

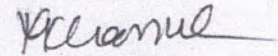
Hindustan College of Science & Technology Farah,
Mathura
Department of Computer Science & Engineering

Date: 07/09/2021

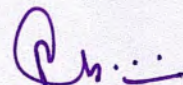
NOTICE

Subject: Notice Regarding Value Added Course Registration

All students are hereby informed that registration of Value Added Course (VAC) will be start between 14/09/2021 to 17/09/2021 in the department of CSE (Contact Person: Mr. Yogesh Sharma).



Hod CSE
(Dr. Munish Khanna)



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Hindustan College of
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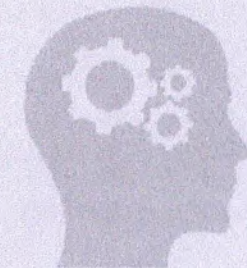
**HINDUSTAN COLLEGE OF SCIENCE & TECHNOLOGY,
FARAH -MATHURA**



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Value Added Course

*VAC-21-22-VCS2101 - Object Oriented Programming Using C++
18th September '2021 – 19th February 2022- Every Saturday: 3:00 PM –
5:00 PM*



Students From Any Branch Can Join the Course

By



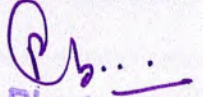
Dr. Munish Khanna

*Associate Professor, HOD -Computer Science & Engineering
Research Interest: Application of Artificial Intelligence Techniques on
Software systems and Medical image analysis*

Registration Dates
14th Sep 2021 – 17th Sept 2021

For Registration: Please contact
Mr. Yogesh Sharma, Office Staff, Department of CSE

Prerequisites Knowledge of c++ programming and oops concepts


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Value Added Course

VAC-21-22-VCS2101 - Object Oriented Programming Using C++
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Course Syllabus

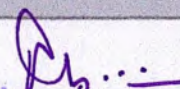
Course Objectives

The main objective of this value added course are as follows:

1. To understand the need for high-level languages including C++ and programming paradigms.
2. To understand the syntax of C++ and writing simple programs in C++
3. To understand the need and role of object oriented programming for real-world applications.
4. To enable the students to write simple programs using OOPs concepts
5. To enable students to solve real time problems using OOPs.

Units	Details	Course Out comes
1	Features of C language, POP and OOP. List of OOP languages. Basic format of C++ program. Processor Directives. I/O statements. Language syntax: Keywords, Identifiers, constants, variables, classification of variables based on scope and life, operators. Data types: Basic, derived and user-defined data types. Data type casting. Data abstraction and encapsulation. Simple example programs.	CO1
2	Concepts of control structure. Branching: if, if-else, switch, break, continue. Looping-for, while anddo-while. Derived data type: Arrays, strings, pointers, enumerated data types and functions. Functions-Call by value, address and reference. User-defined data type: structure, union and classes. Example programs	CO2
3	Introduction to class and objects. Limitation of Structure and benefits of class. Class and object creation. Private and public, protected members of class-Variables, arrays and functions. Accessing Class Members. Memory allocation for Objects. Array of objects. Friend Function. Data abstraction and data encapsulation. Simple example programs	CO3
4	Introduction to overloading. Constructors: parameterized constructors, default arguments, overloading and copy constructor. Destructors, Unary and binary operator overloading. Function overloading, functions with default arguments. Inline functions. Simple example programs	CO4
5	Introduction to inheritance. Defining derived classes, Levels of inheritance, Single inheritance, public and private member inheritance, multiple inheritance, Hierarchical inheritance, Hybrid inheritance, polymorphism. Example programs	CO5
6	Pointers-Declaration and initialization. Manipulation of pointers, pointers to objects, pointers to derived classes, pointers with arrays and strings. Introduction to Virtual functions, rules for virtual functions, pure virtual functions. Formatted and Unformatted I/O functions. Simple example programs. Features of other OOPS languages-JAVA and PYTHON.	

Prerequisites Knowledge of c++ programming and oops concepts


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Course Outcomes

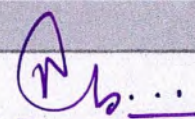
- CO1 *Understand* the C++ language features and employ the control structure and data types in C++.
- CO2 *Use* functions and pointers in C++ program as well as understand tokens, expressions, and control structures
- CO3 Explain arrays and strings and create programs using them
- CO4 Describe and use constructors and destructors
- CO5 Understand the concepts of inheritance , polymorphism and virtual functions and I/O statements as well as employed file system

CO-PO & CO-PSO Mappings

CO5	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3											2		
CO2	2	3											2		
CO3	2			3						2	2	2	2		
CO4			2	3						2	2	2		3	
CO5			2	3										3	
Average	2	3	2	3						2	2	2	2	3	

Evaluation Criteria: 1. Evaluation of Practical assignments, Group project, Viva/Quiz

K. Chomuo



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HINDUSTAN COLLEGE OF SCIENCE & TECHNOLOGY, FARAH -MATHURA
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Value Added Course

VAC-21-22-VCS2101 - Object Oriented Programming Using C++

18th September '2021 – 19th February 2022- Every Saturday: 3:00 PM – 5:00 PM

Program Schedule:

Session	Date	Time	No. of Hours	Session Topic	Resource Person
1	18-09-2021	3:00 PM - 5:00 PM	2	Features of C language, POP and OOP.	Dr. Munish Khanna
2	25-09-2021	3:00 PM - 5:00 PM	2	List of OOP languages. Basic format of C++ program. Processor Directives. I/O statements	Dr. Munish Khanna
3	09-10-2021	3:00 PM - 5:00 PM	2	Language syntax: Keywords, identifiers, constants, variables, classification of variables based on scope and life, operators.	Dr. Munish Khanna
4	23-10-2021	3:00 PM - 5:00 PM	2	Data types: Basic, derived and user-defined data types, Data-type casting, Data abstraction and encapsulation Simple example programs	Dr. Munish Khanna
5	10-10-2021	3:00 PM - 5:00 PM	2	Concepts of control structure. Branching- if, if-else, switch, break, continue. Looping-for, while and do-while. Derived data type: Arrays, strings, pointers, enumerated data types and functions	Dr. Munish Khanna
6	13-11-2021	3:00 PM - 5:00 PM	2	Functions-Call by value, address and reference, User-defined data type: structure, union and classes. Example programs	Dr. Munish Khanna
7	20-11-2021	3:00 PM - 5:00 PM	2	Introduction to class and objects. Limitation of Structure and benefits of class	Dr. Munish Khanna
8	04-12-2021	3:00 PM - 5:00 PM	2	Class and object creation. Private and public, protected members of class-Variables, arrays and functions.	Dr. Munish Khanna
9	11-12-2021	3:00 PM - 5:00 PM	2	Accessing Class Members. Memory allocation for Objects, Array of objects. Friend Function. Data abstraction and data encapsulation. Simple example programs.	Dr. Munish Khanna
10	18-12-2021	3:00 PM - 5:00 PM	2	Introduction to overloading Constructors: parameterized constructors, default arguments, overloading and copy constructor	Dr. Munish Khanna
11	01-01-2022	3:00 PM - 5:00 PM	2	Destructors, Unary and binary operator overloading, Function overloading, functions with default arguments. Inline functions. Simple example programs.	Dr. Munish Khanna
12	08-01-2022	3:00 PM - 5:00 PM	2	Introduction to inheritance. Defining derived classes, Levels of inheritance, Single inheritance,	Dr. Munish Khanna
13	15-01-2022	3:00 PM - 5:00 PM	2	public and private member inheritance, Multiple inheritance, Hierarchical inheritance, Hybrid inheritance, polymorphism, Example programs.	Dr. Munish Khanna
14	22-01-2022	3:00 PM - 5:00 PM	2	Pointers-Declaration, initialization, Manipulation of pointers, pointers to objects, pointers to derived classes,	Dr. Munish Khanna
15	29-01-2022	3:00 PM - 5:00 PM	2	Text and Binary I/O, Binary I/O classes, Object I/O, Random Access Files	Dr. Munish Khanna
16	05-02-2022	3:00 PM - 5:00 PM	2	pointers with arrays and strings, Introduction to Virtual functions, rules for virtual functions, pure virtual functions	Dr. Munish Khanna
17	12-02-2022	3:00 PM - 5:00 PM	2	distributed database, Introduction of ANSI SQL, Formatted and Unformatted I/O functions	Dr. Munish Khanna
18	19-02-2022	3:00 PM - 5:00 PM	2	Simple example programs. Features of other OOPS languages-JAVA and PYTHON, Mini Project	Dr. Munish Khanna

Munish Khanna

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P. S. ...
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Department of Computer Science and Engineering

Value Added Course - Registration Form

Course Name: Object Oriented Programming Using C++ Course Code: VCS2101

Session 2021-22			From September, 2021 to December, 2021		
Sr. No.	Roll No.	Name	Department	Semester	Signature of Student
1	2000640100002	Abhijeet Singh	CSE	III	
2	2000640100003	Abhishek Kumar	CSE	III	
3	2000640100004	Abhishek Sharma	CSE	III	
4	2000640100005	Aditya Bhatt	CSE	III	
5	2000640100006	Aditya Pratap	CSE	III	
6	2000640100007	Aishwarya Roy	CSE	III	
7	2000640100008	Ajay Kuchhadiya	CSE	III	
8	2000640100010	Akash Sharma	CSE	III	
9	2000640100012	Akshita Sharma	CSE	III	
10	2000640100013	Aman Mishra	CSE	III	
11	2000640100014	Amisha Saraswat	CSE	III	
12	2000640100015	Aniket Agarwal	CSE	III	
13	2000640100016	Anjali Agarwal	CSE	III	
14	2000640100017	Ankur Mahour	CSE	III	
15	2000640100018	Ansh Shivhare	CSE	III	
16	2000640100019	Ansh Upadhyay	CSE	III	
17	2000640100020	Anshul Singh	CSE	III	
18	2000640100021	Antra Bansal	CSE	III	
19	2000640100022	Anurag Sharma	CSE	III	
20	2000640100023	Apaar Srivastava	CSE	III	
21	2000640100024	Aradhya Shukla	CSE	III	
22	2000640100025	Arjun Singh	CSE	III	
23	2000640100026	Arpita Singh Sengar	CSE	III	
24	2000640100027	Arun Kashyap	CSE	III	
25	2000640100028	Ashish Chaudhary	CSE	III	
26	2000640100029	Ashish Sen	CSE	III	
27	2000640100030	Avinash Yadav	CSE	III	
28	2000640100031	Ayush Gautam	CSE	III	
29	2000640100032	Ayush Gupta	CSE	III	
30	2000640100034	Bhanu Pratap	CSE	III	
31	2000640100035	Brahamjeet Singh	CSE	III	
32	2000640100036	Chirag Ramnani	CSE	III	
33	2000640100037	Devansh Mishra	CSE	III	
34	2000640100038	Devanshi Patel	CSE	III	
35	2000640100039	Dhruv Gautam	CSE	III	
36	2000640100040	Dhruv Tomer	CSE	III	
37	2000640100042	Divya Singh	CSE	III	
38	2000640100043	Divyansh Bhirag	CSE	III	
39	2000640100044	Divyanshi Yadav	CSE	III	
40	2000640100045	Ekansh Kulshrestha	CSE	III	
41	2000640100046	Gagan Kapoor	CSE	III	
42	2000640100047	Garv Jain	CSE	III	
43	2000640100049	Gaurav Saraswat	CSE	III	
44	2000640100050	Harsh Bhardwaj	CSE	III	
45	2000640100051	Harsh Jain	CSE	III	
46	2000640100052	Harsh Sharma	CSE	III	
47	2000640100053	Harsh Yadav	CSE	III	
48	2000640100055	Harshita Nagar	CSE	III	
49	2000640100056	Himanshu Chauhan	CSE	III	

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50	2000640100057	Himanshu Singh	CSE	III	Himanshu
51	2000640100059	Kanchan Yadav	CSE	III	Kanchan
52	2000640100060	Karan Kumar	CSE	III	Karan
53	2000640100062	Khushi Mittal	CSE	III	Khushi
54	2000640100063	Krishan Gopal Pathak	CSE	III	Krishan
55	2000640100064	Krishan Kumar Rawat	CSE	III	Krishan
56	2000640100065	Krishna Gupta	CSE	III	Krishna
57	2000640100067	Kumari Bhawna	CSE	III	Bhawna
58	2000640100001	Aakib Khan	CSE	III	Aakib
59	2000640100061	Khushi Gupta	CSE	III	Khushi
60	2000640100066	Kuldeep Singh	CSE	III	Kuldeep
61	2000640100070	Mangal Pratap Dubey	CSE	III	Mangal
62	2000640100071	Mayank Kushwaha	CSE	III	Mayank
63	2000640100072	Mohammad Shahzaib	CSE	III	Mohammad
64	2000640100073	Mohil Kumar	CSE	III	Mohil
65	2000640100074	Nandini Gupta	CSE	III	Nandini
66	2000640100075	Nikhil Rathore	CSE	III	Nikhil
67	2000640100076	Nishant Chauhan	CSE	III	Nishant
68	2000640100077	Nitanshi Agarwal	CSE	III	Nitanshi
69	2000640100078	Owais Raza	CSE	III	Owais
70	2000640100079	Paras Gupta	CSE	III	Paras
71	2000640100080	Piyush Kumar	CSE	III	Piyush
72	2000640100081	Poorva Singh	CSE	III	Poorva
73	2000640100082	Pradeep Kumar	CSE	III	Pradeep
74	2000640100083	Prakhar Saxena	CSE	III	Prakhar
75	2000640100084	Priya Sharma	CSE	III	Priya
76	2000640100085	Priyanshu Lodhi	CSE	III	Priyanshu
77	2000640100086	Priyanshu Verma	CSE	III	Priyanshu
78	2000640100087	Proshan Kumar	CSE	III	Proshan
79	2000640100088	Puneet Paliwal	CSE	III	Puneet
80	2000640100089	Pushkar Pratap Singh	CSE	III	Pushkar
81	2000640100091	Riya Singh	CSE	III	Riya
82	2000640100092	Riya Verma	CSE	III	Riya
83	2000640100093	Sadhna Solanki	CSE	III	Sadhna
84	2000640100094	Sagar Varshney	CSE	III	Sagar
85	2000640100095	Sahil Srivastava	CSE	III	Sahil
86	2000640100096	Sajal Singh	CSE	III	Sajal
87	2000640100097	Sakshi Gupta	CSE	III	Sakshi
88	2000640100098	Shaurya Gupta	CSE	III	Shaurya
89	2000640100099	Shivam Agarwal	CSE	III	Shivam
90	2000640100100	Shivam Singh	CSE	III	Shivam
91	2000640100101	Shivam Vatyani	CSE	III	Shivam
92	2000640100103	Shreyansh Agarwal	CSE	III	Shreyansh
93	2000640100104	Shirish Tiwari	CSE	III	Shirish
94	2000640100105	Shruti Agarwal	CSE	III	Shruti
95	2000640100106	Suhanika Saxena	CSE	III	Suhanika
96	2000640100107	Surya Prakash Agarwal	CSE	III	Surya
97	2000640100108	Tanuj Singh	CSE	III	Tanuj
98	2000640100109	Tanuj Tyagi	CSE	III	Tanuj
99	2000640100110	Tanvi Garg	CSE	III	Tanvi
100	2000640100112	Tushar Saxena	CSE	III	Tushar
101	2000640100113	Vaishnavi Gautam	CSE	III	Vaishnavi
102	2000640100114	Varun Mishra	CSE	III	Varun
103	2000640100115	Vidit Gupta	CSE	III	Vidit
104	2000640100116	Vivek Tyagi	CSE	III	Vivek
105	2000640100117	Yash Bhardwaj	CSE	III	Yash
106	2000640100118	Yash Gautam	CSE	III	Yash

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107	2000640100120	Yashank Gupta	CSE	III	<i>[Signature]</i>
108	2000640100121	Yogesh Shukla	CSE	III	<i>[Signature]</i>
109	2100640109001	Divyanshu	CSE	III	<i>[Signature]</i>
110	2100640109002	Girish Kumar	CSE	III	<i>[Signature]</i>
111	2100640109003	Kunjan Baghel	CSE	III	<i>[Signature]</i>
112	2100640109004	Nikhil Narayan	CSE	III	<i>[Signature]</i>
113	2100640109005	Praphull Chandra	CSE	III	<i>[Signature]</i>
114	2100640109006	Priyansh Pachauri	CSE	III	<i>[Signature]</i>
115	2100640109007	Raghav Garg	CSE	III	<i>[Signature]</i>
116	2100640109008	Sariq Khan	CSE	III	<i>[Signature]</i>
117	2100640109009	Varun Dixit	CSE	III	<i>[Signature]</i>
118	2100640109010	Yashveer Singh	CSE	III	<i>[Signature]</i>

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 Head
 Dept. of Computer Science & Engg.
 Hindustan College of Science & Technology
 Farah, Mathura

[Signature]
 Director
 Hindustan College of
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CERTIFICATE OF PARTICIPATION

THIS IS AWARDED TO

Mr./Ms. *Ayush Gupta* of *B.Tech. 1st* year

Roll No. *2000064100034* .. of Department *Computer Science & Engineering*

In recognition of Participation in the "VCS2101 - OBJECT ORIENTED PROGRAMMING USING C++" Organised by the Department of Computer Science and Engineering, Hindustan College of Science and Technology during the session of 2021-22.

Dr. R.K. Upadhyay
Director

Dr. Munish Khanna
Course Coordinator & Head of Department

Director
Hindustan College of
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