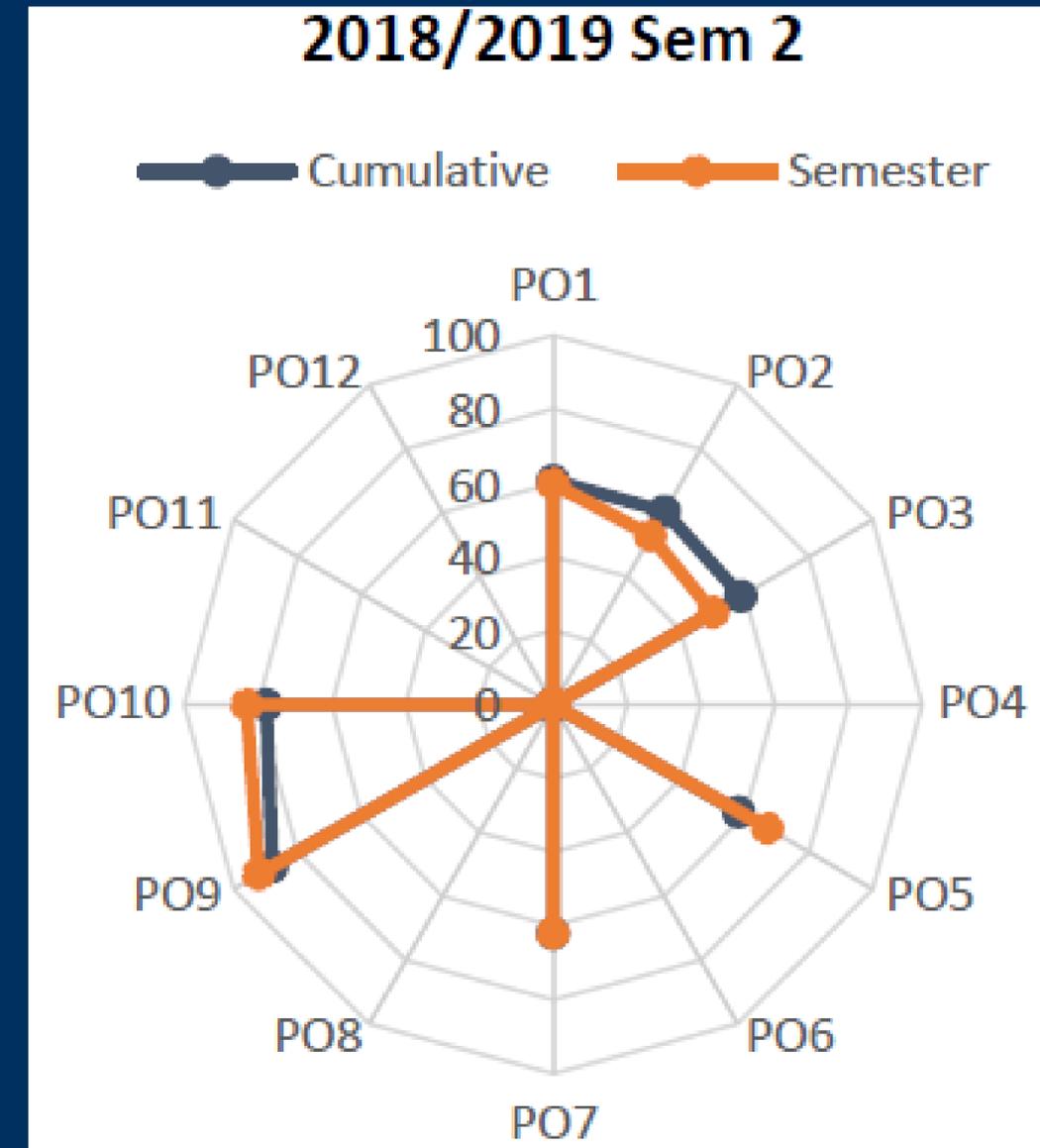
Example 3

Second-Year Student 1

- Not all POs have marks because many subjects have not been taken.
- There is a decrease in attainment of PO2 (Problem Analysis) & PO3 (Design/Development of Solutions) and improvement in PO5 (Modern Tool Usage) & PO10 (Individual and Team Work).

Potential subjects to focus on:

Many



| PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| 61 | 60 | 59 | 0 | 58 | 0 | 62 | 0 | 88 | 78 | 0 | 0 |

Thank you!