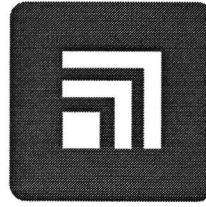


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HIMACHAL PRADESH

NAAC ACCREDITED

Report on PO Attainment

Bachelor of Engineering

(Computer Science & Engineering)

Batch 2017

**Department of Computer Science &
Engineering**

Report on PO Attainment

Batch 2017

Department of Computer Science & Engineering

Dated:18/08/2021

Overview

An outcome is a result of learning that reveals what the student should be able to do at the end of a course; Outcome-based curriculum is a performance-based education system which is crucial in determining the type of graduates we want. In this approach, the desired educational outcomes should be clearly specified. Having an unequivocal outcome facilitates the nature of course offered, its content and also the teaching plans. Constructive alignment is a principle used for devising teaching and learning activities and assessment tasks that directly address the course outcomes (COs) intended. The outcome-based approach provides a mechanism to ensure the accountability and quality assurance to an educational program.

Course mapping shows the educational relationship (Level of Learning achieved) between Course Outcomes and Program Outcomes for a Course. The result strongly indicates whether the students are able to achieve the course learning objectives. The method can be used for any course and is a good way to evaluate a course syllabus.

The below mentioned steps shall address the procedure for assessing the percentage achievement of Program Outcomes.

Program Outcomes (PO)

The Program Outcomes for the BE(CSE) Program are the following:

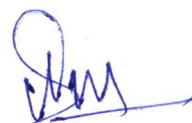
- PO1.** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2.** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3.** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO4.** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.


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- PO5.** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- PO6.** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7.** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8.** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9.** Function effectively as an individual, and as a member or leader in diverse teams, and multidisciplinary settings.
- PO10.** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO11.** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO12.** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Course Outcomes mapping with Program Outcomes:

The course learning outcomes were mapped with the defined program outcomes of the Department of Computer Science & Engineering on the scale of High, Medium and Low. Subsequently the mapped values were assigned with the weights i.e. High: 3; Medium: 2; and Low: 1. The subject wise result was compiled for 1st, 2nd, 3rd, 4th, 5th, 6th, 7th & 8th semester.


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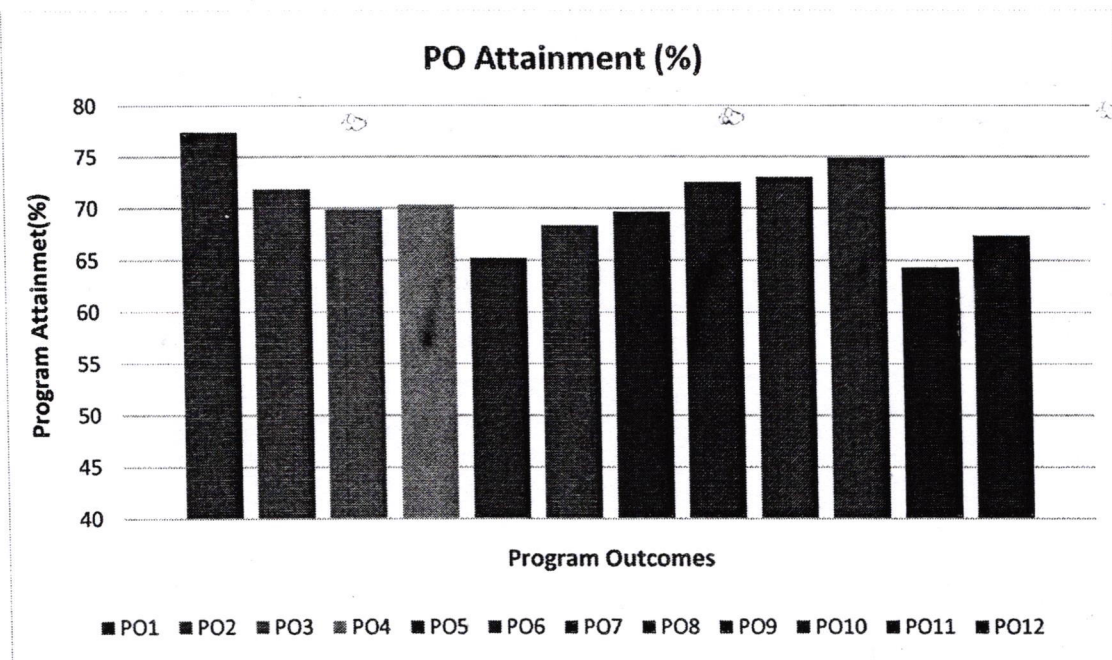
PO Attainment of Subjects: B.E. Computer Science and Engineering

Subject	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
MEL4102	-	65	65	65	65	-	-	-	-	-	65	65
MEP1102	-	-	-	-	-	-	-	-	-	-	-	-
HUL2101	72	72	-	-	-	-	-	72	72	72	72	72
GEL4101	69	69	69	-	-	-	-	-	-	69	69	-
AML5101	59	59	-	59	-	-	-	-	-	-	59	-
PYL5101	87	87	87	-	-	-	87	-	-	-	-	-
PYP1101	-	69	69	69	-	-	-	-	-	-	-	-
CHL4101	63	63	63	-	63	-	-	-	-	-	-	-
CHP1101	70	70	70	-	70	-	-	-	-	-	70	-
EEL4103	59	59	59	-	59	-	-	59	-	-	59	59
EEP1103	83	83	83	83	83	-	-	-	-	-	83	83
ECL5101	63	-	63	63	63	-	-	63	-	-	63	-
ECP1101	-	89	89	89	89	-	89	-	-	-	-	89
MEW2101	91	91	91	-	-	-	-	-	-	-	91	-
CS101	61	61	61	61	-	61	-	-	-	61	61	61
ASE3101	93	93	93	-	-	-	-	93	-	-	93	93
ECL4207	86	86	86	86	86	-	-	86	-	-	86	86
HUL3301	85	85	-	85	85	-	-	85	-	-	85	-
ECP1207	-	68	68	68	68	-	68	-	-	68	-	-
CS102	61	61	-	61	61	-	-	61	61	-	-	61
CSP3213	58	-	58	58	58	-	-	-	-	58	58	58
CSL4207	63	-	63	-	63	-	-	63	-	-	63	63
CSL3203	58	58	58	58	58	-	-	58	-	-	58	58
CSP2203	43	-	43	43	43	-	-	43	-	-	43	-
CND104	-	-	-	-	-	-	-	-	-	-	-	-
CS202	72	72	72	-	-	-	-	72	-	-	72	-
HUL2401	-	-	48	48	-	48	-	48	48	-	-	48
CSP3209	61	61	61	61	-	-	-	61	61	-	61	61
CSP2206	54	54	54	54	54	-	-	54	54	-	54	-

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Representation of PO attainment



Analysis: -

The bar chart shows that the students of batch 2017 have successfully achieved a minimum PO of 71%. This represents the consistency of evaluation pattern as well as the consistency of questions asked and the marks obtained by the students. The further change in the pattern may be visible when more interdisciplinary and scenario based projects will be given to the students.

K. K. K.
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HOD CSE

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Programme	B.E. [Computer Science and Engineering]	Batch 2017
Subject	Engineering Exploration-II	Code CS202 Semester 4

Subject Assessment: Engineering Exploration-II

#	Tools	Task	Task-Id	Marks	Wt (%)	Weighted Marks (%)
1	Internal Lab	1	302	60	100	60
2	External	1	303	40	100	40

Course Outcome: Engineering Exploration-II

SNo	Course Outcome	Wt(%)
CO1	Acquire Information and risk models including confidentiality integrity and availability	20
CO2	Acquire knowledge on Threats and attacks and exploit vulnerabilities	20
CO3	To gain knowledge on Cybersecurity architecture and operations	20
CO4	Install configure use and manage anti malware software on a working network	20
CO5	Evaluate best practices in security concepts and skills to maintain confidentiality integrity and availability of computer systems	20

CO-PO Map: Engineering Exploration-II

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Acquire Information and risk models including confidentiality integrity and availability	-	H	-	-	-	-	-	-	-	-	M	-
Acquire knowledge on Threats and attacks and exploit vulnerabilities	H	H	-	-	-	-	-	-	-	-	-	-
To gain knowledge on Cybersecurity architecture and operations	-	M	H	-	-	-	-	H	-	-	-	-
Install configure use and manage anti malware software on a working network	-	-	H	-	-	-	-	M	-	-	-	-
Evaluate best practices in security concepts and skills to maintain confidentiality integrity and availability of computer systems	H	-	-	-	-	-	-	-	-	-	H	-

Course Outcome Contribution in Each Question

Tool	Task No.	QNo	Marks	DL	BT Level	Percentage Contribution of Course Outcome
Internal Lab	1	1	60	Easy	Remembering	CO1 [20], CO2 [20], CO3 [20], CO4 [20], CO5 [20],
External	1	1	40	Easy	Remembering	CO1 [20], CO2 [20], CO3 [20], CO4 [20], CO5 [20],

CO-Assessment-Marks: Engineering Exploration-II

We would consider 40% weightage for Internal Marks and 60% weightage for external marks for calculating attainment level of Student Course Outcome. In case of either only internal or external components, we would consider 100%.

CO1: Acquire Information and risk models including confidentiality integrity and availability

#	RollNo	Internal Lab-1[12]	External-1[8]	Total [20]	MO(%)	Scale
1	1711981001	8.4	4.4	12.8	64	3
2	1711981002	9.2	4.2	13.4	67	3
3	1711981362	8	7.2	15.2	76	3
4	1711981003	10	6.6	16.6	83	3
5	1711981004	8.8	6	14.8	74	3
6	1711981005	9.2	6.6	15.8	79	3
7	1711981006	6.4	3.4	9.8	50	2
8	1711981007	6.4	6.6	13	65	3
9	1711981008	10	4.8	14.8	74	3
10	1711981009	6.4	3.2	9.6	48	2
11	1711981010	8	5	13	65	3
12	1711981012	8.6	6.8	15.4	77	3
13	1711981013	8.2	4.2	12.4	62	3
14	1711981014	8	4.4	12.4	62	3
15	1711981015	8.8	6.8	15.6	78	3
16	1711981016	6	5.6	11.6	58	2

313	1711981313	8.8	6.4	15.2	76	3
314	1711981314	9	6.6	15.6	78	3
315	1711981316	8.2	3.4	11.6	58	2
316	1711981318	8.8	3.8	12.6	63	3
317	1711981319	5.2	4.2	9.4	47	2
318	1711981320	9.8	4.4	14.2	71	3
319	1711981321	6.6	4.4	11	56	2
320	1711981322	6.2	4.4	10.6	53	2
321	1711981323	7.8	3.2	11	56	2
322	1711981324	8.2	4	12.2	61	3
323	1711981325	11.6	6	17.6	89	3
324	1711981327	8.2	3.6	11.8	60	3
325	1711981328	7.8	6.2	14	70	3
326	1711981329	8.4	5.8	14.2	71	3
327	1711981331	10.4	5.8	16.2	81	3
328	1711981332	7.4	6.4	13.8	69	3
329	1711981335	9.8	6.4	16.2	81	3
330	1711981334	9	5.6	14.6	73	3
331	1711981336	10.4	7	17.4	87	3
332	1711981337	11.4	7.6	19	95	3
333	1711981339	5.2	0	5.2	26	1
334	1711981340	10.4	4.8	15.2	76	3
335	1711981341	5.8	5.4	11.2	56	2
336	1711981342	11.4	6	17.4	87	3
337	1711981343	7.4	6.4	13.8	69	3
338	1711981344	9.2	6.8	16	80	3
339	1711981345	9	6	15	75	3
340	1711981346	6	6.4	12.4	62	3
341	1711981347	6.8	6	12.8	64	3
342	1711981348	7.6	4	11.6	58	2
343	1711981349	6	7.8	13.8	69	3
344	1711981350	0	0	0	0	1
345	1711981351	9.6	6.4	16	80	3

CO Attainment on Scale of 3	Percentage of Students Scored above 60%
2.72	78.26

Attainment on Scale of 3	Percentage Attainment
2.72	90.67


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