



# DEPARTMENT OF ELECTRONIC ENGINEERING

UNIVERSITY OF ENGINEERING AND TECHNOLOGY TAXILA

## Annual Progress Report (2017-18)

Areas	Progress/Improvement																																																																																											
1. PEC Accreditation	<ul style="list-style-type: none"> <li>PEC Re-accreditation visit was held on 24-25 May, 2018</li> <li>PEC accredited 2K14 batch without OBE-based System</li> <li>PEC accredited 2K15 &amp; 2K16 batch with OBE-based System for Level-II</li> </ul>																																																																																											
2. Undergraduate Students Strength	<table border="1"> <thead> <tr> <th>Sr. No</th> <th>Intake Batch</th> <th>Total Applicants</th> <th>Total Admission Offered</th> <th>Total Students Admitted</th> <th>Present Strength</th> <th>No. of Sections</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2K15</td> <td>4221</td> <td>45</td> <td>45</td> <td>38</td> <td>1</td> </tr> <tr> <td>2</td> <td>2K16</td> <td>4371</td> <td>49</td> <td>46</td> <td>41</td> <td>1</td> </tr> <tr> <td>3</td> <td>2K17</td> <td>1791</td> <td>47</td> <td>46</td> <td>44</td> <td>1</td> </tr> <tr> <td>4</td> <td>2K18</td> <td>4291</td> <td>38</td> <td>38</td> <td>38</td> <td>1</td> </tr> <tr> <td colspan="3">Total</td> <td>175</td> <td>175</td> <td>161</td> <td>4</td> </tr> </tbody> </table>	Sr. No	Intake Batch	Total Applicants	Total Admission Offered	Total Students Admitted	Present Strength	No. of Sections	1	2K15	4221	45	45	38	1	2	2K16	4371	49	46	41	1	3	2K17	1791	47	46	44	1	4	2K18	4291	38	38	38	1	Total			175	175	161	4																																																	
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4. Faculty/Staff	<ul style="list-style-type: none"> <li>• Currently there are 5 PhD &amp; 5 MSc. Faculty members:</li> <li>• 1-Associate Professor, 4-Assistant Professors, 5-Lecturers (2 Lecturers went for PhD. Study Leave abroad), 4-Lab. Engineers and 3-Lab supervisors, 2 Junior Programmer</li> <li>• Advertisement and Selection Board for induction of more PhDs and Lab Engineers is in process in consultation with the Dean/Registrar.</li> </ul>
5. Student-Teachers Ratio	<ul style="list-style-type: none"> <li>• <math>161/8=20.125</math></li> </ul>
6. Outcome-Based Education System (OBE)	<ul style="list-style-type: none"> <li>• Dept. of Electronic Engineering is one of the pioneers in UET, Taxila to adopt the OBE-based system. PEC accredited 2K15 &amp; 2K16 batches with OBE-based System for Level-II.</li> <li>• Two Mock Visits conducted from OBE external experts</li> <li>• OBE-based system is fully functional in the department.</li> <li>• Dedicated OBE Cell is functioning to maintain the record of each semester.</li> </ul>
7. Undergraduate Labs	<ul style="list-style-type: none"> <li>• Recently, following 9 state-of-art labs have been established and upgraded:             <ul style="list-style-type: none"> <li>○ Computer Lab-1</li> <li>○ Computer Lab-2</li> <li>○ Basic Electronics Lab</li> <li>○ Digital Electronics Lab</li> <li>○ VLSI Design Lab</li> <li>○ Microprocessor &amp; Microcontroller Lab</li> <li>○ Instrumentation &amp; Control Lab</li> <li>○ DSP &amp; Communication Lab</li> <li>○ Project Lab</li> </ul> </li> </ul>
8. Postgraduate Lab	<ul style="list-style-type: none"> <li>○ The PC-1 for the postgraduate lab is in process.</li> </ul>
9. Need for fully functional Placement Bureau	<ul style="list-style-type: none"> <li>• It does exist and a faculty member looks after the Bureau. Moreover, request for recruitment of full-time Staff has been forwarded to Registrar.</li> </ul>
10. Workshop/Seminar/Conference	<ul style="list-style-type: none"> <li>• Engr. Atif Imtiaz participated in international conference in Indonesia.</li> <li>• Engr. Zohaib Hasan Naqvi participated in international conference in Jordan.</li> <li>• Dr. Usman Masud participated in international conference in USA.</li> <li>• Dr. Usman Masud participated for two international Conferences in Pakistan.</li> </ul>
11. Publications	<ul style="list-style-type: none"> <li>• 13 journal papers published in 2017-18. Details are given in (Annex-I).</li> </ul>
12. Departmental Library	<ul style="list-style-type: none"> <li>• Departmental Library has been established with 120 books.</li> </ul>



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13. Classrooms	<ul style="list-style-type: none"> <li>• Currently there are 6 class rooms and 1 lecture theatre</li> <li>• All classrooms have been upgraded with two white boards, multimedia and other facilities.</li> <li>• Request for the up gradation of Lecture Theatre is submitted for the approval.</li> </ul>
14. Furniture	<ul style="list-style-type: none"> <li>• New furniture for different labs has been purchased with the amount of Rs.0.6 million.</li> </ul>
15. Course Files	<ul style="list-style-type: none"> <li>• The course files of each semester are properly checked and managed by the OBA cell of ENCD.</li> <li>• The format of the course file is upgraded with the inclusion of Theory and Lab Instructor feedback forms.</li> </ul>
16. Revision of Curriculum	<ul style="list-style-type: none"> <li>• Pre-requisite System-based Undergraduate curriculum is implemented for 2K18 session according to guidelines given by the PEC.</li> <li>• Proposal for MSc and PhD revised Curriculum is submitted for review in the Board of Faculty and Academic Council.</li> </ul>
17. Computers	<ul style="list-style-type: none"> <li>• There are total 137 computers in the department. Among them 121 computers for students use and 16 for faculty and staff members.</li> <li>• Existing computers are upgraded, while core i7 computers have been purchased for the up gradation of different labs.</li> <li>• Wifi Facility is available in entire department.</li> </ul>
18. BSc. Students Common Room	<ul style="list-style-type: none"> <li>• For boys and girls, two separate common rooms are provided for their extra-curricular activities.</li> <li>• Request for indoor Table-Tennis and other indoor activities are submitted for approval.</li> </ul>
19. Full-Time Students MSc.	<ul style="list-style-type: none"> <li>• 24-hours access in two rooms for Male and Female MSc. Students are dedicated for their research.</li> <li>• Computers are provided to all full-time MSc. Students for their research.</li> </ul>
20. Final Year Project	<ul style="list-style-type: none"> <li>• List of Final Year Projects (FYPs) of 2K14 and 2K15 is given in (Annex-II).</li> <li>• Max. two students are involved in FYP.</li> <li>• Two groups win the ICT Scholarships.</li> </ul>
21. Plantation.	<ul style="list-style-type: none"> <li>• Department is decorated with more than 40 plants.</li> </ul>
22. Events Organized by IEEE Consumer Electronic Society (CES)	<ul style="list-style-type: none"> <li>• Following Events/Workshops/Talks are organized by the IEEE-CES of ENCD. <ul style="list-style-type: none"> <li>○ Development of soft skills</li> <li>○ Engineering Knowledge for Children</li> <li>○ Commercialization of Projects</li> <li>○ Research Methodology</li> <li>○ CES Fiesta</li> </ul> </li> </ul>



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23. Student Societies	<ul style="list-style-type: none"><li>• The proposal for the construction of following two societies are requested to DSA<ul style="list-style-type: none"><li>○ Electronic Dept. Literary Society</li><li>○ Electronic Dept. Sports Society</li></ul></li></ul>
24. Student Industrial Trips	<ul style="list-style-type: none"><li>• Microtech. Ltd., Lahore (2K14, 2K15 Sessions)</li><li>• Packages, Lahore (2K14 Session)</li><li>• National Institute of Electronics, Islamabad (2K16, 2K17 Sessions)</li></ul>
25. Departmental Website	<ul style="list-style-type: none"><li>• Departmental website is upgraded and related data/forms are uploaded.</li></ul>

Dr. Yaseer Arafat Durrani  
*Chairman ENCD*



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## (Annex-I)

### List of Publications 2017-18

#### Journals:

1. Yaseer A. Durrani "Power Analysis Approach for NoC-based Homogeneous Stacked 3D ICs" World Scientific Journal of Circuits, Systems and Computers, Vol. 27, no. 2, pp. 1-16, 2018, Print ISSN: 0218-1266, Online ISSN: 1793-6454, <https://doi.org/10.1142/S0218126618500342> (IF: 0.47)
2. K. Mahmood, A. Rafique, Yaseer A. Durrani "Effect of Isothermal Treatment on Ni3Al Coatings Deposited by Air Plasma Spraying System, Journal Archives of Metallurgy and Materials, Vol. 63, no. 1, ISSN: 1733-3490, 2018 (IF: 0.571)
3. Yaseer A. Durrani "Power Macro-Modeling Technique for NoC-based Homogeneous Layered 3D ICs" Wiley International Journal of Numerical Modeling, Electronic Networks, Devices & Fields, Vol. 30, no. 6, DOI:10.1002/jnm.2309, 2017, ISSN: 1099-1204, (IF: 0.515)
4. Yaseer A. Durrani, T. Riesgo "Power modeling for High Performance network-on-chip architectures" Elsevier Journal of Microprocessors & Microsystems, Vol. 50, pp. 80-89, 2017, ISSN:0141-9331, DOI:10.1016/j.micpro.2017.03.003, (IF: 0.571)
5. Yaseer A. Durrani "Power Optimization using Low-Transition Rate based LFSR Pattern Generator", Technical Journal, UET, Taxila, Vol. 22, No. 2, pp. 60-65, ISSN: 1813-1786, June, 2017.
6. Yaseer A. Durrani "Fundamentals of Low-Noise in Analog Circuits", Technical Journal, UET, Taxila, Vol. 22, No. 1, pp. 46-51, ISSN: 1813-1786, Jan, 2017.
7. M. Awais, A. Ahmed, S. A. Ali, M. Naeem, W. Ejaz and A. Anpalagan, "Resource Management in Multicloud IoT Radio Access Network," in *IEEE Internet of Things Journal*, October 2018.
8. Qaisar Bashir, Muhammad Naeem Shehzad, Aamir Rashid et al, "An online temperature-aware scheduling technique to avoid thermal emergencies in multiprocessor systems", Elsevier journal of Computers & Electrical Engineering, Volume 70, August 2018, Pages 83-98. (IF=1.747)
9. Haider, K.S., Ghafoor, A., Imran, M. and Malik, F.M., "Model reduction of large scale descriptor systems using time limited gramians", Asian Journal of Control, 19(3), pp.1217-1227, 2017.
10. Haider, S., Ghafoor, A., Imran, M. and Malik, F.M., "Frequency Interval Gramians Based Structure Preserving Model Order Reduction for Second Order Systems", Asian Journal of Control, 20(2), pp.790-801, 2018.
11. Haider, K.S., Ghafoor, A., Imran, M. and Malik, F.M., "Frequency limited Gramians-based structure preserving model order reduction for discrete time second-order systems", International Journal of Control, pp.1-12, 2018.
12. Haider, K.S., Ghafoor, A., Imran, M. and Malik, F.M., "Time-limited Gramians-based model order reduction for second-order form systems", Transactions of the Institute of Measurement and Control, p.0142331218798893, 2018.
13. M. Saqlain, M. Riaz, and K. S. Haider, "Controller design for performance analysis and optimization of twin rotor system", International Science Journal, vol. 29, no 2, pp. 349-355, 2017.



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## Conferences:

1. S. Haider, A. Ghafoor, M. Imran, F. M. Malik, "Techniques for computation of frequency limited H-Infinity norm", 4th International Conference on Mechanical, Electronics and Computer Engineering, China, pp. 1-5, 2017.
2. Usman Masud et al., "Design of Logistic Air Vehicle (LAV) to avoid Real-time Obstacles in Logistics and Biomedics", 3<sup>rd</sup> International Conference on Emerging Trends in Engineering, Management and Sciences, Peshawar, October 2018.
3. Usman Masud et al., "A P300 brain computer interface based intelligent home control system using a random forest classifier", IEEE Symposium Series on Computational Intelligence, Honolulu, Hawaii, pp. 1-5, 2017.
4. Naqvi, S. Z. H., "Design and simulation of enhanced 64-bit Vedic multiplier", In Applied Electrical Engineering and Computing Technologies (AEECT), IEEE Jordan Conference on (pp. 1-4), October 2017.
5. M. A. Imtiaz, Mahum Naveed, Nimra Bibi, Sumair Aziz and Zohaib Hassan "Control System Design, Analysis & Implementation of Two Wheeled Self Balancing Robot (TWSBR)", 9th IEEE Annual Information Technology, Electronics & Mobile Communication Conference, IEEE IEMCON 2018, Vancouver, Canada, 1-3 Nov, 2018. (Accepted)
6. Sumair Aziz, Zeeshan Kareem, Muhammad Umar Khan and M. A. Imtiaz, "Embedded System Design for Visual Scene Classification", 9th IEEE Annual Information Technology, Electronics & Mobile Communication Conference, IEEE IEMCON 2018, Vancouver, Canada, 1-3 Nov, 2018. (Accepted)