

# Status Report on Impact of Initiative

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## **Background : Uttarakhand Open University**

In the year of 2005, Uttarakhand Open University (UoU) was established by an Act of Uttarakhand Legislative Assembly (vide Act No. 23 of the Uttarakhand Government) based on the philosophical values of Open and Distance Learning (ODL). The focus of the UoU is to provide easy access of quality education to different sections of society. The main objective of the University is to develop trained and skilled human resource for sustainable development and progress. Similarly, the university aimed to disseminate knowledge and skills through distance learning, using the flexible and innovative methods of education to ensure ‘independent learning’. Following the ODL approach, the university caters to the development of schedule tribes, women, and those who have been left out of mainstream education. At the same time, the University has evolved considerably and has been successful in reaching out to the unreached.

The vision of the UoU is mentioned as “ to make higher education the potent medium of growth by creating knowledge and to provide easily accessible and convenient opportunities for value-based quality higher education to the people of Uttarakhand especially to youth, educationally deprived, and employed persons so that they are motivated for life-long-learning thereby ensuring their proficiency in different skills, securing self-employment, and employment with the motto of appropriate service to the state, nation and entire humanity.

The objectives of the Uttarakhand Open University are:

- To cater to the educational needs of the target groups through the open systems of learning.
- To create skilled and knowledge based human resource for speedy upliftment and development of the State in particular.
- To provide easy access to education to different sections of society, especially to those with seemingly geographical isolation and difficulty.
- To promote national integration and integrated development of human personality.
- To impart knowledge for awareness and skill development.
- To promote research orientation in the present scenario of technology and development. and disseminate knowledge through an innovative multi-media teaching-learning system.

- To promote dissemination of learning and knowledge through distance education systems including the use of any communication technology to provide opportunities for higher education to a large segment of the population and shall in organizing its activities.

## **Introduction**

Teaching and Learning has changed in the 21<sup>st</sup> century. The British Open University and other Traditional Universities have developed online distance courses. Private institutions are also offering online courses. Students' world over in the coming years will be using the e - learning tools more than the printed textual material and India is not far behind. The world wide e learning industry is estimated to be worth over \$48 billion.

Open Universities in the last more than 20 years have moved from print material to web based courses for delivery of instruction. With the emergence of new technologies, the universities have to move fast and keep the pace with the rest of the world.

Online Learning is mainly the transfer of skills and knowledge through computer. The content is delivered via Internet or audio/video or satellite or CDROM.

Keeping this new technological development in view, the teachers should be prepared to meet the challenges of the future. In this connection, UOU in collaboration with CEMCA had organized three day training workshop on how to create /develop online courses. The training objectives of this three day workshop were to orient the Teachers towards Open Educational Resources, explain and Describe the Instructional Design for Online Courses, highlight some of the tools used to create online courses, understand the Learning Management System, publish the Resources for an Online Course, and create an Online Course using Moodle. The workshop comprised of eleven intensive and hands-on sessions which includes face-to-face delivery and online engagement. The workshop page for training on University's Moodle platform was created at [moodle.uou.ac.in](http://moodle.uou.ac.in). The platform was refreshed time to time for updating new courses and eLearning resources. The updated platform can be accessed at [elearning.uou.ac.in](http://elearning.uou.ac.in).

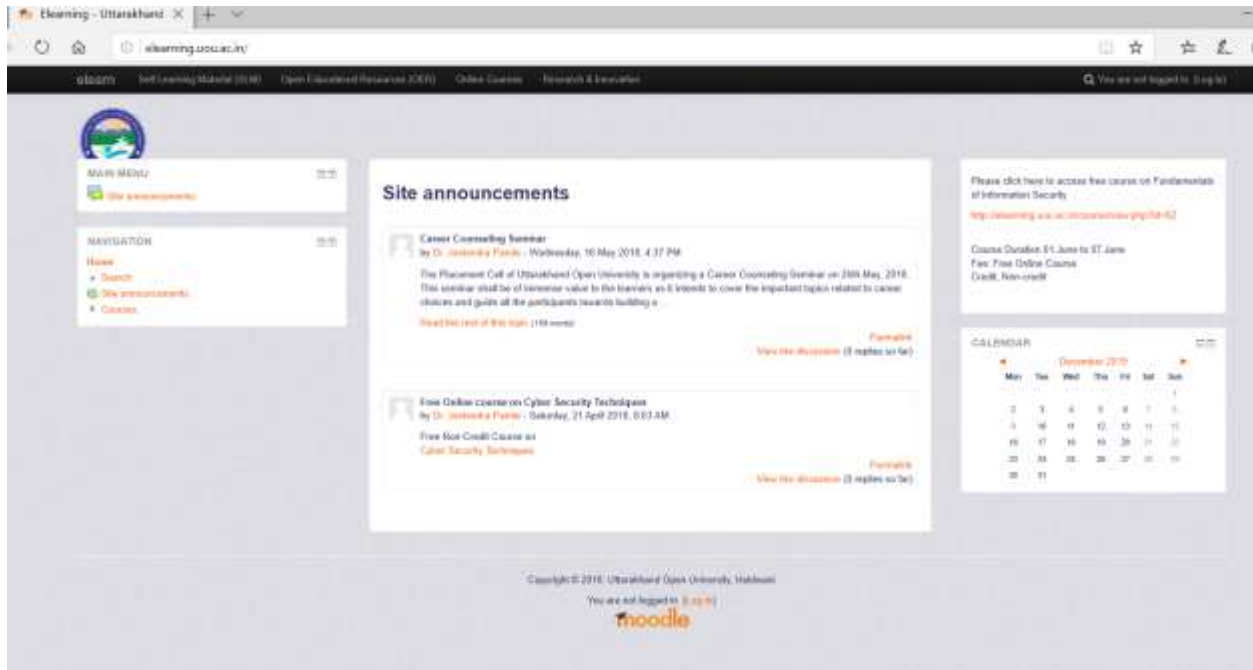


FIGURE 1: UOU E-LEARN HOME PAGE

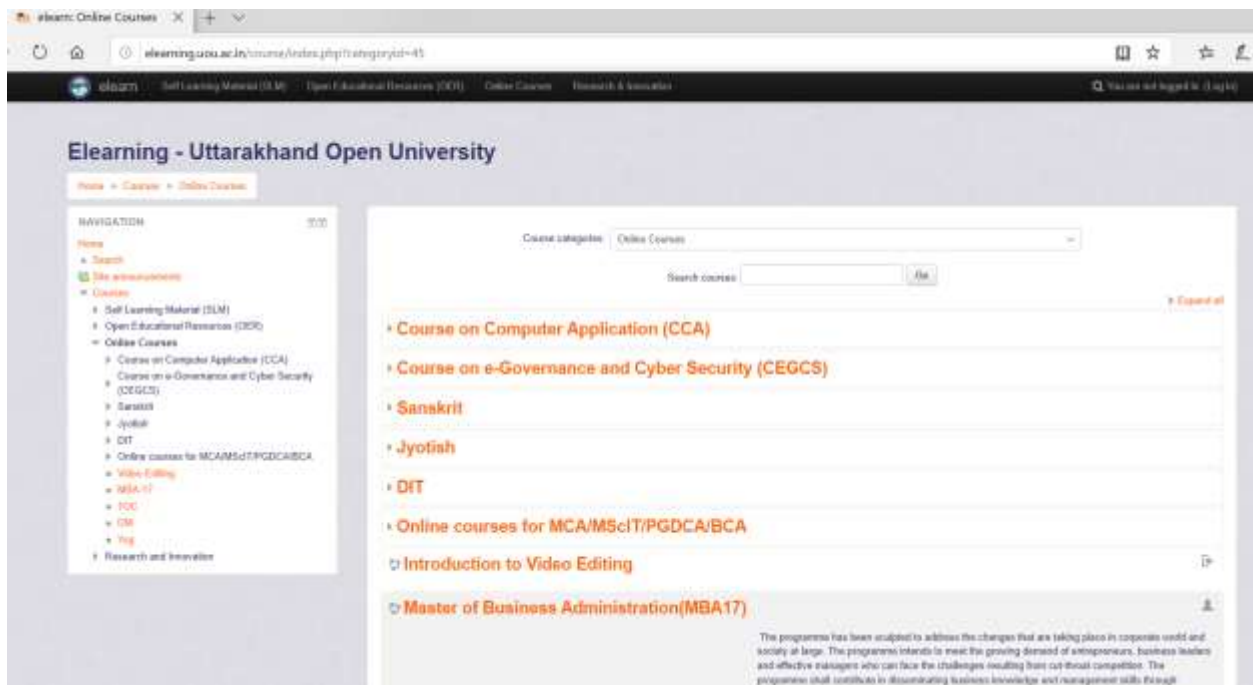


FIGURE 2: COURSES ON UOU E-LEARN PAGE

## Status on Development of Online Courses

1. Uttarakhand Open University have Conducted a Baseline Study of the University with special reference to enrolment, contents, students support services, use of ICT, teaching learning process, learning outcome, employability etc.
2. Designed, developed and hosted a web interface along with Moodle LMS including app customization for content delivery and learner support including career counseling. The following courses are prepared in the text as well as video format:
  - a) Course on Computer Application (CCA)
    - Introduction to MS-Word
    - Introduction to MS-Excel
    - Introduction to MS-PowerPoint
    - Introduction to Information Technology
    - Introduction to DTP
  - b) Course on e-Governance and cyber security (CEGCS)
    - Fundamental of Information Security
    - Cyber Security Techniques
    - Cyber Attacks and Counter Measures: User Perspective
    - Information System
  - c) DIT
    - Database Management System
    - Introduction to Networking and Web Technology
    - Introduction to Programming using C
3. The services of the following experts were utilized for the content development and recording video lectures:
  - a. Group Captain Ashok Kumar, Director-IT, Defense Image Processing and Analysis Center, New Delhi
  - b. Mr. Ashutosh Bahuguna, Joint Director- Indian Cyber Emergency Response Team(CERT-In), Ministry of Comm & IT, Govt of India, New Delhi
  - c. Group Captain C S Chawla, Ministry of Defense, New Delhi

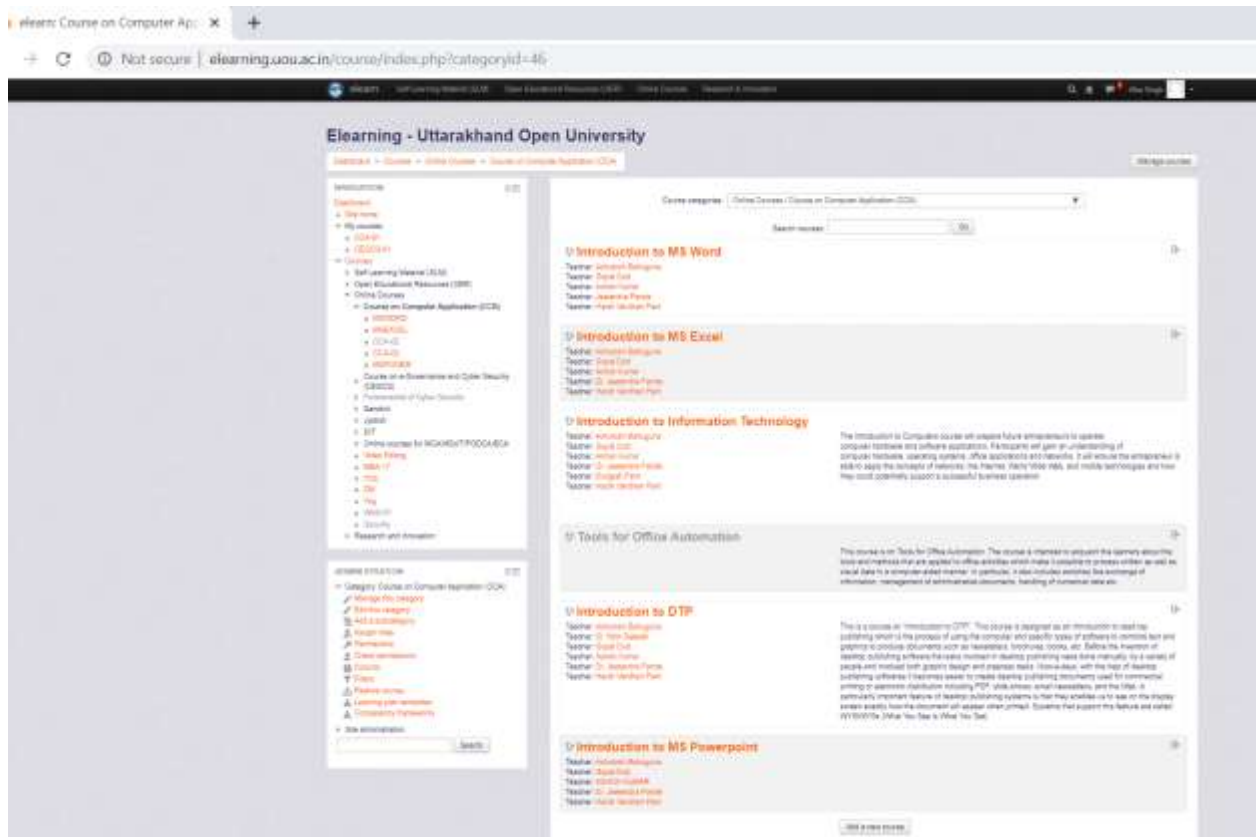


- d. Dr. Jeetendra Pande, Assistant Professor- Computer Science, Uttarakhand Open University, Haldwani
  - e. Sq. Leader Arun Kumar, Defence Image Processing and Analysis Center, New Delhi
  - f. Ms. Priyanka Tewari, IT Consultant ( Ex employee Infosys Technologies Ltd. And Mercer India Limited)
  - g. Dr. Gopal Dutt, Academic Associate- Vocational Studies, Uttarakhand Open University, Haldwani
  - h. Mr. Sani Abhilash, Scientist- D, Indian Cyber Emergency Response Team(CERT-In), Ministry of Comm & IT, Govt of India, New Delhi
4. The programs are hosted on the elearning portal of Uttarakhand Open University: elearning.uou.ac.in and the video lectures are also available in the Youtube channel of the University under the name UOULIVE.
  5. Till date 138 video lectures are recorded and uploaded and 15 courses with consists of 195 modules are available in the elearning portal.
  6. Student Support Services: To retain the students and provide student support services, the SMS and emails are sent via email credit system.

## **The Courses offered**

UOU offered online courses through MOODLE platform. The following courses are selected from Computer Science discipline and offered as non credit courses to enrich the skills and knowledge on computers which is essential for employability:

- a) Courses on Computer Application (CCA)
  - Introduction to MS-Word
  - Introduction to MS-Excel
  - Introduction to MS-PowerPoint
  - Introduction to Information Technology
  - Introduction to DTP



**FIGURE 3: COURSES ON COMPUTER APPLICATION (CCA)**

- b) Courses on e-Governance and cyber security (CEGCS)
  - a. Fundamental of Information Security
  - b. Cyber Security Techniques
  - c. Cyber Attacks and Counter Measures: User Perspective
  - d. Information System

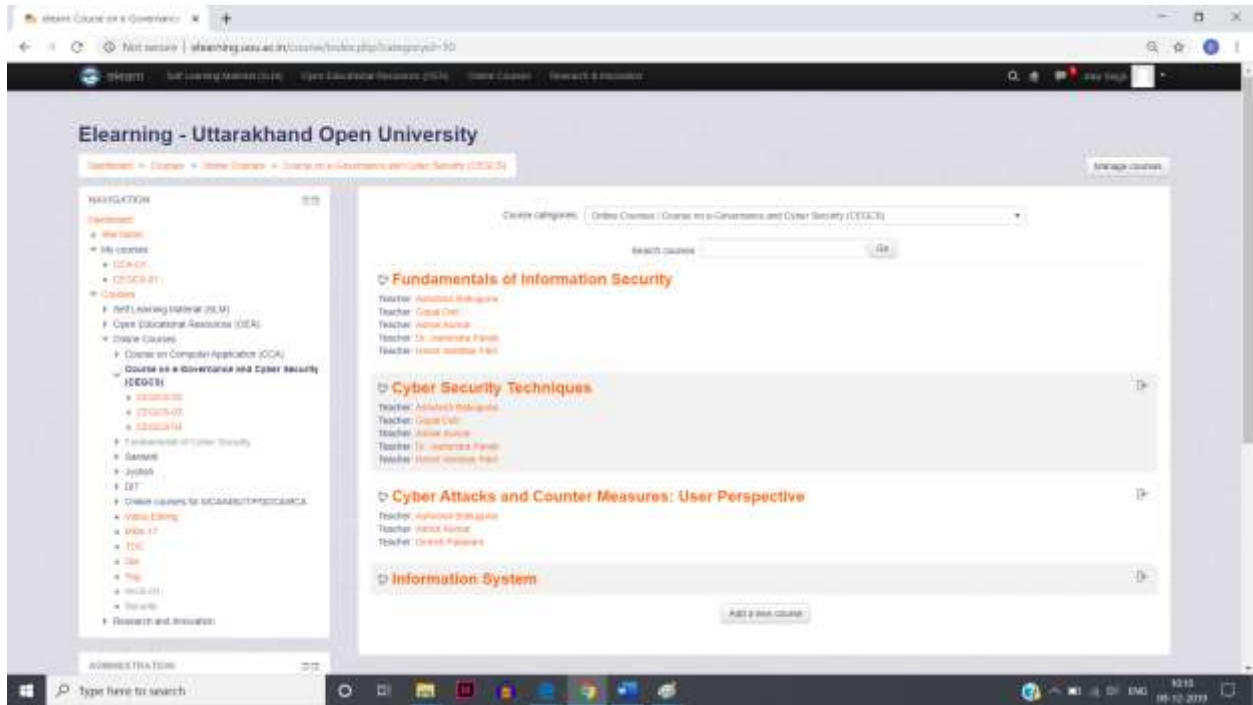


FIGURE 4: COURSE ON E-GOVERNANCE AND CYBER SECURITY (CEGCS)

- c) DIT
  - a. Database Management System
  - b. Introduction to Networking and Web Technology
  - c. Introduction to Programming using C

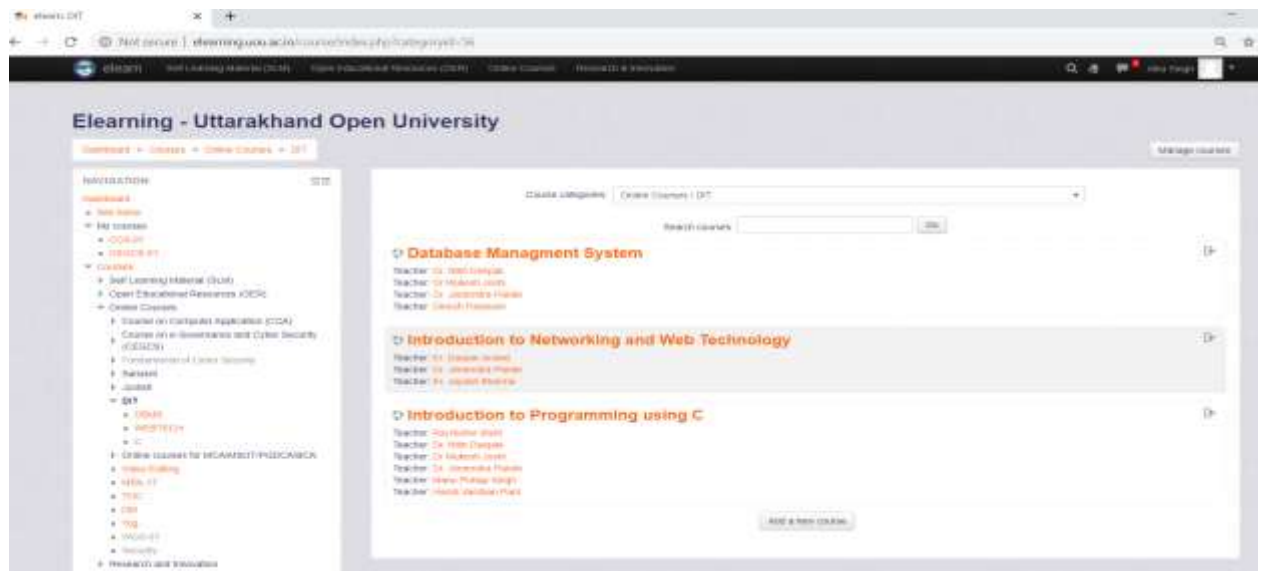


FIGURE 5: COURSES ON DIT

## Courses on Computer Application (CCA)

Course materials were designed and developed by the UOU teachers along with external experts in the specific field. The content includes video lectures, power point presentation, relevant images, text information in pdf format, and ebooks that were uploaded and placed in the sequential manner and provided navigation for easy access. Details about the five sub-courses under courses on Computer Application (CCA) are given below.

Table 1 shows the name and number of teachers or mentors available for student support from course development to implementation. They provided needful support to the learners with real time communication. As shown, there were five teachers in each course of Introduction to MS-Word, MS-Excel, and MS-PowerPoint. Similarly, six teachers were available for students support in each courses of Introduction to Information Technology and Introduction to DTP.

**TABLE 1: TEACHERS/MENTORS FOR THE COURSES ON COMPUTER APPLICATIONS**

<b>Courses</b>	<b>Teachers/Mentors for the course</b>	<b>No. of Teachers</b>
<b>Courses on Computer Application (CCA)</b>		
<b>Introduction to MS-Word</b>	Ashutosh Bahuguna Gopal Dutt Ashok Kumar Jeetendra Pande Harsh Vardhan Pant	5
<b>Introduction to MS-Excel</b>	Ashutosh Bahuguna Gopal Dutt Ashok Kumar Jeetendra Pande Harsh Vardhan Pant	5
<b>Introduction to MS-PowerPoint</b>	Ashutosh Bahuguna Gopal Dutt Ashok Kumar Jeetendra Pande	5

	Harsh Vardhan Pant	
<b>Introduction to Information Technology</b>	Ashutosh Bahuguna Gopal Dutt Ashok Kumar Jeetendra Pande Durgesh Pant Harsh Vardhan Pant	6
<b>Introduction to DTP</b>	Ashutosh Bahuguna Dr. Nitin Deepak Gopal Dutt Ashok Kumar Dr. Jeetendra Pande Harsh Vardhan Pant	6

The number of topics covered in various courses under CCA are mentioned below in table 2. There were 7 topics under introduction to MS-Word, 6 topics in introduction to MS-Excel, 3 topics in MS-PowerPoint, 5 topics in introduction to information technology and 13 topics in introduction to DTP. Overall, 34 topics were covered under courses on computer applications.

**TABLE 2: CCA COURSES DETAILS: NO. OF TOPICS**

<b>Courses</b>	<b>No of Topics</b>
<b>Courses on Computer Application (CCA)</b>	
<b>Introduction to MS-Word</b>	7
<b>Introduction to MS-Excel</b>	6
<b>Introduction to MS-PowerPoint</b>	3
<b>Introduction to Information Technology</b>	5
<b>Introduction to DTP</b>	13

Table 3 presents the enrolled students and active students under CCA. Initially, UOU announces the courses details in the website and invited the participants to self registration in the courses. As the participants belonging to the region are not having much tech savvy and new to online course, the self registration was not used by the participants. To facilitate the registration, the organizers encourage the participants by extending help to register the participants in their interesting course and the credentials were sent to them along with instruction.

The following table 3 shows the registered students for the courses and active participants. Under CCA, majority of the students (25, 951) were enrolled in introduction to information technology. Among these 25, 951 students, 25, 924 were from India and 27 students were from different countries such as Bangladesh, China, United Kingdom, Ghana, Iceland, Sri Lanka, Nigeria, Nepal, Pakistan, Thailand and United States of America (USA). Interestingly, 12 students enrolled were from Sri Lanka and 4 were reported from USA. Among these enrolled students, only 2,197 students i.e. 8.5 % were found to be active during the course.

With regard to course on introduction to MS-Excel, total 21, 276 students have enrolled. Among them, 21,266 students were from India and rest of them were from other countries i.e. Sri Lanka, Bangladesh, Oman, Ghana, Nigeria, Nepal, USA, and China. Among the enrolled students for the course on MS-Excel, only 874 students were found to be active.

In terms of 'Introduction to MS-PowerPoint', total 18,227 learners were enrolled for the course. There were 18, 223 students from India and one each enrolled student represented Bangladesh, Sri Lanka, Nigeria and Nepal respectively. Overall, 557 students were active during the course.

In addition, 5,126 and 9,062 students were enrolled in CCA under introduction to MS-Word and introduction to DTP respectively. In both the courses, students from Sri Lanka, Bangladesh, Japan, Nepal, Nigeria, Sierra Leone were also present. However, only 227 and 566 students under MS-Word course and DTP course respectively participated actively.

Among 79, 642 students who enrolled in different courses of computer applications, only 5.5 % of the participants had actively participated the course activities.

**TABLE 3: CCA COURSES DETAILS: ENROLLED & ACTIVE STUDENTS**

<b>Courses</b>	<b>Enrolled Students</b>	<b>Active Students</b>
<b>Courses on Computer Application (CCA)</b>		
<b>Introduction to MS-Word</b>	5126 India (5117)	227
<b>Introduction to MS-Excel</b>	21276 India (21266)	874
<b>Introduction to MS-PowerPoint</b>	18227 India (18221)	557
<b>Introduction to Information Technology</b>	25951 India (25924)	2197
<b>Introduction to DTP</b>	9062 India (9060)	566
<b>Total</b>	<b>79, 642</b>	<b>4,421</b>

### **Courses on e-Governance and cyber security (CEGCS)**

Course materials on e-Governance and cyber security were designed and developed by the UOU teachers along with external experts in the specific field. The content includes video lectures, power point presentation, relevant images, text information in pdf format, and ebooks that were uploaded and placed in the sequential manner and provided navigation for easy access.

Table 4 shows the name and number of teachers or mentors presented for student support during the various activities of course development to implementation on e-Governance & cyber security. They provided needful support to the learners with real time synchronous as well as asynchronous communication. As shown, there were five teachers were available for supporting students in each course of Fundamental of Information Security and Cyber Security Techniques . However, three

mentors were available for the course named Cyber Attacks and Counter Measures: User Perspective.

**TABLE 4: TEACHERS/MENTORS FOR THE COURSES ON E-GOVERNANCE & CYBER SECURITY**

<b>Courses</b>	<b>Teachers/Mentors for the course</b>	<b>No. of Teachers</b>
<b>Courses on e-Governance and cyber security (CEGCS)</b>		
<b>Fundamental of Information Security</b>	Ashutosh Bahuguna Gopal Dutt Ashok Kumar Jeetendra Pande Harsh Vardhan Pant	5
<b>Cyber Security Techniques</b>	Ashutosh Bahuguna Gopal Dutt Ashok Kumar Jeetendra Pande Harsh Vardhan Pant	5
<b>Cyber Attacks and Counter Measures: User Perspective</b>	Ashutosh Bahuguna Ashok Kumar Dinesh Panjwani	3
<b>Information System</b>	NA	NA

The number of topics covered in various courses on e-Governance and cyber security (CEGCS) are mentioned below in table 5. There were 12 topics each under courses on fundamental of information security, cyber security techniques, and information system separately. In addition, 10 topics were delivered under CEGCS - Cyber Attacks and Counter Measures: User Perspective. Overall, 46 topics were covered under courses on e-Governance and Cyber Security.



**TABLE 5: CEGCS COURSES DETAILS: NO. OF TOPICS**

<b>Courses</b>	<b>No of Topics</b>
<b>Courses on e-Governance and cyber security (CEGCS)</b>	
<b>Fundamental of Information Security</b>	12
<b>Cyber Security Techniques</b>	12
<b>Cyber Attacks and Counter Measures: User Perspective</b>	10
<b>Information System</b>	12

Table 6 presents the enrolled students and active students under CEGCS. It displays that majority of the students (25, 645) were registered in course on Cyber Security Techniques. Among these registered students, 25,622 were enrolled from India and 23 were from different countries such as China, UK, Ghana, Jordon, Sri Lanka, Nigeria, Nepal, Oman, Pakistan, South Africa and USA. Interestingly, 5 students each were enrolled from Ghana and USA. Among these enrolled students, 1,003 students have participated during the course actively.

The course on Fundamental of Information Security reported 18,922 students enrolled. Among them, 18,898 students were from India and rest of them were representing countries i.e. Indonesia, Ghana, China, UK, Iceland, Italy, Kenya, Sri Lanka, Malta, Nigeria, Nepal, Oman, Saudi Arabia, Sierra Leone, USA, and South Africa. Among the enrolled students, 1,079 were found to be active during the course.

On the other hand, 13575 students were enrolled for the course on information system. There were 13,566 students who belong to India and rest of them were enrolled from China, UK, Ghana, Nigeria, Nepal, Pakistan, USA and South Africa. Overall, 455 students were active during the course on information system.

However, 8,701 students were enrolled in CEGCS - Cyber Attacks and Counter Measures: User Perspective. Apart from 8686 students registered from India, students from United Kingdom, Ghana, Iceland, Jordon, , Nigeria, Oman, Pakistan, USA and South Africa were also represented.

only 227 and 566 students under MS-Word course and DTP course respectively participated actively. Among the registered students, 495 were actively participated in the course.

Overall, among 66,843 students who enrolled in different courses on e-Governance and Cyber Security, only 3,029 (4.5 %) of the participants had actively participated the course activities.

**TABLE 6: CEGCS COURSES DETAILS: ENROLLED & ACTIVE STUDENTS**

<b>Courses</b>	<b>Enrolled Students</b>	<b>Active Students</b>
<b>Courses on e-Governance and cyber security (CEGCS)</b>		
<b>Fundamental of Information Security</b>	18922 India (18898)	1079
<b>Cyber Security Techniques</b>	25645 India (25622)	1003
<b>Cyber Attacks and Counter Measures: User Perspective</b>	8701 India (8686)	495
<b>Information System</b>	13575 India (13566)	455
<b>Total</b>	<b>66,843</b>	<b>3,029</b>

## **Courses on DIT**

As discussed earlier, Course materials on DIT were also designed and developed by the UOU teachers along with external experts in the specific field. The content includes video lectures, power point presentation, relevant images, text information in pdf format, and eBooks that were uploaded and placed in the sequential manner and provided navigation for easy access.

Table 7 shows the name and number of teachers available for student support on courses related to DIT. They provided required support to the learners with real time communication. As shown below, there were four teachers in course of Database Management System, three teachers

mentoring for course on Networking and Web Technology. Moreover, six teachers were regularly available for course on Programming using C.

**TABLE 7: TEACHERS/MENTORS FOR THE COURSES ON DIT**

Courses	Teachers/Mentors for the course	No. of Teachers
<b>Courses on DIT</b>		
Database Management System	Dr. Nitin Deepak Dr. Mukesh Joshi Dr. Jeetendra Pande Dinesh Panjwani	4
Introduction to Networking and Web Technology	Er. Darpan Anand Dr. Jeetendra Pande Er. Jayash Sharma	3
Introduction to Programming using C	Raj Kishor Bisht Dr. Nitin Deepak Dr. Mukesh Joshi Dr. Jeetendra Pande Manu Pratap Singh Harsh Vardhan Pant	6

Table 8 shows the number of topics covered under three mentioned courses on DIT. There were 8 topics delivered under database management system, 12 topics in introduction to networking and web technology, and 9 topics in introduction to programming using C. Overall, 29 topics have been covered under courses on computer applications.

**TABLE 8: DIT COURSES DETAILS: NO. OF TOPICS**

Courses	No of Topics
<b>Courses on DIT</b>	
Database Management System	8
Introduction to Networking and Web Technology	12
Introduction to Programming using C	9

Table 9 indicates the enrolled students and active students under courses on DIT. It shows the registered students and active participation in courses on database management system, networking and web technology and programming using C language. It is found that majority of the students (18,281) were enrolled in introduction to programming using C. Among enrolled students, 18,274 were from India and 7 students were from different countries that are United Kingdom, Nigeria, Nepal, and United States of America (USA). Among these enrolled students, only 1,021 students have participated actively during the course.

The course on introduction to Networking and Web technology, total 18,200 students have enrolled. Among them, 18,197 students were from India and one each have been registered from United Kingdom, Nepal and Pakistan respectively. Among the enrolled students for the course on Networking and Web technology, 565 students were found to be active learners.

In addition, 13,497 students were enrolled in DTP course on database management system. One student each from United kingdom and Nepal respectively have also enrolled themselves for this course. However, 584 students participated actively during the course implementation on eLearning platform of UoU.

Among 49,978 students who enrolled in different courses of DIT, only 4.3 % of the participants had actively participated the course activities.

**TABLE 9: DIT COURSES DETAILS: ENROLLED & ACTIVE STUDENTS**

<b>Courses</b>	<b>Enrolled Students</b>	<b>Active Students</b>
<b>Courses on DIT</b>		
<b>Database Management System</b>	13497 India (13495)	584
<b>Introduction to Networking and Web Technology</b>	18200 India (18197)	565
<b>Introduction to Programming using C</b>	18281 India (18274)	1021
<b>Total</b>	<b>49,978</b>	<b>2,170</b>

## Conclusion

Overall, 15 courses were launched on eLearning Moodle platform of UoU. In these courses, various resources in the form of video lectures, power point presentation, relevant images, text information in pdf format, and ebooks are being utilized for easy access and active participation of the learners. Total 195 modules were developed with the help of internal (UoU) and external experts in the relevant area. After review of the modules, these have been uploaded on the Moodle platform for ready use. There were 138 videos recorded, produced, reviewed and uploaded on the platform as well.

It was found from data analysis on the eLearning Moodle platform of UoU that about two lakhs learners have enrolled for various courses. Around 5% of the participants have actively participated in the course activities. As this is a new initiative by the university and awareness courses with no credit, active participation of these online courses is less. This may be increased by linking with credits and certificates of the university.

## Progress Report of the Participants

### Monitoring the progress of participants using Log Report of MOODLE

Log Report of MOODLE shows activity within the course. It allows teachers to see what course material and activity are being used and when by the participants. For example a teacher can check that an individual participant has viewed the course material for that week or topic they declare to have read, and how long. This helps the teacher to monitor the participants and motivate them to take part in the course.

The log reports of the courses offered by the UOU have analysed and the data are given in the following sections.

### Progress Report: Courses on Computer Applications (CCA)

#### Learning Objectives viewed by the Participants of CCA

Learning objectives are statements which describe the expected outcome of a curriculum, course, lesson or activity in terms of demonstrable skills or knowledge that will be acquired by the participants after completing the course. The table shows that the number of participants accessed the learning objectives of the courses. It is important that the participants should view the learning objectives to know the outcomes of the course.

**TABLE 10: LEARNING OBJECTIVES VIEWED BY THE PARTICIPANTS OF CCA**

Activity	MS-Word	MS-Excel	MS-PowerPoint	Information Technology	DTP
Learning Objectives	205	191	191	789	77

## Course materials viewed by the participants of CCA

Course materials are most essential component for online courses. Participants learn from this content to enrich themselves. The content should be interesting as the teacher is away from them. Since the course access through devices, the content should be enriching with multimedia component to retain the attention of the participants. Notably, one student might have accessed the course material several times.

**TABLE 11: COURSE MATERIALS VIEWED BY THE PARTICIPANTS OF CCA**

Activity	MS-Word	MS-Excel	MS-PowerPoint	Information Technology	DTP
Course Materials	466	2240	1960	16177	807

The above data in table 11 shows the that how many times the participants had accessed the chapters or files uploaded as the course materials for each course. The course on introduction on Information technology reported the highest views (16,177) followed by courses on MS-Excel (2,240), and MS-PowerPoint (1,960).

## Activities Completed by the Participants of CCA

Both synchronous and asynchronous activities should incorporate in the online course to encourage the participants to interact with peer group as well teachers. The following table shows the activities such as announcements, discussion forum, chat and download of certificate of participation that were completed by the participants. It is appreciated that the participants were participated the chat which was live activity facilitate to interact with peer and teacher.

**TABLE 12: ACTIVITIES COMPLETED BY THE PARTICIPANTS OF CCA**

Activity	MS-Word	MS-Excel	MS-PowerPoint	Information Technology	DTP
Announcement	92	182	186	1455	198
Discussion Forum	NA	372	283	2405	243

<b>Chat</b>	NA	248	32	799	160
<b>Downloaded Certificate of Participation</b>	NA	577	192	1032	87

## **Progress Report: Courses on e-Governance and Cyber Security (CEGCS)**

### Learning Objectives viewed by the Participants of CEGCS

Learning objectives are statements which describe the expected outcome of a curriculum, course, lesson or activity in terms of demonstrable skills or knowledge that will be acquired by the participants after completing the course. The table shows that the number of participants accessed the learning objectives of the courses. It is important that the participants should view the learning objectives to know the outcomes of the course.

**TABLE 13: LEARNING OBJECTIVES VIEWED BY THE PARTICIPANTS OF CEGCS**

<b>Activity</b>	<b>Learning Objectives</b>
<b>Fundamental of Information Security</b>	<b>189</b>
<b>Cyber Security Techniques</b>	<b>NA</b>
<b>Cyber Attacks and Counter Measures: User Perspective</b>	<b>NA</b>
<b>Information System</b>	

### Course materials viewed by the participants of CEGCS

Course materials are most essential component for online courses. Participants learn from this content to enrich themselves. The content should be interesting as the teacher is away from them. Since the course access through devices, the content should be enriching with multimedia component to retain the attention of the participants. Notably, one student might have accessed the course material several times.



**TABLE 14: COURSE MATERIALS VIEWED BY THE PARTICIPANTS OF CEGCS**

Activity	Course Materials
Fundamental of Information Security	1317
Cyber Security Techniques	1369
Cyber Attacks and Counter Measures: User Perspective	575
Information System	597

The above data in table shows the that how many times the students had accessed the course materials for each course. The course on Cyber Security Techniques reported the highest views (1369) followed by courses on fundamental of Information Security (1317), Information System (597) and Cyber Attacks and Counter Measures (575).

### Activities Completed by the Participants of CEGCS

Both synchronous and asynchronous activities should incorporate in the online course to encourage the participants to interact with peer group as well teachers. The following table shows the activities such as announcements, discussion forum, chat and download of certificate of participation that were completed by the participants. It is appreciated that the participants were participated the chat which was live activity facilitate to interact with peer and teacher. Some of the data is 'Not Available' (NA) in the log information of the eLearning Moodle platform.

**TABLE 15: ACTIVITIES COMPLETED BY THE PARTICIPANTS OF CEGCS**

Activity	Fundamental of Information Security	Cyber Security Techniques	Cyber Attacks and Counter Measures	Information System
Announcement	449	686	144	78
Discussion Forum	378	423	33	NA
Chat	282	112	NA	NA
Downloaded Certificate of Participation	NA	410	NA	NA

## Progress Report: Courses on DIT

### Course materials viewed by the participants of DIT

Course materials are most essential component for online courses. Participants learn from this content to enrich themselves. The content should be interesting as the teacher is away from them. Since the course access through devices, the content should be enriching with multimedia component to retain the attention of the participants. Notably, one student might have accessed the course material several times.

**TABLE 16: COURSE MATERIALS VIEWED BY THE PARTICIPANTS OF DIT**

Courses	Course Materials
Database Management System	77
Introduction to Networking and Web Technology	135
Introduction to Programming using C	285

The above data in table shows the that how many times the students had accessed the course materials for each course. The course on Cyber Security Techniques reported the highest views (1369) followed by courses on fundamental of Information Security (1317), Information System (597) and Cyber Attacks and Counter Measures (575).

### Activities Completed by the Participants of DIT

Both synchronous and asynchronous activities should incorporate in the online course to encourage the participants to interact with peer group as well teachers. The following table shows the activities such as announcements, discussion forum, chat and download of certificate of participation that were completed by the participants. It is appreciated that the participants were participated the chat which was live activity facilitate to interact with peer and teacher. Some of the data is 'Not Available' (NA) in the log information of the eLearning Moodle platform.

**TABLE 17: ACTIVITIES COMPLETED BY THE PARTICIPANTS OF CEGCS**

Activity	Database Management System	Networking and Web Technology	Programming using C
Announcement	90	54	94
Discussion Forum	342	98	118
Chat	20	NA	16
Downloaded Certificate of Participation	24	55	NA

## Recommendation

Over the history of more than one decade, the UoU is focused on to provide easy access of quality education to different sections of society aiming to disseminate knowledge and skills through distance learning, using the flexible and innovative methods of education to ensure ‘independent learning’. Following the ODL approach, the university caters to the development of marginalized sections of the society who have been left out of mainstream education. At the same time, the University has evolved considerably and has been successful in reaching out to the unreached. The overall journey of the university is an achievement itself for a state with unreached hilly and remote areas. The University promote the research and development of innovative, flexible and open learning.

The increasing popularity and demand for mobile-learning is an indicator for the university to switch to mobile enabled learning platforms for content delivery. They can explore innovative approaches within Moodle, MOOCs, other-content platforms. They can conveniently connect with the students through social networking for sending and receiving academic updates. In addition, UGC have also provided guidelines for adoption of MOOCs for the universities. Thus, the UoU is recommended to follow these guideline in every department and centre to facilitate M-learning. The mentors need to be skilled and trained in the field. These platforms also need to be connected with credit-transform so that the students would be encouraged to access and learn more in real time.

The university should arrange an online repository for SLM which forms an adhoc arrangement for the students till they get the SLM in hard-copy. These materials should be downloadable so that they can access it anytime, anywhere.

Although, the University is not allowed to conduct online examination as per UGC rules. But it can be followed for non-credit and awareness based programs as an experiment, so that an open platform is provided to the students for learning and evaluating themselves with anytime, anywhere access.

All the courses offered by UOU through MOODLE are skill-based courses which are essential for job opportunity. Support service is important component for these online course. The log report facilitates the teacher to monitor the participant performance. It is advised that the teacher should analysis the log report frequently to know the participants which also help to retain the participants. The log report provides the day wise report too to monitor the day wise participation of the participants. It gives the immense opportunity to the teacher/s to facilitate learners to be active participants during the course.

It is also recommended to plug-in learning analytics tools to monitor the participation of the participants very accurately in each activity which help the teacher to clear the difficulties faced by the participants. This activity helps to reduce drop out in online courses. As this is a new initiative by the university and awareness courses with no credit, active participation of these online courses is less. Thus, it is also recommended to link these courses with credits and certificates of the university for increasing active participation and reducing dropout rates.