



Higher Education Commission
National Computing Education Accreditation Council
(NCEAC)



This form is to be used to record program data and information during the fact finding and evaluation process. Use the following quality ratings throughout the form:

- E Exceptional** (Strong, effective practice or condition)
- S Satisfactory** (Fully meets the criterion)
- O Observation** (Suggestion offered to improve a program)
- C Concern** (Criterion satisfied; however, the potential exists for the situation to change)
- W Weakness** (Lacks strength and remedial action is required.)
- D Deficient** (Fails to meet the criterion, and corrective action is required.)
- X Not Applicable**

Enter explanatory comments and ratings for each of the performance.

Acknowledgment: This form is designed as per guidelines of ABET and Seoul Accord.



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Undergraduate Degree Program Review Worksheet

Institution:
Program:
Evaluated By:

Summarize findings using the ratings E, S, O, C, W, D, or X. Multiple ratings can be entered for an item

Evaluation Summary		
Criterion	Quality Rating	Comments
1. Admission		
2. Students		
3. Program Educational Objectives		
4. Student Outcomes		
5. Curriculum		
6. Learning Process		
7. Faculty		
8. Infrastructure and Facilities		
9. Industrial Linkage		
10. Institutional Support		



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Corrective Action on Previous NCEAC Findings

List the unresolved findings from the most recent NCEAC Final Statement for this program and briefly describe the corrective action given in the self-study or found during the site visit. Describe findings not yet resolved.

Unresolved findings from previous accreditation actions and brief statement of corrective actions reported in the self-study or found during the site visit.	Details of findings not yet resolved

Criterion 1 - Admission

Performance: *Evaluate the extent to which the program attains the following elements of Criterion 1*

Objective	Quality Rating	Comment
a. Policies for admission to the program meet NCEAC requirements and are enforced. <i>Guideline: Minimum 50% Marks in intermediate or equivalent with Mathematics</i>		
b. Annual intake in-line with the maximum intake allowed by NCEAC for the program <i>Guideline: Note number of admissions in a year (Fall and Spring)</i>		
c. Number of sections in each admission batch is sufficient to maintain manageable class sizes. <i>Guideline: The maximum allowable class size is 50 students per section depending upon the capacity of class room, available infrastructure, teaching-learning aids, and faculty availability in order to maintain student teacher ratio of 29:1 (200/7)</i>	Done	

Criterion 2 - Students

Performance: *Evaluate the extent to which the program attains the following elements of Criterion 2.*

Objective	Quality Rating	Comment
a. There exists a mechanism for assessing student learning at course level and program level? <i>Guideline: Note the assessment criteria</i>		
b. Prerequisites are enforced and any waivers are documented.		
c. Policies exist and enforced for accepting transfer of students and transfer of credit hours.		

d. Process in place for student advisement regarding curriculum and career matters.		
e. Policies exist, documented, and enforced for awarding credit in lieu of courses <i>Guideline: note that not granting such credit is an acceptable policy.</i>		
f. Policies exist and enforced for ensuring and documenting that each graduate meets all program graduation requirements in line with HEC and NCEAC criteria.		

Criterion 3 –Program Educational Objectives (PEOs)

Performance: *Evaluate the extent to which the program attains the following elements of Criterion 3.*

Objective	Quality Rating	Comment
a. There are published program educational objectives (PEOs) consistent with the vision and mission of the institution.		
b. There exists a mechanism that involves stakeholders in formulation and review of PEOs		
c. There is a process in place to evaluate the attainment of PEOs through set KPIs.		
d. There is a process in place for continual improvement of the program through attainment results.		

Criterion 4 - Student Outcomes (SOs)

Performance: *Evaluate the extent to which the baccalaureate program student outcomes encompass the following elements of Criterion 4: (Required for OBE Accreditation Only)*

Student Outcomes	Quality Rating	Comment
a. Student outcomes are clearly defined, published, and adequate in breadth and depth to encompass all the learned capabilities		

Student Outcomes	Quality Rating	Comment
<p><i>Guideline: Note the SO as mentioned in Seoul accord.</i></p>		
<p>b. The student outcomes prepare graduates to attain the PEOs that were adopted by the program.</p>		
<p>c. There is a documented and effective process for the periodic review and revision of student outcomes.</p>		
<p>d. There is a documented process for the assessment and evaluation of student outcome attainment? Comment on each of the following SO. <i>Guideline: Note the criteria and mechanism (direct or indirect) how SO are evaluated.</i></p>		
<p>1. Academic Education: <i>Guideline: Completion of an accredited program of study designed to prepare graduates as computing professionals.</i></p>		
<p>2. Knowledge for Solving Computing Problems <i>Guideline: Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.</i></p>		
<p>3. Problem Analysis <i>Guideline: Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles</i></p>		

Student Outcomes	Quality Rating	Comment
<i>of mathematics, computing sciences, and relevant domain disciplines.</i>		
<p>4. Design/ Development of Solutions Guideline: <i>Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations</i></p>		
<p>5. Modern Tool Usage Guideline: <i>Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations</i></p>		
<p>6. Individual and Teamwork Guideline: <i>Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings.</i></p>		
<p>7. Communication Guideline: <i>Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions</i></p>		
<p>8. Computing Professionalism and Society Guideline: <i>Understand and assess societal, health, safety, legal, and cultural</i></p>		

Student Outcomes	Quality Rating	Comment
<i>issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice</i>		
9. Ethics <i>Guideline: Understand and commit to professional ethics, responsibilities, and norms of professional computing practice</i>		
10. Life—long Learning <i>Guideline: Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional</i>		
11. Additional Student Outcomes (if defined for the system) Guideline: Program may choose to have additional student outcomes. Rationale and attainment process of such outcomes. Please use additional sheet if required		
e. Course outcomes are properly mapped to the student outcomes		
1. Mapping involves emphasis of each course outcome in student outcomes assessment <i>Guideline: each course outcome can have low, medium or high emphasis on the student outcomes. Learning levels (from Bloom's taxonomy) and course's contribution to the computing program can suggest emphasis levels</i>		
2. Mapping involves a fair share of Knowledge, Skills and Attributes (KSA) based student outcomes		

Student Outcomes	Quality Rating	Comment
3. Mapping adequately covers all student outcomes, and all assessment methodologies used for the program <i>Guideline: each student outcome should be covered by multiple course outcomes (through multiple courses), that are assessed through different assessment methodologies</i>		
4. There is a documented and effective process for review and revision of course outcomes and their mappings.		
5. There is a documented process for assessment and evaluation of course outcomes		
f. Evaluation results are systematically used as input for the continuous improvement of the program. The process is documented and institutionalized. <i>Guideline: This involves closing all three loops for program improvement, i.e. program outcomes, student outcomes and course outcomes.</i>		
g. Evidence is provided regarding decisions made and actions taken to improve the program.		

Criterion 5 - Curriculum

Performance: *Evaluate the extent to which the program demonstrates the following characteristics required by the Criterion.*

GENERAL	Quality Rating	Comment
a. Curriculum covers required breadth, depth and distribution of the program courses		

according to HEC and NCEAC guidelines.		
b. Course outcomes defined for all courses with appropriate Learning-Levels (e.g. the ones defined in Bloom's Taxonomy.)		
c. There is formal involvement of industry in curriculum development / revision		
d. Theory Contact Hours per credit hour per week are appropriate <i>Guideline: 1 contact hour per credit hour per week</i>		
e. Lab Contact Hour per credit hour per week are appropriate <i>Guideline: 3 contact hours per credit hour per week</i>		
f. Total number of weeks of teaching per semester/term are sufficient <i>Guideline: No of teaching weeks per semester should not be less than 15</i>		

Criterion 6 – Learning Process

Performance: *Evaluate the assessment, evaluation, and improvement processes for the program with regard to the following Criterion 7 requirements.*

Element	Quality Rating	Comment
a. Evidence of exposure to problem based learning and computing solution development		
1. Sufficient exposure to complex computing problems by semester level projects		
2. Sufficient exposure to problem based learning by open-ended labs		

Element	Quality Rating	Comment
3. Sufficient exposure to computing based solution development by FYP and semester projects in programming courses		
b. Employment of other aspects of student learning such as tutorial system and seminar / workshops, etc. to enhance student learning, in addition to regular classroom interaction and lab experimentation		
c. Lab work supporting the attainment of the required skills and its assessment mechanism		
d. Exposure to cooperative learning through supervised internship program with formal feedback from the employer		

Criterion 7 - Faculty

Performance: *Evaluate the extent to which the faculty demonstrate the following characteristics required by the Criterion.*

Characteristic	Quality Rating	Comment
a. Program headed by a PhD (in relevant discipline) or senior faculty.		
b. Collectively, the faculty has breadth and depth adequate to cover all program curricular areas. <i>Guideline: Qualified to teach computing courses for four sections (1st, 2nd, 3rd and 4th year) of each admitted batch should be available</i>		
c. Size of the faculty (core full-time faculty members in the program under evaluation) sufficient to maintain continuity, stability, oversight, and to provide student interaction and advising? <i>Guideline: Minimum of Seven full time faculty members (1 Phd+6 MS (18 Yrs.))</i>	Done	
d. Faculty Teaching workload is justifiable <i>Guideline:</i> i. <i>Full-time faculty must teach at least 2 courses (6 contact hours per week) in a semester, or at least 3 courses in an academic year to students of the program under evaluation</i> ii. <i>Faculty members (teaching more than 3 courses in a semester or six courses in a year) shall be taken as a serious matter by NCEAC, and it may affect the number of batches for which accreditation is given by NCEAC.</i> iii. <i>Faculty course load is determined by counting all the courses taught in BS, MS</i>	Done	

<p><i>and PhD programs, taught in computing or other departments. The count also includes courses taught in evening or weekend programs.</i></p>		
<p>e. Core Faculty Members have PhD/MS qualification <i>Guideline:</i> i. <i>All FMs should preferably hold PhD degree in relevant area, but at least one FM must hold PhD in computing</i> ii. <i>FM without MS degree (earned after 18 years education) in relevant discipline should not be teaching any course</i></p>	<p>Done</p>	
<p>f. Visiting Faculty <i>Guideline:</i> i. <i>Teachers, who are not employed by the university on full-time basis but are invited to teach courses in the program under accreditation, are classified as visiting faculty members.</i> ii. <i>A computing practitioner with 16-year computing degree and minimum 3-year industry experience may be hired a visiting faculty.</i> iii. <i>Any member of visiting faculty shall not be counted as full-time or equivalent to full-time.</i></p>	<p>Done</p>	
<p>g. Formal mechanism for faculty training and mentoring on pedagogical skills including OBE concepts and implementation methodologies exist.</p>		
<p>h. Effectiveness of faculty development program to ensure their professional growth and retention.</p>		

i. Young faculty that want to pursue higher		
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studies is facilitated.		
j. Involvement of faculty in research, publications and sponsored projects from industry/donor agencies, etc.		
k. Course folders are maintained as per NCEAC guidelines. <i>Guideline: Course folders are acceptable in hard form or in soft form (CMS/LMS)</i>	Done	
l. Size of faculty offices is appropriate. <i>Guideline: Ensure the faculty offices as per prescribed criteria</i> i. <i>Minimum 75 Square feet of area per faculty member.</i> ii. <i>Not more than two faculty members in a room.</i>		

Criterion 8 – Infrastructure and Facilities

Performance: *Evaluate the following characteristics related to the engineering technology facilities that are required by this Criterion.*

Characteristic	Quality Rating	Comment
<p>a. Is Classrooms and laboratories sufficient and appropriate <i>Guideline:</i> <i>i. Minimum 3 classrooms for four sections, having not more than 50 students each</i> <i>ii. Adequacy of teaching and learning facilities, e.g. classroom environment and availability of various teaching aids, etc.</i></p>		
<p>b. Is computing resources, equipment and software/tool (for laboratories) up to date: <i>Guideline: Ensure the following</i> <i>i. Appropriate to the program and to support program needs</i> <i>ii. Available, and systematically maintained and upgraded</i> <i>iii. Appropriate guidance for student usage is available</i> <i>iv. The students to PC ratio should not exceed 5:1</i> <i>v. Lab Manuals</i> <i>vi. Equipment catalogs</i></p>		
<p>c. Is Digital Logic Design lab available for Computer Science program only.</p>		
<p>d. Is an exclusive lab for FYP to house a minimum of 10 stations per final year section exist</p>		

<p>e. Are there appropriate information resources to support the scholarly activities of students and faculty, e.g. Library Internet access Professional technical publications</p> <p><i>Guidelines:</i></p> <p>i. <i>Library should have minimum of 200 computing unique titles</i></p> <p>ii. <i>Library should have minimum of 2 Computing related books per student.</i></p> <p>iii. <i>Library should have online access to digital computing related books</i></p> <p>iv. <i>Library should have online access to at least 5 IEEE, ACM etc., journals/proceedings for students & FMs</i></p>		
<p>f. Adequacy of support facilities such as:</p> <ul style="list-style-type: none"> • Open Areas for Students • Outdoor & indoor Sports Facilities • Prayer area (male and female) • Hostel Facilities (Boys and Girls) • Medical Center • Transport 		

Criterion 9 - Industrial Linkages

Performance: *Evaluate the support and financial resources for the program by the institution and employers as required by this Criterion.*

Characteristic	Quality Rating	Comment
a. Existence of active Industrial Advisory Board/Committee		
b. Formal mechanism for seeking feedback from Industry and its analysis for the attainment of PEOs		

c. Opportunities for students to acquire industrial experience via internship and existence of Industry-Liaison office		
d. Design projects sponsored / supervised jointly by Industry Professionals and faculty members.		
e. Faculty members involved in design / supervision / consultancy role with the industry in the execution of applied research / design projects that are relevant to society / industrial		

Criterion 10 - Institutional Support

Performance: *Evaluate the support and financial resources for the program by the institution and employers as required by this Criterion.*

Characteristic	Quality Rating	Comment
a. Adequate institutional support and leadership to assure the quality and continuity of the program.		
b. Sufficient resources (institutional services, financial support, and staff) to provide an environment to which student outcomes can be attained.		
c. Sufficient resources (institutional services, financial support, and staff) to attract, retain, and provide for the continued professional development of a qualified faculty.		
d. Sufficient resources (institutional services, financial support, and human resources staff) to acquire, maintain, update, and operate infrastructure, facilities and equipment appropriate to the program.		

