GRADUATE PROSPECTUS 2013-14

COMSATS Institute of Information Technology

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GRADUATE PROSPECTUS 2013-14

COMSATS Institute of
Information Technology

Welcome Message from the Rector!

I am delighted to share with you that COMSATS Institute of Information Technology (CIIT) is ranked as one of the top Institutions of higher learning in Pakistan and is the choice destination for higher studies. CIIT chartered in 2000, started with a single classroom, meager resources, offering a few certificate courses and a postgraduate diploma in Computer Studies; today stands at an enviable position, with a choice of eight campuses, five Faculties, 18 Departments and more than 85 degree programs to its prospective students. In a little over a decade since its inception, CIIT is consistently being ranked highly by Higher Education Commission (HEC) due to its commitment towards excellence in teaching and research.

Our aim is to provide you state of the art knowledge, develop your skills and create in you an enthusiasm that will propel you to meet the challenges that lie ahead, and enable you to effectively contribute towards progress and future development of our country in particular and the world in general. CIIT is a leading research based institution, recognized nationally and internationally for its teaching standards and research output.

CIIT has been consistently ranked among top 07 universities since 2006 on the basis of research productivity. According to HEC's recent ranking, the CIIT has secured the first position in Computer Sciences and IT category and overall it stands among top ten institutions of higher education in Pakistan. We have a unique blend of graduate programs available in the areas of Science, Engineering, Business Administration, and Information Sciences and Technology. The graduate programs on offer are demand driven and relevant to the market demands.

The research papers published by CIIT faculty since 2005 are 2,621 out of which 643 were published during 2012. The majority of papers are ISI indexed. The research activities are not confined to publishing of research papers only but also include books and patents. The books published till date are 30 whereas six patents are registered by CIIT so far. Besides these, few of the products developed by CIIT include Electronic Voting Machine, BioPhos and HumiPhos by Auriga Fertilizer, Light Sensor Switches, Simulation machine for Paramilitary Training, Optical Mark Reader, Light Emitting Diode (LED) Street Lights, Data Logger, Gloss Dish wash, Surface Cleaner, Hand Sanitizer , Smartphone Application Development, etc.

Our graduate programs offer amalgamation of theory and practical knowledge in emerging technologies in a way that provides impetus to technical excellence, originality and a broad vision sharpened by transferable skills such as team work, strong communication and leadership for future careers. We achieve this courtesy through our world class faculty, which is drawn largely from academia as well as industry to ensure

that links with the academia and commercial worlds are robust and the students are able to work on real world problems. This provides an excellent opportunity for career progression of our students. CIIT graduates have a high success rate in securing jobs in industry, business, banking and other professions of their choice.

CIIT is proud of its uncompromising standards of higher education which prepare well for professional life and personal development of more than 2,634 full time graduate students. Our students are seriously dedicated and committed to the academic and research pursuits. This helps us ensure a mature and focused environment conducive to learning and quality research.

The CIIT is committed to continuously strive for academic excellence and maintaining a high standard of teaching and research. I am sure that you will have an exciting, successful and highly rewarding experience during your study period at CIIT.

Dr. S. M. Junaid Zaidi, S.I.

Rector

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Chapter 1:
Introduction

Why Choose CIIT?

COMSATS Institute of Information Technology (CIIT), a leading Degree Awarding Institution of higher education in Pakistan is among the Centers of Excellence of Commission on Science and Technology for Sustainable Development in the South (COMSATS) www.comsats.org.

Established in 1998, CIIT is one of the fast growing research-based institutions in Pakistan, with a wide range of academic programs (ranging from basic sciences to cutting edge emerging technologies) and a network of inter-disciplinary research centers making it an ideal place for higher studies leading to MS and PhD degrees.

Since its establishment, CIIT has made multi-faceted growth in terms of campuses (currently it has eight fully functional campuses), number of students, faculty members, academic programs, research output, and public outreach, to accomplish its three-fold stated mission, i.e., Research and Discovery, Teaching and Learning, and Outreach and Public Service, which makes it a popular choice for undergraduate as well as graduate programs.

Quality of Research at CIIT

The Institute has an excellent reputation for the quality of its research degree training and with 2,245 qualified faculty members, mostly with foreign qualifications to their credit, will continue to provide the highest standards of teaching and research supervision. CIIT faculty is committed to ensure that graduate students receive appropriate training and guidance to nurture their drive for innovation, creativity and skills to explore new horizons in their respective fields. The research activity within the Institute is vast and extends across the faculties and departments, often crossing traditional subject boundaries. Activity covers both theoretical and applied research, as well as specific or contract research projects that are undertaken on behalf of outside bodies such as government, industry and research funding agencies.

Realizing the acute shortage of highly qualified researchers and scientists and to enhance research culture among the faculty, the Research and Development (R&D) Division was established in January 2005 at CIIT. Since its inception, the R&D Division under the dynamic and visionary leadership of the Rector, is playing an active and vital role to enhance and encourage the faulty to contribute and share in promoting the research activities by means of research papers, proposals, projects, etc. in all the disciplines.

In March 2011, R&D Division was transformed into the Office of Research, Innovation and Commercialization (ORIC), to transmute pure knowledge into products and production processes with ultimate goal to give the research spectrum of more vibrant and strong stature. The mission of the ORIC is to establish a strong research culture, commercialization and innovation within a dynamic, efficient and effective team of scientists and researchers and to motivate them to play an active role to plan, strategize and to materialize the vision and mission of the CIIT. In addition, the ORIC welcomes and creates good working relationship with other higher learning institutions, industries and donor agencies especially HEC, PSF, British Council and ICT R&D Funds etc. in the activities that can enhance entrepreneurship, academic and research excellence. It also focuses towards achieving technological competitive edge and a world class status for the Institute.

Faculty members are active in research in their respective fields and the total number of research articles published

by CIIT faculty members till 2012 are 2,621. The year-wise detail of research publications is as under:

Year	No. of Publication
2005-06	178
2007	202
2008	195
2009	373
2010	327
2011	703
2012	643
Total	**2,621**

CIIT faculty has published various books and have also registered the patents:

Year	No. of Books
1999	1
2002	2
2003	2
2005	2
2006	1
2009	1
2010	14
2011	5
2012	2
Total	**30**

To encourage and appreciate the graduate students for undertaking research, an incentive in term of "Cash Award" is offered for each publication. The incentive of doing research is particularly important for young emerging faculty. To encourage the research graduates and young faculty, the CIIT has established "CIIT Research Grant Program" under which research grants up to Rs.500,000/- are available for research projects of short duration.

Research Centers

The centers of excellence are symbol of pride and recognition for the institutes. These show the underlying strength in these disciplines to carry out world class research and

Patents

Author Name	Title	Publication Date	Publication Number
Dr. Shahid Khattak and Fonseca Dos Santos Andre	Process and arrangement for turbo Equalization with Turbo Decoding of Signals	April 08, 2008	EP1906610(A1)
Dr. Robina Farooq and Dr. Salem Farooq Shaukat	Novel Sonoelectrolysis for Metal Removal	June 11, 2009	US 2009/0145774 A1
Dr. Shahid Khattak and Prof. Dr. Fettweis Gerhard	Process for Mitigation of Interference in a Mobile Cellular Network and Base Station of a Mobile Cellular Network	April 07, 2010	ES2336020(T3)
Dr. Shahid Khattak	Method for Base Stations for overall Cell Signal Decoding	December 23, 2010	US2010323706(A1)
	Decentralized and Cooperative Reception of Data by Base Stations	July 13, 2011	EP2342876(A2)
Dr. Robina Farooq	Recovery of nickel from industrial pickling acid solutions	July 7, 2011	US(2011), 20110162976

development. The CIIT has established a number of research centers and a few are in the developing stage. The detail of research centers established at CIIT is as follows:

- Center for Advanced Studies in Telecommunication
- Interdisciplinary Research Center in Biomedical Materials (IRCBM)
- Center for Research in Management Sciences
- Center for Professional Development
- China Study Center
- Center for Policy Studies
- Business Incubation Center
- Center for Climate Research and Development

Center for Advanced Studies in Telecommunication

Center for Advanced Studies in Telecommunication (CAST) was established in December 2007 as an autonomous research cost center committed to quality research in the area of telecommunication. CAST has been funded by Higher Education Commission and CIIT's own resources. Establishment of CAST has ensured long-term continuity of quality and industry relevant research.

Since there was an absence of any meaningful dialogue and collaboration between regional industry and universities, CAST was developed with an aim to use it as an interface between university-based telecommunications activities and regional telecom government and community groups. CAST from its inception has been focused on developing strong industry links, with special focus on practical implementation and realization of telecommunication technologies. In this regard, CAST has established a marketing department for establishing and maintaining mutually beneficial commercial collaboration with local telecom industry.

The mission of CAST is to provide service to the society by promoting quality research in telecommunication by virtue of its highly competent faculty and staff, sate-of-the-art research facilities, synergistic relationships with regional industry and by providing an intellectually stimulating environment for problem–based research. Undergraduate students can also undertake their final year projects under the supervision of the research scholars working in CAST.

Interdisciplinary Research Center in Biomedical Materials

The interdisciplinary Research Center in Biomedical Materials (IRCBM) was setup in 2008 at CIIT, Lahore as a center of excellence with multi-disciplinary approach to Biomaterials. The center works beyond subject boundaries with the aim of translating fundamental research to clinical care.

Scientists at IRCBM are carrying out research in the field of Bio-ceramics, Polymer Chemistry, Nanotechnology and Tissue Engineering. They are looking for new ways of synthesizing novel bone fixation and bone replacement materials in order to improve the biological properties. Bio-performance is determined via in vivo and in-vitro biological testing and some of Pakistan's leading surgeons are associated with the center.

Center for Research in Management Sciences

The Center for Research in Management Sciences was established in 2010 at CIIT Islamabad. The center has a number of active researchers from across the Finance and

Accounting, Economics, Management, Marketing, and Information Technology areas. It is established with an objective to promote research activities that lead to high quality research output. Another aim of the center is to promote meaningful exchange of ideas and collaboration between regional industry and academia. A few objectives are as follows:

To support high quality research within the department of Management Sciences, through promoting a research culture among staff and students and establishing and maintaining high quality research databases.

To encourage and promote linkages with the industry and to offer quality information and training programs to commercial clients.

Center for Professional Development

The intensive interactions with the local industry revealed that the industry is facing a shortage of skilled manpower/engineers in various fields like industrial control and automation, instrumentation, mobile communication, spectrum planning and monitoring, energy conservation and power factor improvement. Keeping the fore-mentioned facts in mind, interactions with the concerned authorities of Siemens Pakistan, AH Automations, Frequency Allocation Board, Alcatel-Lucent, Ufone and a few others were made. All of these organizations agreed to cooperate with CIIT in order to enrich professional development. For this concern Center for Professional Development (CPD) was established in 2010 under the Department of Electrical Engineering at CIIT Islamabad. Currently CPD focuses on the following:

Faculty / Student Training on technology that is high in demand.

Trainings for personal and professional improvements.

Exhibitions, Seminars and Workshops on different field of study.

Building strong relationship with industry.

China Study Center

The vision of this center is to promote China as the most significant geopolitical and economic partner of Pakistan. The mission of the center is to develop an understanding and appreciation of the socio-cultural and economic intricacies pertaining to the Peoples Republic of China. The China Study Center at CIIT seeks to promote Pak-China friendship; promote cooperation in scientific, economic, cultural, educational, and other related fields. The activities of China Study Center are:

To provide a critical interface for the University's relations with business, government and non-governmental institutions involved with China.

To carry out and coordinate China related research projects within and outside the center.

To convene conferences, public lectures and workshops, develop media promotional strategies and work with various stakeholders to promote Chinese language and culture in Pakistan and collaboration in the scientific and economic fields.

To provide customized consultancy services and training programs.

To promote understanding by exchange of students, researchers and faculty.

Center for Policy Studies

Recently, CIIT has established a Center for Policy Studies (CPS) to offer

academic programs and research studies in policy areas which could benefit the government and the society at large. The center intends to combine the expertise of the policy framers and practitioners with the academics and researchers. The center aims to play a supportive and advisory role for the policy makers by offering them timely recommendations and policy options duly supported by sound theoretical research and empirical surveys.

CPS plans to frame and offer timely, coherent and practicable responses on issues of public interest to policy makers through empirical research, in-depth analysis and consultative process with relevant stakeholders. Through a multi-disciplinary approach, it aims to bridge the gap between academia, Government, industry and civil society on various contemporary issues. Moreover, it will undertake short and medium term training modules for capacity-building of professionals in public and private sectors. The prime objectives of CPS are:

To provide rigorous and multi-disciplinary research and policy prescriptions.

To offer education for aspiring and practicing public policy professionals and citizens.

To offer high-quality scholarly research that promotes public understanding of contemporary public policy issues like energy crisis, terrorism, governance issues, low technology based production and export profile, low tax to GDP ratio, low agricultural productivity, water and food security, climate issues, other natural and man-made disasters preparedness etc. and handling to seek understanding of the dynamics of issues in Pakistan's neighbor hood that impinge upon its security.

The CPS has already started functioning apart from launching Research Studies in a few important areas including climate change, impact of cellular phones on Pakistan's economy, policy formulation and implementation mapping in Pakistan, human and natural design systems, and strategic issues in post US exit from Afghanistan etc. Other activities of the center including executive training programs, seminars and conferences and partnerships with renowned research centers are also underway.

Besides these, there are few other units functioning at different campuses of CIIT including Engineering Resource Center (ERC), Life Sciences Services Center (LiSCENT), COMSATS Community Development Unit (CCDU), Information Technology (IT) Center, CISCO Regional Academy, and Center for Micro and Nano Devices, etc.

Charter of Degree Awarding Institute (DAI)

The CIIT was awarded its Charter by the Federal Government of Pakistan on August 12, 2000. It was set up as a federally based Degree Awarding Institute (DAI) in the public sector. The President of Islamic Republic of Pakistan is the Patron of CIIT whereas the Federal Minister for Science & Technology is the Chancellor. The CIIT functions under the guidance of the Board of Governors (BoG) headed by the Executive Director COMSATS. The principal academic and administrative officer of the Institute is the Rector, who performs his functions in accordance with the general policy guidelines laid down by the Board of Governors.

Board of Governors

Member	Membership Type
Executive Director, Commission on Science and Technology for Sustainable Development in the South (COMSATS)	Chairman
Secretary, Ministry of Science and Technology, Islamabad	Member
Secretary, Ministry of Education and Training, Islamabad or his nominee	Member
Chairman, Higher Education Commission, Islamabad or his nominee	Member
Nominee of Educational NGOs	Member
3 Persons of Outstanding Merit nominated by the Managing Committee of the COMSATS	Member(s)
Rector, COMSATS Institute of Information Technology	Member
Campus Directors, COMSATS Institute of Information Technology	Member(s)
2 Deans of Faculties of COMSATS Institute of Information Technology nominated by the Managing Committee of the COMSATS	Member(s)
Registrar, COMSATS Institute of Information Technology	Member/Secretary

Historical Perspective

The CIIT was established in 1998 as a project of the Commission on Science and Technology for Sustainable Development in the South (COMSATS), which is an inter-governmental organization with 21 member states in three continents; Asia, Africa and Latin America. Currently, CIIT has the status of a public sector degree awarding higher education institution.

COMSATS itself came into being in 1994 as an organization, dedicated to highlight the role of S&T in the development plans of the South and the facilitation of South-South and North-South cooperation for capacity building in S&T. An excellent arrangement for S&T cooperation is provided through a network of 16

Centers of Excellence affiliated with COMSATS in various member countries including CIIT in Pakistan.

COMSATS Member Countries

Bangladesh	Jordan
Sri Lanka	China
Kazakhstan	Sudan
Colombia	Korea (DPR)
Syria	Egypt
Nigeria	Tanzania
Ghana	Pakistan
Tunisia	Iran
Philippines	Uganda
Jamaica	Senegal
Zimbabwe	

Vision

CIIT aspires to be both one of the top research institutions and one of the best higher education providers in the country. It envisages becoming a university by the name of "COMSATS University", for which the legal documentation is under process with the Government of Pakistan. The vision being pursued by the CIIT is to become one of the top 100 universities in the developing world. The CIIT further resolves to earn a place among the top 500 universities of the world by the year 2020.

Mission

The CIIT is dedicated to the search for truth through advancement of

learning and extending the frontiers of knowledge; to the sharing of this knowledge through education in academically diverse disciplines; and to the application of this knowledge for the benefit of the people of Pakistan in particular, and the Muslim Ummah and the world, in general. The Institute's mission is threefold:

i) Research and Discovery

Generate and preserve knowledge, understanding and creativity by instigating enquiry, conducting high-quality research and promoting scholarship, that benefit students, scholars and communities across the country, the Muslim Ummah and the World, at large.

ii) Teaching and Learning

Share the knowledge, understanding and creativity by providing a broad range of educational programs among a diverse community of learners and teachers and prepare graduate, professional and undergraduate students as well as non-degree seeking students interested in continuing education and lifelong learning for active roles in competitive and culturally diverse environments.

iii) Outreach and Public Service

Extend, apply and exchange knowledge between the institute and society by applying scholarly expertise to intellectual, social

and technological problems, by helping organizations and individuals respond to their changing environments, and by making the knowledge and resources created and preserved at the institute accessible to the citizens. Using the resources of its multiple campuses in an integrated fashion, the Institute vies to strengthen the services to the state through the education of a modern work force, research and development, technology commercialization and partnership with business, government and community groups.

Rankings

Since its inception, independent entities have evaluated CIIT and the quality of its programs, such as the Higher Education Commission (HEC), Pakistan Engineering Council (PEC), National Computing Education Accreditation Council (NCEAC), Pakistan Pharmacy Council (PPC), and the Institute of Scientific Information (ISI) Web of Knowledge. It is a matter of pride for the CIIT that it has been able to record remarkable achievements in terms of ranking of its degree programs as well as research productivity of the faculty members.

In 2012, CIIT was ranked as number one (1) university of Pakistan in Computer Science & IT besides being ranked at number 9 among all 132 universities of Pakistan. This ranking was announced by HEC based on QS ranking format and for enhancing Quality & Research based Rankings of Pakistani Higher Education Institutes.

In terms of research output, CIIT has been consistently ranked at number seven (7) among all the institutions of higher education numbering more than 134 in the country since 2006 till 2009, as declared by HEC, based on the Institute of Scientific Information (ISI) Web of knowledge (USA). It further improved its position in research productivity and rose to number six (6) during 2010 and 2011.

Campuses

The CIIT, besides its principal campus at Islamabad, has six other fully functional campuses at Lahore, Abbottabad, Wah, Attock, Sahiwal, and Vehari, while few more campuses at Gujrat, Gujar Khan, and Jaffarabad, etc. are in the pipeline. To increase the approach and availability of top quality benchmark education and teaching experience in country, CIIT has taken a step forward by establishing its Virtual Campus in 2012 for distance learning programs.

Friendly Campus Environment

The institutions of higher learning are the places to generate and create new knowledge through a friendly, free environment conducive for freedom of thought, expression and reasoning. The CIIT is promoting these virtues and culture by providing a friendly atmosphere to interact with the students of diverse backgrounds due to which a great sense of fraternity and cultural mixing is seen on the campus. The CIIT is providing confidence and trust among the students by providing friendly and fearless environment. Our graduates have great confidence and trust on their abilities and a great desire to deliver in their future career as they are wiser and more knowledgeable.

Diverse Community

CIIT is an equal opportunity institution for the students, so it always welcomes students from all the corners of Pakistan and around the globe. This brings in the diverse community together, which generates great qualities of consideration, tolerance, understanding and fellow feeling among the graduates. The graduates of CIIT are overwhelmed with research, teaching and a spirit of serving across the country and the globe.

International Linkages

Realizing that Research and Development activities in this era of tough competition and globalization cannot take place in isolation, the CIIT has established linkages with reputed national and international

organizations. The CIIT in its brief history has made landmark achievements by signing 140 Memoranda of Understanding (MoUs) with national and some of the world's renowned educational institutions. The nucleus rationale of getting into linkages is to encourage exchange of students and faculty to pursue higher education, to organize joint conferences, workshops and seminars, to arrange joint research activities, to work out on staff development programs, and other academic related activities.

Faculties, Departments, Research Centers and Graduate Programs

The CIIT at present comprises the 5 Faculties, 18 Departments and 8 Research Centers. Presently more than 85 undergraduate and graduate degree programs are on offer.

Faculty Distinction: More than 565 faculty members and academic managers holding PhD qualification are currently serving the CIIT. The remaining has MS / M.Phil in relevant fields.

Graduate Output

CIIT has proudly produced more than 22,550 graduates since its inception in 2000. So far, 51 convocations have been organized in its campuses.

Students

Total:	22,860
Undergraduate:	17,993
Master:	2,233
Graduate:	2,634

Faculty

Total:	2,245

Faculty Development

More than 428 faculty members are undergoing advanced education / training leading to MS and PhD degrees and post doctoral research in USA, UK, China, France, Sweden, Australia, Austria, Germany, Canada, Malaysia, Finland, Korea, Netherlands, etc. The funding for advanced education has come from CIIT Scholarships, HEC Scholarships and a few from self sponsorships.

Services

- Academic Faculties
- Teaching Departments
- Specialized Research Labs
- Students Counseling Centers
- Career Development Cells
- COMSATS Technologies
- Edward De Bono Foundation
- Inter-Islamic Network on Information Technology (INIT)
- CISCO Academy
- National Testing Service (NTS)
- Center of Excellence in Information and Communication Technologies
- Faculty Development Academy

Graduate Programs being offered during 2013-14

Admissions in the following graduate programs are being offered:

Islamabad Campus

Department of Computer Science

MS in Computer Science
MS in Software Engineering
PhD in Computer Science

Health Informatics Unit

MS in Health Informatics

Department of Electrical Engineering

MS in Electrical Engineering
MS in Computer Engineering
PhD in Electrical Engineering
PhD in Computer Engineering

Department of Management Sciences

MS in Management Sciences
MS in Project Management
MS in Economics
MS in Energy Management
MS in Banking and Finance
PhD in Management Sciences
MBA (2.5 years)
MBA (1.5 years)

Department of Mathematics

MS in Mathematics
PhD in Mathematics

Department of Biosciences

MS in Biosciences
MS in Bioinformatics
MS in Biochemistry and Molecular Biology
MS in Molecular Genetics
MS in Microbiology and Immunology
MS in Molecular Virology
PhD in Biosciences
PhD in Biochemistry and Molecular Biology
PhD in Molecular Genetics
PhD in Microbiology and Immunology

Department of Meteorology

MS in Meteorology
MS in Remote Sensing and GIS
PhD in Meteorology

Department of Physics

MS in Physics
MS in Nanotechnology
PhD in Physics

Abbottabad Campus

Department of Computer Science

MS in Computer Science
PhD in Computer Science

Department of Electrical Engineering

MS in Electrical Engineering
PhD in Electrical Engineering

Department of Civil Engineering

MS in Environmental Engineering

Department of Management Sciences

MS in Management Sciences
MS in Project Management
MS in Economics
MS in Banking and Finance
MBA (1.5 years)

Department of Development Studies

MS in Development Studies

Department of Environmental Sciences

MS in Biotechnology
MS in Environmental Science
MS in Sustainable Water Sanitation Health and Development
PhD in Biotechnology

PhD in Environmental Science

Department of Mathematics

MS in Mathematics

Department of Chemistry

MS in Chemistry
PhD in Chemistry

Department of Pharmacy

MS in Pharmacy
PhD in Pharmacy

Lahore Campus

Department of Computer Science

MS in Computer Science
PhD in Computer Science

Department of Electrical Engineering

MS in Electrical Engineering
PhD in Electrical Engineering

Department of Chemical Engineering

MS in Chemical Engineering
PhD in Chemical Engineering

Department of Management Sciences

MS in Management Sciences
MS in Project Management
MS in Economics
PhD in Management Sciences
MBA(1.5 years)

Department of Mathematics

MS in Mathematics
PhD in Mathematics

Department of Statistics

MS in Statistics
PhD in Statistics

Department of Physics

MS in Physics
PhD in Physics

Wah Campus

Department of Computer Science

MS in Computer Science
PhD in Computer Science

Department of Electrical Engineering

MS in Electrical Engineering
PhD in Electrical Engineering

Department of Management Sciences

MS in Management Sciences
MS in Banking and Finance
MBA (1.5 years)

Department of Mathematics

MS in Mathematics

Attock Campus

Department of Computer Science

MS in Computer Science

Department of Electrical Engineering

MS in Electrical Engineering

Department of Management Sciences

MS Management Sciences
MBA(1.5)

Department of Mathematics

MS in Mathematics

Sahiwal Campus

Department of Computer Science

MS in Computer Science

Department of Management Sciences

MS Management sciences
MBA(1.5)

Department of Biosciences

MS in Biosciences

Vehari Campus

Department of Environmental Sciences

MS in Environmental Sciences

Virtual Campus

Department of Management Sciences

MS in Project Management
MBA (1.5)


companions and their brotherhood

Chapter 2:
Campuses

CIIT Campuses

The CIIT is a multi-campus center of higher learning. Currently, it has eight fully functional campuses at the following places:

1. Islamabad
2. Abbottabad
3. Wah
4. Lahore
5. Attock
6. Sahiwal
7. Vehari
8. Virtual Campus

A few more campuses are in advance stages of establishment. Presently the student strength of CIIT is around 23,000 full time students with faculty strength of 2,245. Specifically, the strength of MS students is about 2,252 and that of PhD is around 382.








Islamabad Campus

Welcome to Islamabad

Situated at the edge of Pothohar Plateau in the footsteps of Margalla hills, Islamabad the capital city of Pakistan, is a great place to study and best place to live. The city experiences all the four weathers in a calendar year with hot summers during May and June followed by monsoon rains during July and August. Winters are cold, with temperatures occasionally falling down below zero during December to February and a pleasant spring during March and April.

Islamabad is known for its multi-ethnic environment and a hub of cultural and business activities and a great place for national and international cuisines. Among the places of interest in and around Islamabad, Sharkarparian Hill, Daman-e-koh and Pir Sohawa offer a bird's eye view of the city, whereas Rawal Lake is favorite recreational spot for those who love blue waters and sunny skies. The Faisal Mosque located in Islamabad, named after the King Faisal of Saudi Arabia, is one of the largest mosque in the world. Islamabad is linked by road to nearby hill stations of Murree, Nathigali and Ayubia which are popular tourist resorts to beat the scorching heart in summer and to see snow fall in winter.

Rawalpindi considered to be twin city of Islamabad due to its proximity which has grown in recent years from a small garrison town to a vital commercial center. The CIIT

Islamabad campus is situated at a suitable place that is approachable from Islamabad as well as Rawalpindi. Islamabad being the Capital of Pakistan is accessible through direct and indirect international flights for all around the world.

Campus

CIIT Islamabad was established in 1998 to promote Information Technology and to reduce the ever-growing gap between the developed and developing world through useful applications of science and technology. During the first year of its establishment, the Institute offered only a few certificate courses and a postgraduate diploma in computer studies with a single class room and limited resources. Islamabad Campus of CIIT is situated at Chak Shahazad, Islamabad. Currently more than 5,900 students are enrolled in various degree programs at this Campus.

Islamabad Campus provides what a discerning student is looking for in a learning environment, academic excellence, quality teaching, and constructive leisure activities. We appreciate that it is crucial for today's student to work in a physical environment conducive to study. Here the faculty not only teaches but mentors the young and impressionable minds. The newly built campus is fully equipped with facilities of international standards. It is a marvel of modern architecture surrounded by a lush green environment and peaceful surroundings.

Graduate Programs being offered at Islamabad Campus

Department of Computer Science

MS in Computer Science
MS in Software Engineering
PhD in Computer Science

Health Informatics Unit

MS in Health Informatics

Department of Electrical Engineering

MS in Electrical Engineering
MS in Computer Engineering
PhD in Electrical Engineering
PhD in Computer Engineering

Department of Management Sciences

MS in Management Sciences
MS in Project Management
MS in Economics
MS in Energy Management
MS in Banking and Finance
PhD in Management Sciences
MBA (2.5 years)
MBA (1.5 years)

Department of Mathematics

MS in Mathematics
PhD in Mathematics

Department of Biosciences

MS in Biosciences
MS in Bioinformatics
MS in Biochemistry and Molecular Biology
MS in Molecular Genetics
MS in Microbiology and Immunology
MS in Molecular Virology
PhD in Biosciences
PhD in Biochemistry and Molecular Biology
PhD in Molecular Genetics
PhD in Microbiology and Immunology

Department of Meteorology

MS in Meteorology
MS in Remote Sensing and GIS
PhD in Meteorology

Department of Physics

MS in Physics
MS in Nanotechnology
PhD in Physics

Facilities

The campus is spread over 43 acres with a total covered area of 425,668 sq ft. The campus comprises of 59 class rooms, 44 laboratories and the Central Library with a covered area of 52,051 sq ft.

Lecture Theatres

CIIT Islamabad has 59 spacious lecture theatres, with a total covered area of 40,131sq ft. Each theatre has a capacity for 100-120 students. All lecture theatres are IT enabled, air-conditioned, well furnished, and well maintained.

Laboratories

The Campus has deployed state-of-the-art IT infrastructure with a total number of 44 computer labs with a total covered area of 37,819 sq ft. Around 1,080 computers at Islamabad Campus is a prime example of CIIT's commitment to providing its students with optimum learning facilities. All workstations are networked to CIIT's LAN and a high bandwidth connection provides connectivity to internet round the clock. Major laboratories are Electronics, Microprocessor, VLSI and DSP and Biosciences laboratories.

Library

The library supports the academic programs of CIIT through collections, technology and services, which enables students and faculty to access digitized knowledge and information resources. This support empowers our students to develop the information and technological competencies necessary to achieve their educational, research and professional goals. This facility also enables them to succeed in the workforce, apply lifelong learning skills and participate productively in society.

The library is spacious, well planned, and offers tranquil environment. It is fast developing into one of the richest information resource centers in Islamabad. The library subscribes to a large number of periodicals and journals, which have educational value for students. In addition, it also offers its users a rich learning environment complemented with electronic information access and services. The library has circulation, 'reserve' and reference sections.

Internet facilities in the library connect users to libraries around the world for reference, assistance and consultation. The stock consists of about 45,000 latest books on a variety of disciplines like Electrical Engineering, Mathematics, Physics, Biosciences, Computer Science, Business and Management, Design and Architecture, English Language and Literature. Our target of books is about 750,000 for the faculty and students.

Library is equipped with most modern technologies like RFID System and Library Management System and is providing users facilities like, self check in and check out for borrowing and returning of library material, drop box for returning of borrowed library material, Online Public Access Catalogue (OPAC) of library resources, online booking and reservation of library material, digital library, electronic journals and databases, audio/visual facilities, dedicated computer systems for research and use for digital and electronic resources,

wireless internet connection. Video conferencing room is another unique feature of this library. Equipped with latest audio/video equipment and with a capacity of accommodating around 100 people, this facility provides excellent opportunity of remotely organizing and participating in lectures, workshops, seminars, discussions and meetings.

The library is also providing complete access to more than 32,000 high quality, peer-reviewed journals, conferencing proceedings and articles through 22 different online databases under the HEC's National Digital Library Program. Students and faculty can access these resources from inside and outside the campus through IP address and VPN respectively. At present, access through Virtual Private Network (VPN) is only available to senior faculty. Later on this facility could also be offered for the use of students as per the policy of CIIT. Library is also giving access to around 45,000 online books through 13 different databases that have also been made available through the HEC's National Digital Library Program. The e-books support program will allow researchers to access most of the important text and reference books electronically in a variety of subject areas. More than 15,000 e-books on different subject areas are currently available on the CIIT E-Library which is in ever-growing/developing stage and will become more and more exemplary/perfect with the passage of time.

Reference Services

CIIT library has dedicated staff to provide efficient and reliable reference services and users can make queries by filling "Research Inquiry Form" and submitting it to Services Department of library.

Bibliographic and Book Information Services

Library compiles bibliographies for users on request and provides information about national and international publishers and book traders.

Interlibrary Loan and Searching Facility

An inter-library searching option is also available in the library. Users can search material available in the libraries of different campuses of CIIT, through Union Catalogue, and can request for desired literature from them. Users can request library staff to help them in getting their required literature from other libraries through inter-library loan.

International Library Loan and Photocopying Service

Library provides facility for international lending and photocopying service through British Library Document Supply Center in UK and Library of Congress in USA. This service provides users an opportunity to access books, journals and information resources which are not available locally. Library also provides facility of photocopying for those items which are within the provisions of the Copyright Act.

Discussion Rooms

Specially designed discussion rooms are one of many facilities being provided by CIIT library. Users can reserve discussion room by filling out a form and submitting it to staff at circulation counter.

Research Cubicles

Specially designed for research, these cubicles are available only to PhD

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scholars and faculty members. Situated at the second floor of library, these research cubicles can be reserved by contacting the library staff at second floor.

Hostels

Although Islamabad Campus does not have dormitories on Campus; it has arranged rented hostel accommodation for 403 male and 120 female students. Further information on residential facilities is available from the Provost Office at the Islamabad Campus.

Common Room for Girls

To facilitate our female students, the Campus has established spacious and comfortable common rooms. This space has been designed to give female students a place to relax, offer prayers, study, have informal discussions in free time available. Daily newspapers, magazines, periodical and journals are available for leisure reading. Female students appreciate this facility a great deal.

Catering Services

A food-street style catering service consisting of shops and kiosks having a wide range of quality snacks and meals, at modest prices, is available throughout the day on the Campus. Students can relax and enjoy their breaks over a cup of coffee or tea. For faculty members and visitors, a state-of-the-art food hall has been established, where a variety of hot meals are available on 'self-service' basis in a clean and relaxing environment on subsidized rates.

Mosque

Regular prayers are held on the campus mosque. At one time almost 500 persons can pray inside the mosque. Now the construction of land mark mosque on Islamabad Campus to accommodate more than 1,000 people, with separate facility for females and people with special needs is in final stages of cooperation.

Photocopying Facility

Presently, 6 machines are working and over 10,000 pages are photocopied every day. The photocopy center is working on subsidized rates. The photocopy center has also the facility of spiral binding, stapler binding and hard binding.

Extra Curricular Activities

Extensive extra-curricular activities are a way to soften tough and grilling academic rigor. It also provides opportunities to make new friends. Islamabad campus is very active in extra-curricular activities, as would be clear in the following paragraphs.

Adventure Club

The Adventure Club organizes adventurous activities for students. The activities include excursions, hiking and trekking, visits to historical places, hill stations and geological sites. The Adventure Club currently has more than 250 student members. Here the adventurous will find good company to give vent to their unbridled spirits.

Bazm-e-Adab

Public speaking is a rewarding art that one acquires through sheer practice. The objective of having the Bazm-e-Adab is to create interest in public speaking in the students by instilling in them confidence, self assuredness and enhancing presentation skills. Each semester, members take part in intramural and external competitions and events.

Computer Science Society (CSS)

Computer Science Society was established to provide a platform for CIIT students to keep themselves updated with developments in the computing industry. For this purpose, software competitions and seminars are organized regularly. Our students are encouraged to acquire new skills by attending workshops and short

courses in contemporary computing areas. Members have brought back several prizes won at competitions, held in other institutions.

Dramatics Club

An exciting variety of musical programs, exhibitions and dramas are organized by Dramatics Club, throughout the year. This provides fun time for students.

Electronics Society

Electronic Society provides opportunities to students to take part in internal, regional and national activities. It aims to develop the concepts of our students by linking theoretical knowledge to practical experience by executing many activities that are part of the Society's function. This greatly helps our students to carve a niche for themselves in the market as professionals. The Electronics Society also organizes industrial visits as well as exhibitions to display electronics projects of the students.

English Literary Society

Effective speaking skills combined with sound knowledge are key ingredients to professional success. Providing assistance to students in developing English Language skills is the main objective of our English Literary Society, which is very active in various English language and literary activities on campus.

Fine Art and Photographic Club

The Fine Arts and Photographic Club was formed in 2001 to enhance the creative skills of students and develop their aesthetic sense. The Club focuses on sketching, poster painting, portraits, landscapes and photography.

Sports Club

Sports Club arranges all sorts of sports competitions to channel boundless energies of our students. It provides opportunities for sports enthusiasts to share their interests and participate in events. Sports Club organizes tournaments in Cricket, Football, Badminton, Table Tennis, Hockey and Athletics, etc. Besides regular sports activities in each semester, the club also organizes friendly, inter-campus matches from time to time.

Telecom Society

Telecom Society has been established to provide a platform to the students to pursue their interest in the field of telecommunication beyond academics. Through various activities,

this society aims to increase in its members. The understanding on dynamic developments taking place in the telecommunication industry and also understanding of ways and means to benefit from it. Core activity areas are participation and organization of seminars and exhibitions, establishment of career advisory center for students and arrangements for jobs and internships.

Career Development Center

Wherever you are in your academic career, freshmen through PhD, we are here to help you navigate your career during your years at CIIT, from choosing a major, to exploring different career options, to finding internships, to looking for part-time and full-time employment through Career Development Center. COMSATS Institute of Information Technology, through Career Development Center, aspires to cater the personal, academic and professional needs of its students.

The principal pivot around which the core dogma of CDC revolves is the veracity and actuality that careers are not established by mere degrees and diplomas. It is much more than that, much broader in spectrum and much holistic in disposition. At CIIT's CDC, we tend to channel our vigor, energy and efforts for the career development of student in a way that they shine out to be an employee of an employer choice. For the said, we aim to initiate career development processes for students which embrace objects like career awareness, career exploration, career preparation, and work experience.

Our purpose is to expose the students to the options that best fit their individual career needs. To that end, our services include:

a) Personal, academic and professional help
b) Part-time and full-time job listings
c) Internships and placement
d) Personality development
e) Job fairs
f) Etiquette workshops
g) Résumé and interview preparation
h) In-house trainings
i) Campus interviews and employer contacts

Abbottabad Campus

Welcome to Abbottabad

Located north of Islamabad, Abbottabad is a town surrounded by lofty peaks and pine scented air. Among Pakistani cities, Abbottabad a small, neat and clean city located in the spacious valley is a rarity. In spite, of being separated from Mansehra and Haripur Districts, Abbottabad is at a moderate distance from both the cities; giving an opportunity to the students of both these localities to enjoy the facility provided in the valley.

Apart from serving as the educational hub for the locality, Abbottabad also serves as a gateway to some most stunning sites in Northern Pakistan. With the very pleasant climate all around the year, the scenic beauty of this town provides mind stimulating environment and vast turfs for all kinds of sports, including polo, football, hockey and golf.

Campus

The Abbottabad Campus became functional in July 2001, and the first academic session started in September 2001. This campus is ideally situated and built on 308 Kanals of land. The natural climatically advantages of Abbottabad city, large land area, sports and recreational facilities and above all, a secure and friendly environment have all combined to make the Abbottabad campus more of a resort.

The campus is an ideal place to study, live and work. The majority of the campus area encompasses parks, orchards, lush green grounds, blossoming flower beds and trees. Set in these environs with panoramic background view of Thandiani and Galiat mountains makes CIIT Campus at Abbottabad, an awe inspiring modern day place of learning.

The first academic session started with student strength of 121 and only three undergraduate programs. Soon CIIT Abbottabad emerged as a leading institute of the region. Today it has 10 departments, 5,350 students, 23 graduate programs, qualified faculty strength of 515 including 117 PhDs, and 49 modern laboratories. Our physical infrastructure emulates the best educational institutions of the country. The campus area also encompasses parks, orchards and grounds, the lush green grounds, blooming flowerbeds and trees.

The academic culture and environment are both challenging and exciting and since its inception, the Campus has maintained a fast pace of development and is now an ideal place for learning, research, and recreation. It has truly emerged as a regional leader in hands-on learning and innovation in many areas of science and technology.

Graduate Programs being offered at Abbottabad Campus

Department of Computer Science

MS in Computer Science
PhD in Computer Science

Department of Electrical Engineering

MS in Electrical Engineering
PhD in Electrical Engineering

Department of Civil Engineering

MS in Environmental Engineering

Department of Management Sciences

MS in Management Sciences
MS in Project Management
MS in Economics
MS in Banking and Finance
MBA (1.5 years)

Department of Development Studies

MS in Development Studies

Department of Environmental Sciences

MS in Biotechnology
MS in Environmental Science
MS in Sustainable Water Sanitation Health and Development
PhD in Biotechnology
PhD in Environmental Science

Department of Mathematics

MS in Mathematics

Department of Chemistry

MS in Chemistry
PhD in Chemistry

Department of Pharmacy

MS in Pharmacy
PhD in Pharmacy

Facilities

Accommodation and Housing

There are four on-campus hostel buildings to accommodate approximately 676 male and 170 female students. Our hostels have been established on international standards and contain central heating and cooling system, a mess, a gym, recreation rooms and round-the-clock security. Also, hostel rooms are spacious and made for comfortable living. Boarders have access to a 24-hour campus store and a mosque. CIIT hostels are managed by wardens who also look after the safety and security of students. Cultural and traditional norms are strictly followed in the

hostels. A separate hostel for the faculty is also under construction.

COMSATS Community Development Unit (CCDU)

COMSATS Community Development Unit (CCDU) is an integral part of Abbottabad Campus. CCDU is engaged in the provision of quality consultancy services to different organizations in the specialized fields of management, organizational development, finance, re-structuring, information technology, software-development, assistance in the planning and implementation, monitoring and evaluation of organizational activities, and, importantly, in-house capacity building through the provision of specifically tailored training workshops.

COMSATS Information Technology center (CITC)

CITC is a well-sized technology concern having a large number of skilled professionals. CITC has a successful history of projects and a long list of satisfied clients. CITC promotes, develops, delivers and facilitates the use of information technology services and resources, including application and web development, data warehousing, network design and configuration, inter access, corporate training, multimedia solutions, and testing services.

Laboratories and Electronics/ Computer Engineering Facilities

CIIT Abbottabad is maintaining seven major state-of-the-art laboratories to facilitate students and keep them up with the latest technologies in the sector of electronics and engineering. These labs include digital logic/microprocessor lab, telecommunication/DSP lab, control/ instrumentation lab, VLSI lab, Machine lab, and power systems lab.

Library

Library is the most important facility at any educational institution. CIIT Abbottabad has provided its students with comfortable, spacious and peaceful environment in its library. It spreads over an area of 10,000 sq ft, contains over 32,000 books and is growing rapidly. It subscribes to more than 25 research journals and magazines. Computers have been provided for browsing the web and the digital library. Photocopy and bookshop facilities are also present at the library. The library remains open for students from morning till midnight.

CIIT library provides a wide range of up to date information using the latest

reference and information techniques, as well as books and periodicals in relevant subject and interest areas. Library services include reference and information services, current awareness services, periodicals and newspapers, photocopying facilities, access to CD-ROMs, bookshop for students, cyber station (Internet), HEC digital library, etc.

The library is also providing complete access to more than 32,000 high quality, peer-reviewed journals, conferencing proceedings and articles through 27 different online databases under the HEC's National Digital Library Program. Students and faculty can access these resources from inside and outside the campus through IP address and VPN respectively. At present access through Virtual Private Network (VPN) is only available to senior faculty. Later on this facility could also be offered for the use of students as per the policy of CIIT. Library is also giving access to around 45,000 online books through 13 different databases that have also been made available through the HEC's National Digital Library Program. The e-books support program will allow researchers to access most of the important text and reference books electronically in a variety of subject areas. More than 15,000 e-books on different subject areas are currently available on the CIIT E-Library which is in ever-growing/developing stage and will become more and more exemplary/perfect with the passage of time.

Cafeteria

The cafeteria remains open for students and faculty the whole day, seven days a week. To ensure quality and hygienic food, a student's mess committee is formed which monitors menu selection and ensures quality of service.

Common Room for Girls

This space has been designed to give female students a place to relax, offer prayers, study, have informal discussions in free time available. Daily newspapers, magazines and periodical journals are available for reading. Female students appreciate this comfortable facility a great deal.

Career Development Center

The aim of Career Development Center is to support students in optimizing the value of their academic experience and in achieving successful transitions to the workforce and further educational endeavors. This center provides quality career development programs and employment-related services in order to empower students to actively engage in the integration and implementation of their academic and employment choices. This center develops positive faculty, staff and employer relations that result in access to career information and career opportunities for the students. The long-term objective is to achieve a high status among our competitors.

Extra Curricular Activities

Extra Curricular Activities are a vital part of any educational process. Sports, drama, creative writing, etc, all help individuals to develop balanced personalities by taking healthy breaks from academic rigors. Teamwork and competition also help in building character. Students' week is held annually at the campus. This student week is dedicated to competitions and tournaments held among different classes and departmental teams. As a tradition, faculty and the student body enthusiastically participate in this weeklong event.

Clubs and Societies

Clubs and societies are very important for creative activities on campus. A large number of clubs and societies are active at the Abbottabad Campus. These societies are involved in literary, dramatic, scientific, software and photographic activities. The societies

regularly organize poetry reading competitions, debates, quiz shows, concerts, Naat and Qirat competition, photographic competitions and scientific gatherings. Presently, Software Development Society, IT Society, Dramatics Society named as 'Funkada', COMSATS Literary Society, Bazm-e-Adab, Art and Painting Society, Photography Society, Qirat and Naat Society, Eco-Adventure Club, Cricket Club, Football Club, Athletics Club, Badminton Club, Table Tennis Club, Girls Sports Club, Volleyball Club, Green Thumb Society, Entrepreneurial Society are quite popular among students.

Wah Campus

Welcome to Wah

The population of Wah is estimated to be over 500,000. Amenities include a garden said to have been built by the Mughal emperor Akbar in the 16th century. Legend states that one of the Mughal Emperors, probably Akbar was on a journey to Kashmir. On the way, his caravan stopped at a spring in Punjab to quench their thirst. Remarking at the quality and purity of the water, Akbar said Wah! which has a similar meaning to the English word "wow". That spring became known as Wah and the city gets its name from this event.

It is connected by road with Peshawar, Islamabad and Rawalpindi and is a growing industrial center. Industries in Wah include one of the largest cement factories in South Asia, other than ordnance and tractor plants, and agricultural implements and spare-parts manufacturing. Nearby is Wah Cantonment.

Campus

The opening of a new campus of CIIT in the historical and industrial town of Wah, was a joint effort of the CIIT and POF (Pakistan Ordnance Factories) Wah. CIIT started its campus at Wah in a record period of 70 days. The Minister for Science and Technology/ Chancellor CIIT, formally inaugurated the Institute on September 14, 2001.

The Campus is situated on Quaid

Avenue at the Mall, Wah Cantt. It is a place where people from all over Pakistan are exhibiting their unique skills. Due to its location, Wah is easily accessible to the students coming from Wah, Taxila, Rawalpindi, Hassanabdal and other surrounding areas. Wah Cantt. is considered as the hub of industrial activity in the region. It is a place having high potential for the utilization of Information Technology and its incorporation in the industry. POF itself is a market with very high potential. A world class IT institute in the region has paved the way for knowledge and learning of IT, thus proving its worth and adding value to the region and to the country as a whole.

The campus is the first of its kind in Wah Cantt with modern infrastructure and highly professional faculty. CIIT Wah is fully equipped to handle the dynamics of the fast paced IT industry and to meet the challenges of the future. Here the dedicated faculty ensures students to succeed and encourages them to benefit from the innovative education.

The Campus is housed in spacious buildings. The campus provides state-of-the-art facilities for the acquisition of knowledge and skills in the field of IT. A 20-year lease agreement was signed between POF and CIIT, in 2003 for renting two new academic blocks. The total area of the campus is 690,940 sq ft, whereas, the combined covered area of the two blocks is approximately 175,000 sq ft that are now operational to meet the ever-increasing requirements of an expanding campus. Currently more than 2,000 students are enrolled in the disciplines of Business Administration, Computer Science and Electrical Engineering. For the establishment of a permanent campus the Institute has recently purchased a piece of land near Brahma Bahtar, Interchange on Motorway, M-1. The ground breaking ceremony was held on March 01, 2011. In the 1st phase one block will be constructed for Wah Business School which will accommodate 2,000 students and one Mosque for 500 persons.

Only 45 minutes drive from Rawalpindi, the campus is ideally suited for students who wish to seek education in a conducive environment.

Graduate Programs being offered at Wah Campus

Department of Computer Science

MS in Computer Science
PhD in Computer Science

Department of Electrical Engineering

MS in Electrical Engineering
PhD in Electrical Engineering

Department of Management Sciences

MS in Management Sciences
MS in Banking and Finance
MBA (1.5 years)

Department of Mathematics

MS in Mathematics

Facilities

Lecture Rooms

CIIT Wah has 30 spacious lecture rooms which are fully furnished, air-conditioned and nicely maintained. Teaching aids such as projector and multimedia facilities are available in every classroom.

Laboratories

Keeping in view the importance of practical training, Wah campus has established 20 modern computer and Electrical Engineering labs, which have around 320 state-of-the-art computers connected through LAN and WAN. Theses labs including Electronics (Analogue and Digital), Communication Engineering, Microprocessors, Control Engineering, machine labs, etc., have state-of-the-art equipment to give practical exposure to the engineering students. Proper lab manuals, attendance, quality assurance and supervision are ensured by the department during use of labs.

Library

The library at Wah campus provides a wide range of up-to-date information using the latest reference and information, as well as books and periodicals in different subject areas. We are in close contact with leading book importers to ensure a proper and timely up gradation in library resources. There are over 18,000 hard copies of books and almost 5,500 non-book materials (CDs, Audio/Video).

The library is also providing complete access to more than 32,000 high quality, peer-reviewed journals, conferencing proceedings and articles through 27 different online databases under the HEC's National Digital Library Program. Students and faculty can access these resources from inside and outside the campus through IP address and VPN respectively. At present access through Virtual Private Network (VPN) is only available to senior faculty. Later on this facility could also be offered for the use of students as per the policy of CIIT. The Library is also giving access to around 45,000 online books through 13 different databases that have also been made available through the HEC's National Digital Library Program. The e-books support program will allow researchers to access most of the important text and reference books electronically in a variety of subject areas. More than 15,000 e-books on different subject areas are currently available on the CIIT E-Library which is in ever-growing/developing stage and will become more and more exemplary/perfect with the passage of time.

CU-Online (Campus Based Internet Services Setup)

Swift and efficient communication services are needed to connect to the rest of the world. This not only affects the sharing of knowledge and latest techniques but also makes the student aware of the advancements taking place in the world. CIIT Wah has developed its own ISP containing latest CISCO routers and fast-servicing equipment. CIIT provides this facility over the LAN. All these facilities are provided to our faculty, staff and students round the clock on Campus. This facility is being planned to be provided to the faculty and students at home as well.

Book Shop

In any IT Institute, latest and updated editions of the subject books are a necessity. A formal bookshop is therefore present on the premises of

the Campus where up to date books are available at reasonable prices.

Extra Curricular Activities

CIIT Wah provides an excellent academic atmosphere to its students. The faculty puts in maximum efforts to groom and nourish young scholars placed under their care. We at Wah try our best to contribute significantly to build healthy minds in healthy bodies. Many events are organized to involve young minds ensuring full participation in character building activities and personality development.

Adventure Club

Adventure club has been established at CIIT Wah that arranges a variety of outdoor activities. Different clubs have been created under adventure club such as hiking, trekking, photography, shooting, camping and rowing, etc.

Job Fair/ Placement

Wah Campus organizes annual job fairs and expos. Leading national and international companies and corporations, both public and private, attend these fairs to meet the graduating students and assess their skills. Through these fairs, our students have been hired for various important projects and to entry level positions.

The Wah Campus actively works for the placement of their students by strengthening the linkages between industry and CIIT. It gives the students an opportunity to work on the latest technical problems through their final year projects and to present themselves in effective manner before prospective employers. The campus guides its alumni to work in suitable areas of engineering and technology.

Visio Spark

Visio Spark, the computing gala, a tradition of Wah, provides an opportunity for young learners to polish their newly acquired skills. Every year Wah holds this exhibition in collaboration with local industry to display talents of CIIT students.

Lahore Campus

Welcome to Lahore

The Lahore Campus is located on Defence Road, Off Raiwind Road and is 30 minutes drive from the main city. This campus was established in January 2002. The sprawling campus is purpose built and is spread over an area of 185 acres with constructed area of 436,729 sq ft. The campus is equipped with state-of-the-art computers and electronics labs. During a short span of time, the continuous efforts of the dedicated faculty and staff have made CIIT Lahore synonymous with academic excellence, which forms strong foundations for a bright career for its alumni. Here the young minds can really create a bright future for themselves.

The environment at the campus is vibrant, creative and challenging, for both teachers and students. The campus intends to excel in its research capability, which will open new frontiers of knowledge in Information Technology. In a city of learning as Lahore, the campus caters for the ever-increasing demands of students in the fields of Computer Science, Telecommunication Engineering, Computer Engineering, Chemical Engineering, Management Sciences, Physics, Architecture and Bio-Medical Material Sciences.

Campus

The campus has one administration block, five academic blocks, five workshops, a big mosque, hostels for boys and girls and a number of residential units for the employees. The location of the campus is strategically chosen to provide the students with an ideal environment, which is not only conducive for their educational pursuits but would also ensure that the students are well abreast of the latest developments in the IT sector. The campus offers 30% seats to children of industrial workers free of cost, besides other scholarships.

Graduate Programs being offered at Lahore Campus

Department of Computer Science

MS in Computer Science
PhD in Computer Science

Department of Electrical Engineering

MS in Electrical Engineering
PhD in Electrical Engineering

Department of Chemical Engineering

MS in Chemical Engineering
PhD in Chemical Engineering

Department of Management Sciences

MS in Management Sciences
MS in Project Management
MS in Economics
PhD in Management Sciences
MBA(1.5 years)

Department of Mathematics

MS in Mathematics
PhD in Mathematics

Department of Statistics

MS in Statistics
PhD in Statistics

Department of Physics

MS in Physics
PhD in Physics

Facilities

Accommodation

The campus provides hostel facility for both boys and girls students. The facility is available on first-come-first-serve basis and accommodates around 598 male students and around 324 female students. For further details, warden office on the campus may be contacted.

Transport

CIIT Lahore Campus provides pick and drop services to facilitate the students and employees of the campus. Eleven Buses and Coaches have been arranged to provide this service between campus and inner city on subsidized rates.

Lecture Rooms

The campus has spacious 60 furnished lecture rooms. Each has a capacity for fifty or more students and is properly maintained. Most of these classrooms are furnished with multimedia facility for teaching purposes.

Laboratories, Computing and Networking Services

Computing and Networking Services (CNS) are charged with overall responsibility for the computing and networking infrastructure and technical support, necessary to sustain the campus programs, instructions, research and administration. In addition to providing many services directly, CNS also serves as liaison with other campus computing offices, including the ISP, which provides computing and networking services to the campus as a whole. There are 53 labs including 6 air conditioned computer labs, each equipped with fifty workstations with internet facility, along with server room have been setup at the campus. A number of multimedia and overhead projectors are also available.

Library

The Library functions as an information resource center for the campus. Students are encouraged to make full use of it. The library houses an open shelf collection that includes books, films, CDs, journals and newspapers. The library staffs provide one-on-one training and group instruction. If students need help in finding books, identifying authors or titles, the library staff is happy to assist. The library is open from morning till evening six days a week. Collections of around 19,695 books, 23 journals, 20 magazines along with CDs and videos have been provided for the students.

The library is also providing complete access to more than 32,000 high quality, peer-reviewed journals, conferencing proceedings and articles through 27 different online databases under the HEC's National Digital Library Program. Students and faculty can access these resources from inside and outside the campus through IP address and VPN respectively. At present access through Virtual Private Network (VPN) is only available to senior faculty. Later on this facility could also be offered for the use of students as per the policy of CIIT. The Library is also giving access to around 45,000 online books through 13 different databases that have also been made available through the HEC's National Digital Library Program.

The e-books support program will allow researchers to access most of the important text and reference books electronically in a variety of subject areas. Apart from this there are more than 15,000 e-books on different subject areas are currently available on the CIIT E-Library which is in ever-growing/developing stage and will become more and more exemplary/perfect with the passage of time.

COMSATS Students Services (CSS) and Job Placement Cell (JPC)

CSS has been established at CIIT Lahore Campus to provide students with a range of services designed to help and assist them adjust to university life and to achieve potential in terms of their personal, educational, social and professional goals. Highly skilled staff is specialized in providing students with comprehensive solution to their everyday problems including their adjustment to university environment, handling of academic as well as peer pressure etc. CSS achieves these goals through implementation of many programs, both within and outside the campus. CSS arranges

many co-curricular and extra-curricular activities in order to bring the best out of students and prepare them to the rigors of competition and fair play.

The mission of Job Placement Cell (JPC) is to assist students in finding employment through a variety of services and also assisting them in locating employment opportunities. JPC offers students grooming sessions, job hunting skills, job data bank, resume development, interviewing skills and students profile directory.

Common Room for Girls

A comfortable and spacious common room has been established in the Academic Block. This space has been designed to give female students a place to relax, offer prayers, study and have informal discussions in free time available. Daily newspapers, magazines and periodical journals are available for reading.

Cafeteria

The cafeteria is responsible for catering meals, snacks and beverages for the faculty, staff and students at reasonable rates. It has two portions, one for faculty and staff and the other for students.

Health Center

To provide first aid and medical facilities to students and faculty members, a Health center has been established near the girls' hostel under the supervision of a qualified Resident Medical Officer.

Mosque

Central mosque located between academic building and boys' hostel provides a serene facility for prayers including Juma congregation.

Extra Curricular Activities

Computer Science Society

The Computer Science Society organizes seminars, quiz programs and other events related to computer sciences. Members of the society have represented the Institute at several forums and competitions, and have brought back honors and prizes.

Electronics Society

The Electronics Society organizes competitions, quiz programs, seminars and other related events in the field of electronics. This is one of the most popular societies and has a regular activities calendar.

Prismic, Art and Culture Society

This Society organizes art, drama, and singing competitions, seminars, quiz programs, debates, mushaira, Naat and quart competitions, movie shows and current affairs competitions. It promotes development of innate talents of students apart from academic excellence.

Sports Society

The Sports Society organizes competitions in cricket, football, table tennis, badminton, basketball, chess and athletics. The Society facilitates both male and female students' participation in the sports events.

COMSMAG

An annual magazine reflecting the whole academic year activities in a nutshell is a newest addition. The pages of the magazine depict the essence of artistic and academic abilities harbored by the students of Lahore. One Newsletter is a semester wise output that focuses on day-to-day milestones reached. It also highlights various events about various academic and extra-curricular purposes.

Seminars

One of the key features of education at CIIT is a visionary approach of constantly providing practical exposure to the students regarding the course contents. To achieve this objective, guest speakers from corporate and industrial sectors are regularly invited to the campus in order to share their practical wisdom and experiences with the students.

Attock Campus

Welcome to Attock

The city of Attock is the administrative center and district capital of Attock District. The District's climate is characterized by very hot summers and very cold winters. The maximum temperature reaches 40°C. The northern part is more humid, with a relatively moderate climate as compared to the southern part.

The river Indus flows on the western and northern sides of the district; the Haro River comes from Haripur and passes through the Attock on the north of the Kala Chitta Mountain Range. The land consists mainly of hills, plateaus, and dissected plains. The area north of the Haro River is a flood plain with fertile soil.

Attock District is located in the northwest of the Punjab province of Pakistan. The district was created in 1904 by the merger of Talagang tehsil from the Jhelum District and the Pindigheb, Fatehjang and Attock tehsils from Rawalpindi District of British Raj. The original name was Campbellpore district after Sir Campbell who founded the city of Campbellpore to the southeast of Attock Town. The name of the district was changed to Attock in1978.

Campus

April 04, 2004 was a historic day for the residents of Attock city when a new Campus of the CIIT was launched, to make it possible for the students of the

far flung and under developed areas to take advantage of the opportunities of state-of-the-art education. The event was important for both CIIT and Attock city because the dream of an IT institute was a distant dream come true. CIIT's presence in Attock has ensured the availability of professional academic skills not only to the locals of Punjab but also the adjoining areas of Khyber Pukhtoonkhawa. It throws open an opportunity to the city of Attock becoming a hub of burgeoning jobs and business ventures entirely on its own strength in the near future.

The Attock Campus has gained a commendable reputation in a short time. Attock's good teaching reputation ensures that brilliant academicians are attracted to work here. This subsequently enables our academic departments to offer innovative and exciting teaching environment, led by experts at the cutting edge of their varied specializations.

Graduate Programs being offered at Attock Campus

Department of Computer Science

MS in Computer Science

Department of Electrical Engineering

MS in Electrical Engineering

Department of Management Sciences

MS in Management Sciences
MBA(1.5)

Department of Mathematics

MS in Mathematics

Facilities

Higher education in emerging fields requires huge investment in infrastructure and facilities that are made available to achieve the international standards of education. Despite its young age, the campus has arranged adequate resources to facilitate the students, teachers and staff members. The campus is in a continuous process of progress and is making addition to its existing resources. The detail of the resources is given as follows:

Lecture Rooms

All 28 lectures rooms are fully furnished, well equipped and well maintained. All modern teaching and learning aids are provided, with seating capacity in sufficient numbers to accommodate all students.

Laboratories and Network Department

An electronics lab equipped with latest test and measuring instruments/ equipment has also been established at CIIT Attock. The LAN of CIIT provides high-speed Internet connectivity, printing and data storage facility. There are four general purpose computer labs, one project lab and three Electrical Engineering labs for the students. The labs are fully equipped with latest computers and with all the necessary facilities. All the labs are available throughout the week. Student Help Desk is always ready to provide friendly and expert guidance/assistance, so the students can make good use of most of the resources.

The Network Department is providing campus wide information and communication technology service, including but not limited to the Internet access. The Network Department is also providing corporate level technical consultancy to banks and various government department of district Attock. The Attock Campus was declared as a Cisco Local Academy in 2007. As a Cisco Local Academy, the CIIT Attock is offering Cisco Certified Network

Associates (CCNA) certification to its students. The program on the whole has presented a unique blend of advanced theoretical as well as practical sessions via latest interactive course curriculum.

Along with Computer Labs CIIT Attock Campus has also established state of art Electrical Engineering Labs like Electric Machine Lab, Electric Measurement and Instrumentation Lab, DLD/MP Lab, Electronics Lab, Power Electronics Lab, Control Lab, Communication Lab VLSI and DSP Lab.

Library

The library is airy, well lighted and provides an ideal place for quiet study and has around 6,300 books. Networked PCs provide access to a wide range of online journals, databases, CDs and library catalogues. The library's holdings are chosen mainly to support teaching and research on the Campus, but they also include some general books for leisure reading.

The library is also providing complete access to more than 32,000 high quality, peer-reviewed journals, conferencing proceedings and articles through 27 different online databases under the HEC's National Digital Library Program. Students and faculty can access these resources from inside and outside the campus through IP address and VPN respectively. At present access through Virtual Private Network (VPN) is only available to senior faculty. Later on this facility could also be offered for the use of students as per the policy of CIIT. The Library is also giving access to around 45,000 online books through 13 different databases that have also been made available through the HEC's National Digital Library Program. The e-books support program will allow researchers to access most of the important text and reference books electronically in a variety of subject areas. More than 15,000 e-books on different subject areas are currently available on the CIIT E-Library which is in ever-growing/developing stage and will become more and more exemplary/perfect with the passage of time.

Computing Network

On campus, every student is assigned a computer account and work space, allowing access to central computing facilities. The open access computers are connected to the campus network and to the internet. Computing, printing and technical assistance are available throughout the week. The computing service web page also provides useful information to make good use of computing facilities

Mosque

Prayers are held at our campus Mosque regularly. The sound of the 'Azan' adds a sobriety to our Campus atmosphere.

Cafeteria

A proper cafeteria has been set up where quality eatables are provided to faculty, staff and students at reasonable rates throughout the day.

Transport

CIIT Attock provides pick and drop services to facilitate the students and employees. Five vehicles have been arranged to provide this service between campus and surrounding area/inner city on subsidized rates.

Hostel

The campus provides hostel facility for both male and female students separately and accommodates 275 males and 30 females. The accommodation is available on first-cum-first-serve basis.

Common Room for Girls

A comfortable and spacious common room has been made available in the Academic Block. This space has been designed to give female students a place to relax, offer prayers, study and have informal discussions in free time available. Daily newspapers, magazines and periodical journals are available for reading.

Extra Curricular Activities

Outdoor Sports Facilities

Among all its campuses only Attock Campus has Cricket Ground of international standard and Attock Campus has an honor to organize 1st Intercampuses T-20 Cricket Tournament in March 2012. In 2013 Attock Campus extended its outdoor sports facilities by establishing foot ground, mutli purpose court for Volley Ball and Tennis.

Indoor Sports Facilities

An indoor gym has been established for the faculty and students of CIIT Attock Campus which is equipped with state of art exercise machines. There is also facility of playing table tennis indoor.

Seminars

Organization of seminars is a regular feature at Attock Campus. Seminars' content is mostly related to academic subject matters. These forums have always provided a good opportunity for healthy debates and discussions.

Funfairs

Funfairs at the campus are organized annually. Students as well as outside vendors set up stalls to display food items, handicrafts, etc., which students set up semester projects. Sports activities and drama club events are also an integral part of these funfairs.

Sahiwal Campus

Welcome to Sahiwal

Sahiwal is a city in Punjab, Pakistan. This city was a small village on the Karachi-Lahore railway line in 1865 when it was named Montgomery after Sir Robert Montgomery, then Lieutenant-Governor of Punjab. It took its current name in 1966. It is the administrative center of Sahiwal District and Division. The districts of Okara and Pakpattan are under Sahiwal division. Sahiwal lies approximately 180 km from the major city of Lahore and it is the biggest city between Lahore and Multan. The climate of Sahiwal district is extreme, reaching 52 °C in summer and down to 5°C in winter. The soil of the district is very fertile. The average rainfall is about 2000 mm.

The city lies in the densely populated region between the Sutlej and Ravi rivers. Irrigation in the region is provided by the Bari Doab Canal system. The principal crops are wheat, cotton, tobacco, legumes, and oilseeds. Cotton goods and lacquered woodwork are manufactured. About 18 miles Southwest of Sahiwal is Harappa, an ancient city of the world, oldest urban center of Harappan or Indus civilization in South Asia. About 28 miles (45 km) west of Sahiwal, at Kamalia, is the site of a Malli city captured by Alexander the Great in 325 BC. The people of Sahiwal are known as Sahiwalians. This city got his name from the first inhibitors of this city 'the Sahis' (a jutt sub-tribe).

Campus

The establishment of CIIT Campus in September 2007 at Sahiwal besides providing higher education facilities in the highly demanded market oriented disciplines also provided state-of-the-art facility for research and development activities. Sahiwal campus intends to augment the academic and socio-economic role in imparting quality education with the help of cutting-edge technology and contemporary managerial practices.

Sahiwal Campus has surfaced as the most vibrant educational institution in Sahiwal. It has been able to fetch the record high intake ever witnessed at any CIIT Campus for its pioneer batch. It started with the enrolment of 100 students with quite an attractive 30 percent ratio of female students. Currently, the campus has a total enrolment of around 1,800 students.

Graduate Programs being offered at Sahiwal Campus

Department of Computer Science

MS in Computer Science

Department of Management Sciences

MS Management sciences
MBA(1.5)

Department of Biosciences

MS in Biosciences

Facilities

Campus

The purpose built campus is being constructed on 36 acres of land with a consented area of 73,745 sq ft. Currently, there are 22 spacious lecture rooms equipped with all the modern facilities like multimedia, air conditioners and modern teaching aids.

Library

CIIT Sahiwal hosts a reference library with a more than 8,400 books, 12 journals and a number of CDs. It has a rich collection of latest publications on all the business related subjects. It is equipped with all the latest titles and issues, covering broad range of subjects. The library subscribes to both local and foreign newspapers and national and international periodicals, journals and magazines. In addition to latest issues of newspapers, the back dated issues of newspapers and magazines are also available on request. Library has a wide and diversified range of helping material for faculty members and students.

The library is also providing complete access to more than 32,000 high quality, peer-reviewed journals, conferencing proceedings and articles through 27 different online databases under the HEC's National Digital Library Program. Students and faculty can access these resources from inside and outside the campus through IP address and VPN respectively. At present access through Virtual Private Network (VPN) is only available to senior faculty. Later on this facility could also be offered for the use of students as per the policy of CIIT. The Library is also giving access to around 45,000 online books through 13 different databases that have also been made available through the HEC's National Digital Library Program. The e-books support program will allow researchers to access most of the important text and reference books electronically in a variety of subject areas. More than 15,000 e-books on different subject areas are currently available on the CIIT E-Library which is in ever-growing/developing stage and will become more and more exemplary/perfect with the passage of time.

Computer Laboratories

Sahiwal Campus offers the most modern computing facilities with the latest operating systems and software packages. Two state-of-the-art computer labs have been established. Broadband Internet connectivity plays an important role in facilitating the faculty and students for academic as well as research and development activities. Students are provided with facility of free internet access. Computer lab is equipped with latest multimedia facilities like multimedia projectors, scanner, CD writers and printers.

Hostel Facility

CIIT Sahiwal has provided furnished hostel to 200 male and 120 female students where their stay is made quite comfortable. It caters for all those facilities that a student needs for a decent living. Keeping the safety, security and comfort of students in view, an effort has been made to allow students to fully concentrate on their studies on the one hand and ensure peace of mind for their parents living far away from them, on the other hand. Facilities provided at the hostel include clean and spacious rooms on sharing basis by two/three students, a dining hall equipped with requisite facilities, a recreation room equipped with TV, newspapers and internet, games facilities like carom-board, table tennis and badminton, adequate security facility, study room facility for fully concentrating on studies with conducive environment.

Extra-curricular Activities

CIIT Sahiwal provides numerous opportunities to its students for grooming them mentally and physically. These facilities include formation of clubs/societies which organize a wide range of different extra-curricular activities like adventure club, sports club, magazine committee, debating society, and many more.

Career Development Cell

CIIT Sahiwal has a Career Development Cell established since September 2007. This cell fosters liaison between academia and industry. Career development cell facilitates the students in internship and job placement. This cell also works for the training and personality development and is proactively engaged in arranging different seminars, workshops and fairs for the students in collaboration with public and private sector organizations.

Vehari Campus

Welcome to Vehari

Located in the heart of the country's biggest province Punjab, and famous for its fertile lands, Vehari is the center piece of diverse socio-economic life in the region. Vehari District was established in 1976. It has an area of 26,574 sq.ft and an estimated population of 3.5 million. The district shares its borders with Bahawalnagar and Bahawalpur districts on the Southern side, Pakpattan district on the Eastern, Lodhran district on the Western and Sahiwal and Khanewal districts on the Northern side.

Campus

Vehari Campus was inaugurated on 17th August, 2008. Vehari campus started with an enrolment of 45 students in MBA and now has more than 498 total enrolled students. Presently, campus is functioning in furnished building recently constructed at permanent site which is transferred by Government of Punjab to Federal Government for establishment of COMSATS Institute of Information Technology at Vehari. As the Government of Punjab has transferred 52 acres land located at two different places in the Vehari city.

CIIT Vehari is imparting quality education in order to make students capable professionals, sensitive intellectuals and responsible citizens. CIIT Vehari aims to instil a research culture for economic and human resource development in this region

driven by market forces, technological revolution and globalization.

Graduate Programs being offered at Vehari Campus

Department of Environmental Sciences

MS in Environmental Sciences

Facilities

Computer Laboratories

Vehari Campus is equipped with four state-of-the-art general purpose computer Labs with most updated computer systems and operating environment. Our computer networks connect internally at LAN andWAN connectivity with extended broadband width of 4Mbps for students and faculty members. Modern computer accessories like color printers, scanners, DVD writers, multimedia projectors, digital camera are also available for the students. To enhance the efficiency of staff, computer note books are also provided. To maintain an uninterrupted working environment, network is backed with high-tech UPS, and generator. The Vehari campus is about to switch its data storage to CU-Online, which is an in-house developed version of COMSIS, to automate the institutional functionality.

Library

Library is expected to be the treasure-house of knowledge. The campus has procured more than 4,000 books and CDs on various disciplines and contemporary issues. It subscribes to both top national and international newspapers. Library has diverse range of reference material available for both faculty and students

Digital and E Library

The library is providing complete access to more than 32,000 high quality, peer-reviewed journals, conferencing proceedings and articles through 27 different online databases under the HEC's National Digital Library Program. Students and faculty can access these resources from inside and outside the campus through IP address and VPN respectively. At present access through Virtual Private Network (VPN) is only available to senior faculty. Later on this facility could also be offered for the use of students as per the policy of CIIT. The Library is also giving access to around 45,000 online books through 13 different databases that have also been made available through the HEC's National Digital Library Program. The e-books support program will allow researchers to access most of the important text and reference books electronically in a variety of subject areas. More than 15,000 e-books on different subject areas are currently available on the CIIT E-Library which is in ever-growing/developing stage and will become more and more exemplary/perfect with the passage of time.

Hostel for Male and Female Students

Vehari Campus has provided hostel facility to 70 male and 15 female students with furnished hostels that cater for all those facilities that a student needs. With an accessible location of less than one kilometer from the campus and in a safe residential area near the city main market, the hostel provides male students an ideal living and study place. Hostel is furnished with dining hall, refrigerator, microwave oven, TV, newspaper and internet points to help students augment their research capabilities and meet their assignment deadlines on time. Water coolers and water purifiers have also been installed in the hostels to provide safe drinking water to hostel residents. Mess and procurements are also managed by the students themselves under the supervision of wardens, on purely no profit, no loss basis. A healthy mind resides in a healthy body. Keeping this in context, hostel provides ample facilities for various games and sports. Indoor games like carom board and table tennis are provided in common rooms. Adequate security arrangements are also available for hostel residents. Other hostel facilities include UPS and generator as power backup for power load shedding.

Extra Curricular Activities

Vehari Campus offers each student a future of significance - not only education of sheer prestige but also provides opportunities to its students for sprucing them mentally and physically. For this purpose, guilds are made for organizing different extra-curricular activities, like sports club, adventure club, the debating society and magazine committee. Thus, student's time at CIIT can never be dull. On the contrary, it is difficult to choose which activity to join. Whatever their level of expertise, they can become involved in any club or society that interests them. In addition, industrial tours are arranged for the students so they may learn how commercial and industrial undertaking works.

Career Development Cell

All employers hire people who are well-qualified, passionate and interested to work in a challenging environment, who want to achieve targets and take full responsibility. This applies across the board, from large multinational corporations to small NGOs. Studying at Vehari Campus will equip students to demonstrate passion, interest, achievement and responsibility. The specific subject they study should be one they are passionate about and want to enhance that passion in their practical lives. Vehari Campus establishes a Job Development Cell (JDC) to assist students for internship and jobs in leading public and private organizations in the country.

Proctorial board is a regulatory body holding responsibility of maintaining discipline among the students and taking necessary corrective measures wherever needed.

Virtual Campus

The coverage of higher education in Pakistan is extremely low as compared to other countries. Consequently, a huge gap exists between the number of students who have passed higher secondary school and the number of students who get enrolled in universities. Further to this studies conducted by Higher Education Commission of Pakistan suggest that a huge number of candidates are registered with universities as private candidates. Due to the lack of governing mechanism in learning process, it has been observed generally that knowledge and skill wise quality of these students is not as good as those of regular students of universities. The globally practiced and best possible way to improve the quality and coverage of higher education is to provide better learning facilities through distance education.

To increase the approach and availability of top quality benchmark education and teaching experience in country CIIT has taken a step forward by establishing its Virtual Campus (VC). CIIT Virtual Campus aims to enhance the coverage of quality higher education in the country by providing opportunities to those who could not attend universities because of inflexible timings, cost, or cultural barriers. The Virtual Campus is delivering online courses to distance learning students.

The CIIT Virtual Campus (VC) runs web-based student's management and Learning Management System (LMS), accessible anywhere anytime, to deal with administrative and academic tasks of campus. LMS supports a live collaborative platform which adds value to remote learning, through interactive virtual class rooms and meeting sessions. Therefore CIIT is going a step ahead from conventional asynchronous distance learning modes, currently employed at the universities of Pakistan. CIIT is producing quality courseware using blended learning approach by combining teacher and their workspace (desktop/interactive board/presentation). Best of CIIT's senior (mostly PhD) faculty is designated to develop high-definition video contents in our purpose-built studios.

CIIT's Virtual Campus establishment is endorsed by HEC and as a proof of its active role in establishment of ICT facilities for e-learning; CIIT Virtual Campus is given a task to setup Learning Management System (LMS) portals of DDE project partner universities.

History

CIIT has always been very proactive in adapting new technologies and use of IT tools in its teaching and administrative affairs. CIIT Virtual Campus was established in July 2008. After thorough planning by various administrative, academic and technical bodies of CIIT, Virtual Campus started its regular function in January 2012. The Campus was established in offices, Labs and studios located in Islamabad having approximately 20,000 sq. ft. covered area. State-of-the-art servers, dedicated PERN bandwidth, latest audio visual equipment was acquired to setup labs, studios and data center. Virtual campus started its first academic session in Fall 2012 offering four undergraduate level degree programs in computer science and management science subjects.

Delivery Mechanism

CIIT Virtual Campus's mission is to be the institution of choice for distant and online education for all. The VU intends to get there by providing exceptional services to the learners, through modern teaching techniques. Courseware based on scheme of studies of CIIT approved programs is developed by subject specialists in digital format. The digital learning contents are then presented to students via an online web based learning management system moderated by dedicated subject tutors working full time at CIIT virtual campus. Students

enrolling in CIIT VC are facilitated with study centers situated nationwide. These study centers have computer labs equipped with the facilities of video conferencing, broadband internet and printing etc. Proctored mid-terms and terminal examinations are conducted at selected locations using the well-established National Testing Service (NTS) infrastructure.

Graduate Programs

CIIT VC's academic fundamentals are based on standard CIIT rules. Programs offered at VC follows similar nomenclature as of programs offered at regular campuses. The admission and assessment policies are also aligned with directives of CIIT Principal Seat, similar to that of regular programs. Admissions in virtual campus are offered twice a year in Spring and Fall sessions. Applications for offered programs are invited through a central online admission system. NTS admission test in respective category is conducted at selected study centers.

Graduate Programs being offered for 2013-2014

Masters in Business Administration MBA 1.5 Years

MS Project Management MS (PM)

Lectures

CIIT VC offers online courses via asynchronous learning sessions in which student's access and study course material at their convenience at home or wherever they choose reading, watching or listening to material supplied. Classes are recorded for later replay. Students communicate with the instructor and classmates via email and discussion boards.

Experienced and well qualified faculty from CIIT is selected through academic selection committees for development of coursework. Faculty is required to record required lectures, develop Lab sessions, and assessment material for each course. This developed learning content is made available to students through LMS at the start of each semester.

In CIIT Virtual Campus students will login to LMS to view or download the digitally recorded lectures. Lecture will also be available at official channel of Virtual Campus at YouTube. You Tube in Pakistan is temporarily blocked, an alternate CIIT video library is available at http://lib.vcomsats.edu.pk/library. Another facility is the provision or digitally recorded lectures in the form of Video DVDs and USB drive which is mailed to the students at the start of semester. These video lectures provide the next best thing from actually being present in the lecture. The video screen consists of the topic, lecture contents, and lecture slides. Students will also have access to an online forum, where their queries will be answered by teaching staff at VC.

In addition to asynchronous mode of learning and content delivery, students will have minimum of 5 scheduled synchronized virtual meeting sessions with course tutor via video conferencing system. Students can take part in this activity from home or can use study centers for this purpose. This activity at times is coupled with sessional exams and quizzes. This will improve the quality of learning and assessment through synchronous element of student teacher interaction.

Learning Management System

Online courses are based around the Learning Management System (LMS), which is the software system for the e-learning. VC LMS provides the student course website where student can view course information like course overview, FAQs, glossary, web links, related downloads, scheme of study, video lectures, schedule live sessions and course contents. Students take their quizzes, submit assignments and participate in discussion boards with tutor or students from LMS.

LMS system has following strengths

Easy access to LMS 24 hours a

day, 7 days a week, 365 days a year.

Study at a time and place that is convenient to you.

Expertise of renowned faculty, accessible nationwide.

World class statue of the art lectures in high definition audio and video.

Top quality courseware using blended learning approach.

Collaborative platform for peer and tutor moderated learning activity.

Student profiling, feedback and access to quick and reliable reporting.

Tutors

CIIT VC facilitates its students by assigning each course offered in every program to a subject tutor. Tutor is responsible to answer all academic queries of student. These tutors work in close coordination with content developer subject specialist. Tutors are responsible for managing online Lab sessions, monitor the progress of student, initiating moderated subject discussions, marking of quizzes, assignment and terminal exams.

Study Centers

Study Center means a center maintained or recognized by the CIIT VC for the purpose of advising, counseling or for rendering any other assistance required by the students in context of distance education. In the Online Distance Learning System, Study Centers play an important role since they act as focal contact points for distance learners.

CIIT Virtual Campus Study Center is envisioned to be a state of the art learning facility with an established ICT infrastructure and strong support system. A study center will facilitate CIIT's academic and administrative outreach and represent Virtual Campus in the targeted area. At present approximately 150 CIIT VC affiliated study centers are working in all major districts of Pakistan having presence in all provinces of country. Details of centers are available on http://www.vcomsats.edu.pk/studycenters.


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Chapter 3:

Admissions and Academics

Admissions

At CIIT the admissions into the graduate programs are offered on merit. The merit is determined on the basis of the academic record, GRE/NTS-GAT score and interview.

General Eligibility Criteria

Pre-requisites

MS Programs

A 16 years degree in the relevant field from an accredited educational institution, with minimum First division (annual system) or CGPA 2.5/4.0 (semester system) and no third division (annual system) or 'D' grade (semester system) throughout the academic career.

NTS GAT (General) with minimum score of 50.

PhD Programs

An MS/M.Phil degree with Thesis of 06 credit hours or its equivalent degree with Thesis of 06 credit hours, in the relevant field from an accredited educational institution, with minimum CGPA of 3.0/4.0 (semester system) or 70% marks (annual system), and no third division (annual system) or 'D' grade (semester system) throughout the academic career.

GRE (subject) as per HEC policy or NTS GAT (subject) with minimum score of 60.

Program Duration

MS degree programs

The duration of studies for MS degree shall normally be, not less than two years and not more than four years.

PhD degree programs

The duration of studies for PhD degree shall normally be, not less than three years and not more than five years.

Course Work

MS Degree Programs

An MS scholar will have to complete minimum of 30 credit hours by undertaking 24 credit hours course work from approved Scheme of Studies and 6 credit hours of MS Thesis.

PhD Degree Programs

a) A PhD scholar shall have to complete 18 credit hours of graduate level course work from approved Scheme of Studies and minimum 9 credit hours of PhD Thesis.

b) The registration of PhD Thesis of 09 credit hours shall be allowed after the completion of course work for PhD degree.

c) If the scheme of courses completed by candidates for their last degree in the relevant field does not provide adequate background for the PhD program into which they are seeking admissions, they may be required to overcome the deficiency by taking one or more additional courses proposed by the departmental Advisory Committee.

How to Apply

Applications are made in response to the admission notices in the press.

Admissions are conducted according to an admission schedule, which is prominently displayed in these admissions notices.

For applicants seeking admission in distance learning graduate programs, CIIT Virtual Campus has established a network of institutes as authorized study centers (names and locations available on campus website). These study centers also work as admission offices and facilitates in admission process. The procedure consists of following steps:

1) Online Admission Application

Candidates are required to apply on CIIT Online Admission System by following the link http://admissions.comsats.edu.pk.

- Note: For Virtual Campus, please visit http://admissions.comsats.edu.pk/vc

After submitting the online application, the printed copy of the same along with the required documents, as mentioned in Online Admission Portal, must be submitted at the concerned Campus either by hand or mail. Candidate can mention three program preferences for admission on one application form.

- Note: Applicants seeking admission in Virtual Campus can submit their documents in selected study center or can post the document to Virtual Campus secretariat in Islamabad.

Admission applications must be submitted before or by due date of submission. Late submission shall not be entertained.

Candidates must check the eligibility criteria before submitting their online application forms to confirm that they are academically eligible for admission into the program of their choice.

2) Entrance Test

Prospective students desirous of getting admission in graduate programs of CIIT should appear in the GAT (General) for MS and GAT (Subject) test for PhD programs, conducted by National Testing Service (NTS). The dates of these tests are prominently displayed on the NTS website: http://www.nts.org.pk as well as in the admission advertisements.

3) Interview and Preliminary Selection

List of applicants selected for interview is displayed on specified dates on the campus notice boards as well as on the CIIT website. The overall merit list is prepared by combining the weighted marks obtained in the previous public examinations with the marks obtained in the NTS test and interview.

The candidates are required to appear before the Departmental Graduate Admission Committee for interview and preliminary selection as per specified schedule. The applicants are asked to bring original academic certificates / degrees at the time of interview for verification.

4) Display of Merit List and Admission Offer Letter

The recommendations of the Departmental Graduate Admission Committees are scrutinized by the Campus Graduate Admission Committee, which finally approves the admission. The final merit list is displayed on the departmental notice boards as well as on CIIT website and selected applicants shall be issued "Provisional Admission Offer Letter" along with a Bank Challan Form for payment of dues.

5) Confirmation of Admission

Selected applicants shall confirm their

acceptance by returning the signed acceptance letter and by paying the non-refundable admission and tuition fee within the specified dates. Admission process will only be completed after the payment of fee is confirmed and all the desired documents have been submitted, verified and candidate has been found eligible for admission. If applicant fails to confirm enrolment by the given deadline, selection will stand cancelled.

International Students

CIIT welcomes international students to join it to enrich the diversity of the campus community and to promote international understanding and global awareness. CIIT offers admission in various programs at graduate level at all its campuses.

The international students may apply on online admission portal, besides the general route self-finance applicants may also send their applications for admission in graduate degree programs directly to CIIT Office of International Students Affairs (OISA), Park Road, Islamabad, Pakistan by mail and scanned copies on email address to: int.admissions@comsats.edu.pk. Further guidelines and details can be viewed at the link http://ww2.ciit-isb.edu.pk/internationalstudents/

However, all international students applying to the CIIT for admissions must demonstrate their competency in the use of English language and must fulfill the respective Graduate Program eligibility criteria and institute's admission requirements.

Furthermore, in view of differences in educational systems of different countries, applicants will have to submit an equivalence certificate obtainable from the Inter Board Committee of Chairmen (IBCC) Pakistan http://www.ibcc.edu.pk/ and/or from Higher Education Commission of Pakistan (HEC) www.hec.gov.pk while applying for admission in graduate programs. For this purpose applicants can either contact to International Admission Office of CIIT or can apply directly to the said offices. Further details of such procedures can be ascertained from the HEC website by clicking the link: http://www.hec.gov.pk/InsideHEC/Divisions/AECA/ForeignStudentsAdmission/PAIRBAGS/Pages/Introduction.aspx.

CIIT hostel accommodation is also available for international students. The Office of International Students Affairs (OISA) will act as a focal point to extend help and support during international students' stay at CIIT, Pakistan, and shall also provide assistance for visa and immigrations requisites.

Financial Assistance

CIIT is offering various types of financial support to the candidates admitted in the degree programs on purely merit basis but are unable to pay their fee expenses. The CIIT under the 'Financial Support Programs (FSPs), financially supports various categories of students in the form of financial support, scholarships and stipends. The Institute takes special care of its deprived students and not only gives them quality education but also keeps a bird's eye on their financial concerns and plays vital role to resolve them so that the students may not face any obstacle during their education. Financial Assistance is available to all students who prove to be needy regardless of race, religion, color, national origin, age, sex, or handicap. The various types of Financial Assistance Programs are as follows:

1. Need Based Financial Support Program (NBFSP)

HEC Need-Based Scholarships

2. Financial Assistance Program

Punjab Education Endowment Fund (PEEF) Scholarship

30% seats reserved in each discipline for the children of

Punjab Workers Welfare Board at Lahore campus (except Dual Degree Program)	Please contact campus admission offices for more campus-specific details of above scholarships.

For walk in needy students

Faculty of Science

Welcome message by Faculty Dean!

Welcome to the Faculty of Science at CIIT. The Faculty of Science at CIIT consists of the Departments of Mathematics, Biosciences, Chemistry, Physics, Meteorology, Environmental Science, Pharmacy, Statistics and Earth Sciences. The disciplines have been designed with the express aim to impart a clear insight into basic sciences and to develop strong experimental and technological skills. Each program provides a firm foundation for employment in industry and R & D organizations, as well as opportunities to pursue academic and research oriented careers.

This is a well-established faculty in terms of the programs offered, faculty strength and research productivity. The faculty is of international repute which is providing research facilities in diversified fields and a dynamic and vibrant environment to undergo a transformation in research and development. The faculty of science is providing different programs, advanced infrastructure, and experience and dedicated faculty. The strength of graduate students is increasing tremendously as a feedback of excellent research facilities available at CIIT. The faculty provides the best facilities, environment and research culture comparable with the top universities of the world.

I hope this prospectus will encourage you to join this association of knowledge seekers.

Prof. Dr. Arshad Saleem Bhatti

Department of Environmental Sciences

The Department of Environmental Sciences was established in 2004 at CIIT, Abbottabad Campus and recently started functioning at Vehari campus as well with the principal mission of continuing fundamental research pertaining to environment and to the related programs. The broad spectrum of the department provides its graduate students a great flexibility in choosing the program of their interest. Since its inception, the Department offered proficient programs and the degrees were awarded to successful graduates.

The Department has established international standard laboratories and other research facilities and engaged highly qualified faculty and research staff with diverse background in a variety of disciplines. In its initial vision the Department acted as a hub to cater several programs which consequently emerged as separate Departments such as Pharmacy, Chemistry and Earth Sciences.

The Department of Environmental Sciences aims to conduct high quality basic and applied research, produce qualified human resource, and develop products and processes to meet the needs and niches of academia and industry. Major focus areas of research and development include climate change, water and air pollution, waste management, energy, agriculture and food security.

Graduate Programs

Currently the following graduate programs are being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Environmental Sciences

Master of Science (MS) in Environmental Sciences program was started in 2005. The aim of the program is to provide students with an opportunity to pursue their ambitions in this broad and multidisciplinary field and to become efficient advocates of environment. The program offers a range of research areas to choose from a wide range of career options. The research oriented program is designed to prepare the graduates for career in environmental consulting, regulatory agencies, manufacturing and service industry, wildlife management organizations, environment related national and international organizations and academic institutions.

Admission requirements, program duration, course work and thesis/research project details are given at page 23-24.

Offering Campus(es)

- Abbottabad, Vehari.

Doctor of Philosophy in Environmental Sciences

The PhD program in environmental sciences acquaint the scholars with critical analyses of the present and future developmental activities in the light of its ultimate environmental impacts on climate change, water resources and quality, public health and food security and how such influences can be managed at local, regional and national level.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Abbottabad

Master of Science in Biotechnology

Master of Science (MS) in Biotechnology program was started in Fall 2009. The program broadly aims at preparing human resource in this emerging area of science of the 21st century with the realization of meeting local, regional and global demands of qualified and well-trained

professionals. The specific objectives are to impart and integrate high quality education and research in the discipline of biotechnology and developing human resource with independent, creative and critical thinking and high moral values.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Abbottabad

Doctor of Philosophy in Biotechnology

The program offered enormous research exposure with major focused areas of research include improving agricultural crops and livestock against biotic and abiotic stresses, higher yield, energy potential and production; improving health through drug designing, vaccines production, diagnostics, and DNA fingerprinting; bioremediation of contaminated soils and water and improving industrial processes.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Abbottabad.

Master of Science in Sustainable Water Sanitation Health and Development

Master of Science in Sustainable Water Sanitation Health and Development (SWSHD) was launched in Fall 2008 at Abbottabad campus. This is an international program funded by the Norwegian Government and is operating simultaneously at COMSATS IIT, Pakistan, Tri-Bhuwan University, Nepal, and the University of Life Sciences, Norway. This program gives a broad introduction to water sanitation and associated health issues. This would build the required capacity to tailor solutions to local needs related to the UN Millennium Goals for water and sanitation. The students acquire skills to plan, design, implement, manage and communicate appropriate technical solutions suitable to both urban and rural contexts. The diversified teaching and training during the MS program enable the students for careers in environmental consulting, regulatory agencies, manufacturing and service industry, water and sanitation agencies, environment related national, international and multinational organizations, academic institutions and many others.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Abbottabad

Faculty Members

Abbottabad Campus

Professors

Dr. Mohammad Maroof Shah, PhD, University of Nebraska-Lincoln, USA
Dr. Iftikhar A. Raja, PhD, University of Strathclyde, Glasgow, UK
Dr. Arshid Pervez, PhD, Bradford University, UK

Advisors

Dr. Kiramat Khan, PhD, University of Nebraska, Lincoln, USA

Associate Professors

Dr. Mohammad Irshad, PhD Tottori University, Japan
Dr. Qaisar Mahmood, PhD, Zhejiang University, China
Dr. Amjad Hassan, PhD, Niigata University, Japan

Dr. Amir Haider Malik, PhD, Technical University (TU), Berlin, Germany

Assistant Professors

Dr. Raza Ahmad, PhD, KAIST, Dajon, South Korea
Dr. Romana Khan, PhD, Kyungpook National University, Taegu, South Korea
Dr. Jamshaid Hussain, PhD, University of Verona, Italy
Dr. Faridullah, PhD, Tottori University, Japan
Dr. Mohammad Bilal, PhD, Agrocampus Ouest, Rennes, France
Dr. Adnan Ahmad Tahir, PhD, Universite Montpellier 2, France
Dr. Syed Tatheer Alam Naqvi, PhD, Quaid-e-Azam University, Islamabad, Pakistan
Dr. Touqeer Ahmad, PhD, Quaid-e-Azam University, Islamabad, Pakistan
Dr. Usman Irshad, PhD, Sup Agro, Montpellier, France
Dr. Sarfraz Shafiq, PhD, University of Strastbourg, France
Dr. Rafiq Ahmad, PhD, University of Paris-Est, France
Dr. Sabaz Ali Khan, PhD, Wageningen University, The Netherlands
Dr. Saeed Ahmad Asad, PhD, University of Nottingham, UK
Dr. Zulfiqar Ahmed Bhatti, PhD, CIIT, Abbottabad, Pakistan
Dr. Maria Siddique, PhD, CIIT, Abbottabad, Pakistan
Dr. Bilal Ahmad Zafar Amin, PhD, University of Reims, France
Dr. Farhan Hafeez, PhD, University of Dijon, France
Dr. Muhammad Shahzad, PhD, University of Kiel,Germany, Germany
Dr. Muhammad Tahir Amin, PhD, Seoul National University, Korea (On Study Leave)
Dr. Rashid Nazir, PhD, University of Groningen, Netherlands

Vehari Campus

Advisors

Dr. Muhammad Aslam, PhD, Kansas State University, Manhattan, Kansas, USA

Assistant Professors

Dr. Muhammad Shahid, PhD, INP-Ensat, Poulouse, France
Dr. Wajid Nasim, PhD, University of Agriculture, Faisalabad, Pakistan
Dr. Muhammad Nadeem, PhD, University of Bordeaux 1, France
Dr. Nasir Masood, PhD, University of Agriculture, Faisalabad, Pakistan

Department of Chemistry

The Department of Chemistry at CIIT provides the challenges and confidence to achieve the most difficult goals and help secure a position in a very competitive career field nationally and internationally. The department provides ample opportunity not only to supplement chemical knowledge but also allows students to grow as well-rounded individuals who are able to face and meet the challenges of modern world of technology they may encounter in their opted careers.

Chemistry, by its very nature, is the central science and most of the graduates build solid foundation for advanced study in chemistry. Students would to able to do interdisciplinary research and purse study in medicine, pharmacy, veterinary medicine, forensic science, materials science, environmental medicine, pharmacy, medical technology, physical therapy and environmental law.

Chemistry students get frequent one-on-one training and advise through informal interactions with our faculty in the research labs and during monthly seminars. Each of our faculty, on average, mentors two to three graduate students every year. The faculty gets to know the students, including their goals and aspirations, on a personal level. The Department of Chemistry currently consists of 28 faculty members holding doctoral degrees from distinguished universities around the world. All members are dedicated academician, skilled in fostering active student participation. They are also active researchers and have to their credit, many research publications, book chapters , posters and presentations in the areas of their expertise . Graduate students in Chemistry have always an opportunity to work with faculty on research projects involving the research groups in Natural Product Chemistry, Material Chemistry, Synthetic Organic and Medicinal Chemistry, Synthetic bio-Inorganic Chemistry, Industrial Analytical Chemistry.

Most of our faculty either presently hold or have recently held research grants funded by the Higher Education Commission Pakistan (HEC) under NRPU, Pakistan Science Foundation (PSF) and Third World Academy of Science (TWAS) and CIIT research grant. All of these research grants and contracts involve students as “doers and thinkers” in novel, cutting edge research. Present projects involve synthesis of new anti-cancer agents; establishing new bioassay for natural products; novel nano material synthesis characterization for new nano technology-encapsulation delivery systems; advanced food preservation methods; green chemistry methodologies; drinking water and waste water sustainable treatment; isolation and nano-derivatives of herbal extract ; study of organic molecules by computation, synthesis of Polymers and bio sensors; liquid crystal material synthesis and characterization and many more projects.

The graduates will have following major characteristics apart from research exposure:

Possess a command on the respective specializations in chemistry and knowledge of the literature available in specialized field.

Possess the knowledge needed to interpret data presented by modern analytical instrumentation such NMR spectroscopy, FT-IR, UV/Visible, Mass spectrometry and Chromatography .

The ability to understand and optimize the research methods .

The understanding of ethical and professional responsibilities as a scientist and chemist as well as awareness of the

contemporary societal and global issues facing chemists.

Master of Science in Chemistry

The Master of Science (MS) in Chemistry is designed to prepare graduate students for continuation to the PhD level, other professional trainings, or for immediate employment in advanced positions in government, industry, and education. The program accommodates individual career objectives for those with degrees in chemistry and allied fields/relevant subjects to pursue advanced research work and placement in the field. The Chemistry has seen enormous growth in past few decades with many new applications in biotechnology, advanced materials, medicine, nanotechnology, environmental health, alternative energy resources, forensic science and computational research. New information is rapidly transferred from research laboratories to practical applications.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Abbottabad.

Doctor of Philosophy in Chemistry

The Doctor of Philosophy in Chemistry degree will prepare students with suitable qualification for jobs in the relevant pasture; for teaching as well as for research studies and an exciting research career in required fields. Chemistry has such a wide variety of important applications that it creates constant demand for well-trained chemists in many fields. There is large number of job opportunities for Chemistry graduates nationally and internationally e.g., in Industries, Research institutes (NIBGE, PCSIR, Atomic Energy, Kahoota Research Labs, etc) Health departments, Mineralogy department, Ministry of Environment, Pharmacy, Agriculture and Teaching Institutes, etc, In order to fulfill these enormous demands of Chemists. The PhD program empowers individuals' career prospects for securing appropriate position in the relevant industry and to inculcate advanced research in the body of knowledge.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Abbottabad.

Faculty Members

Abbottabad Campus

Professor

Dr. Abdur Rahman Khan, Post Doctorate, Kyungpook National University, South Korea, PhD, University of Birmingham, UK

Advisor

Dr. Rehana Rashid, Post Doctorate, Max Planck Institute Muelheim, Germany, PhD, Martin Luther University Halle, Germany.

Associate Professors

Dr. Zakir Hussain, PhD, Institute fur Organische Chemie, TU Braunschweig, Germany

Dr. Umar Farooq, PhD, ICCBS, HEJ Research Institute of Chemistry, University of arachi, Pakistan

Assistant Professors

Dr. Khurshid Ayub, PhD, University of Victoria, Canada

Dr. Afsar Khan, PhD, H.E.J Research Institute of Chemistry, University of Karachi, Pakistan

Dr. Abida Kalsoom Khan, PhD, Quaid-i-Azam University Islamabad, Pak

Dr. Amara Mumtaz, PhD, Quaid-i-Azam University Islamabad, Pak

Dr. Muhammad Hanif, PhD, University of Vienna Austria

Dr. Tariq Mahmood, PhD, ICCBS, HEJ Research Institute Karachi, Pakistan, School of Chemistry, /University of Southampton, U.K.

Dr.Usman Latif , PhD, University of Vienna Austria,

Dr. Khizar Hayat, PhD, Université Montpellier 2, France

Dr. Guhlam Abbass, PhD, ICCBS, HEJ Research Institute of Chemistry, University of Karachi, Pakistan

Dr. Muhammad Ali, PhD, ICCBS, HEJ Research Institute of Chemistry, University of Karachi, Pakistan

Dr. Sohail Anjum, PhD, GC University, Lahore, Pakistan

Dr. Sadullah Mir, PhD, Quaid -i- Azam University Islamabad Pakistan

Dr. Imran Malik, PhD, University of Rostock, Germany

Dr. Zafar Iqbal, PhD, Eberhard-Karls University Tuebingen, Germany.

Dr. Farhan Ahmed Khan, PhD, Technical University of Vienna, Austria

Dr. Aneela Maalik, PhD, University of Rostock, Germany

Dr. Adeem Mahmood, PhD, University of Nottingham, UK, Post Doctorate, University of Nottingham, UK

Dr. Muhammad Arfan, PhD, Quaid i Azam University, Islamabad, Pakistan

Dr. Syed Tauqir Ali Sherazi, PhD, Government College University, Lahore, Pakistan

Dr. Bushra Ismail, PhD, Quaid i Azam University, Islamabad, Pakistan


REIS

Department of Mathematics

The Department of Mathematics has been teaching courses of Mathematics in different degree programs since its establishment in 2001. The peer departments were established at Abbottabad, Lahore, Wah, Attock and Sahiwal as well. This has been rightly said and acknowledged by all that "Mathematics is Queen of all Sciences". The phrase has been well understood and appreciated with the passage of time. This beautiful subject has got recognition in all aspects of human life like basic sciences, engineering, technology, information technology, bio-sciences, environmental sciences, social sciences etc. The power of mathematics is felt like never before.

The advent of computers and data acquisition facilities has stretched the limits of what is possible in Mathematics to all branches of human endeavor. New developments are taking place all the time; some as a result of fresh ideas or review of old techniques, and others prompted by the applications to new emerging physical, biological social sciences, economics, and computing. This has given rise to new IT based techniques of mathematical study and has created new computational methodologies.

The Department of Mathematics at CIIT offers balanced training in mathematics and its applications in the broadest sense. The Department occupies a leading position in pure and applied mathematics. Ordinary and partial differential equations, numerical analysis and scientific computation, mathematical physics, fluid dynamics, computational fluid dynamics, Topology, Complex analysis are some of the areas offered by the Department.

The study of mathematics can lead to a variety of exciting professional careers. Basic research, engineering, finance, business, and government services are among the opportunities open to those with mathematical training. Moreover, with the increasing importance of basic science and information technology, prospects for careers in the mathematical sciences are very good. Mathematical analysis and computational modeling are important for solving some of the most pressing problems of our time - new energy resources, climate change, risk management, epidemiology, to name a few. We must strive to maintain our technological edge; mathematical skills will be crucial to this effort.

The Department aims to pursue excellence in Mathematics through teaching and research by developing appropriate curricula and teaching practices, acquiring talented faculty members, and providing an environment conducive to teaching, research and learning. The students are encouraged to develop new ideas in research and to apply them in real world problems.

Master of Science in Mathematics

Master of Science (MS) in Mathematics program aims to provide suitable career in many research organizations/laboratories, both government and private, maintain independent research staffs that include mathematicians. Their work often deals with the development of new technology, including research in basic physics and software development, as well as applied mathematics. Numerical simulation, such as weather and climate forecasting, depends heavily on the use of supercomputers. At the MS level, graduate would be able to acquire skills for solving problems suggested either by mathematics or by real world questions. Foremost is the ability to break complex issues into smaller, more manageable problems, until a model is reached which can be thoroughly studied and understood.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus(es)

- Islamabad, Abbottabad, Lahore, Wah, Attock

Doctor of Philosophy in Mathematics

In this degree program, the student is prepared for advance research activities along with many jobs in government, business, and industry Many PhD Mathematicians join the faculty of a university or four-year college, where they not only teach but also conduct research and publish their results in scholarly journals and books. Others take post-doctoral positions at various laboratories around the world, where work of interest to them is being done. Still others pursue careers in corporate research and management. A degree in Mathematics will prepare students with suitable qualifications for jobs in the relevant fields and an exciting research career in these fields.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus(es)

- Islamabad, Lahore

Faculty Members

Islamabad Campus

Professors

Dr. Tahira Haroon, Post Doctorate, University of Wales, Swansea, UK, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Saleem Asghar, PhD, Quaid e AzamUniversity, Islamabad, Pakistan

Dr. Muhammad Aslam Noor, PhD, Brunel University London, UK

Dr. Khalida Inayat Noor, PhD, University of Wales, Cardiff, UK

Dr. Aftab Khan, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Akbar Azam, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Moiz-ud-Din Khan, PhD, Bahauddin Zakariya University, Multan, Pakistan

Advisor

Dr. Akhtar Hussain, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Noor Muhammad Larik, PhD, Southampton University, UK

Associate Professors

Dr. Shamsul Qamar, PhD, Otto-von-Guericke University Magdeburg, Germany

Dr. Abdullah Shah, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Assistant Professors

Dr. Mahmood ul Hassan, Post Doctorate, Auckland University, New Zealand, PhD, Brunel University London, UK

Dr.Muhammad Mushtaq, PhD, CIIT, Islamabad

Dr. Sobia Sultana, PhD, Government College University, Lahore, Pakistan

Dr. Shams-ul-Islam, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Dr. Ishtiaq Ali, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Dr. Farkhanda Ikhlaq Chohan, PhD, Kagoshina University, Japan

Dr. Tanvir Akbar Kiani, PhD, University of Strasbroug, France

Dr. Masood Anwar, Post Doctorate, University of

Windsor, Canada, PhD, National College of Business Administration and Economics (NCBAandE), Pakistan

Dr. Tazeen Athar, PhD, DAAD, Germany

Dr. Muhammad Saeed Akram, PhD, Government College University, Lahore, Pakistan

Dr. Muhammad Zaighum Zia, PhD, DAAD, Germany

Dr. Muhammad Qasim, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Umber Sheikh PhD, University of Punjab, Lahore, Pakistan

Dr. Saleem Ahmed, PhD, State University of New York, USA

Dr. Baber Ahmad, PhD, Government College University, Lahore, Pakistan

Dr. Muhammad Imran Qureshi, PhD, Oxford University, UK

Dr. Imran Rashid, PhD, HRADEC KRALOVE University, Czech

Dr. Muhammad Fazeel Anwar, PhD, University of York, UK

Dr. Sohail Iqbal, PhD, Warwick University, Pakistan

Dr. Tahira Jamil, PhD, Wageningen University, Netherlands

Dr. Manshoor Ahmed, PhD, CIIT, Islamabad, Pakistan

Dr. Shahida Nargis, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Bushra Malik, PhD, CIIT, Islamabad, Pakistan

Dr. Sardar Mohib Ali Khan, PhD, Government College University, Lahore, Pakistan

Dr. Salman Amin Malik, PhD, University of Rochelle, La Rochelle France

Lahore Campus

Associate Professors

Dr. Shahadat Ali Taj, PhD, Brunel University London, UK

Assistant Professors

Dr. Imran Anwar, PhD, GC University, Lahore, Pakistan

Dr. Sarfraz Ahmad, PhD, GC University, Lahore, Pakistan

Dr. Hani Shaker, PhD, GC University, Lahore, Pakistan

Dr. Imran Ahmad, PhD, GC University, Lahore, Pakistan

Dr. Muhammad Hussain, PhD, GC University, Lahore, Pakistan

Dr. Kashif Ali, PhD, GC University, Lahore, Pakistan

Dr. Imran Siddique. PhD, GC University, Lahore, Pakistan.

Dr. Tariq Javed Zia, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Dr. Hafiz Abdul Wajid, PhD, University of Strathclyde, Glasgow, UK

Dr. Amir Mahmood, PhD, GC University, Lahore, Pakistan

Dr. Samina Mazhar, PhD, LUMS, Lahore, Pakistan

Dr. Muhammad Younas, PhD, University of Groningen, The Netherlands

Dr. Adeel Farooq, PhD, Queen Mary University of London

Dr. Ayesha Sohail, PhD, University of Sheffield, UK

Dr. Najma Saleem, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Muhammad Younas, PhD, University of Groningen, Netherland

Abbottabad Campus

Advisors

Dr. Mir Asadullah, PhD, Essex University, UK

Dr. Dost Muhammad, PhD, Michigan University, USA

Assistant Professors

Dr. Madad Khan, PhD, Quaid e Azam University,

Islamabad, Pakistan
Dr. Saima Anis, PhD, Quaid e Azam University, Islamabad, Pakistan
Dr. Muhammad Ayub, PhD, Quaid e Azam University, Islamabad, Pakistan
Dr. Abdul Sami Awan, PhD, Government College University, Lahore, Pakistan
Dr. Asghar Khan, PhD, Quaid e Azam University, Islamabad, Pakistan
Dr. Saqib Hussain, PhD, CIIT, Islamabad, Pakistan
Dr. Sultan Hussain, PhD, Government College University, Lahore, Pakistan
Dr. Usman Ashraf, PhD, GC University Lahore, Pakistan
Dr. Zahid Ahmad, PhD, University of Punjab, Lahore, Pakistan
Dr. Naheed Azhar, PhD, ENSTA-BRETAGNE University, France
Dr. Inayat ur Rehman, PhD, Quaid e Azam University, Islamabad, Pakistan
Dr. Saima Noor, PhD, Comsats Institute of Information Technology, Islamabad Pakistan
Dr. Talat Nazir, PhD, LUMS Lahore, Pakistan
Dr. Zakir Hussain, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Wah Campus

Advisor

Dr. Munir Akhtar, PhD, University of Southampton, UK

Assistant Professors

Dr. Akmal Javaid, PhD, Graduate University of Chinese Academy of Sciences (GUCAS), Beijing, China
Dr. Muhammad Kamran, PhD, Government College University, Lahore, Pakistan
Dr. Amer Rasheed, PhD, European University of Bretagne, France
Dr. Abdul Wahab, PhD, EcolePolytechnique of Paris, France
Dr. Shabieh Farwa, PhD, University of Sheffield, UK
Dr. Muhammad Rafiq, PhD, CIIT Islamabad, Pakistan

Attock Campus

Advisors

Dr. Zafar Mehmud, PhD, Bahauddin Zakariya University, Multan, Pakistan

Assistant Professors

Dr. Saima Noreen, PhD, Quaid e Azam University, Islamabad, Pakistan
Dr. Imran Faisal, PhD, Universiti Kebangsaan, Malaysia
Dr. Farooq Ahmad Shah, PhD, CIIT, Islamabad
Dr. Abdul Qadir Baig, PhD, Government College University, Lahore
Dr. Shafique Rehman, PhD, Government College University Faisalabad Pakistan
Dr. Muhammad Awais, PhD, Quaid i Azam University, Islamabad, Pakistan
Dr. Sadia Siddiqa, PhD, CIIT, Islamabad, Pakistan

Sahiwal Campus

Assistant Professors

Dr. Muhammad Naeem, PhD, Government College University, Lahore, Pakistan
Dr. Muhammad Ramzan, PhD, Ghulam Ishaq Khan Institute of engineering Science and Technology, Topi, Swabi, Pakistan
Dr. Muhammad Raza, PhD, Bahauddin Zakariya University, Multan, Pakistan

Dr. Muhammad Sadiq, PhD, Islamia University, Bahawalpur, Pakistan

Dr. Muhammad Waseem, PhD, CIIT, Islamabad, Pakistan

Dr. Manzoor Ahmad Zahid, PhD, Tilburg University, Tilburg, Netherlands

Dr. Ghulam Abbas, PhD, University of the Punjab, Pakistan

Department of Statistics

Department of Statistics has recently been established at CIIT Lahore Campus. The department intends to achieve excellence in teaching and research in statistics by developing curricula of present needs, hiring world class faculty and providing to its students the facilities and environment for quality teaching and world class research. The Department aims to pursue excellence in Statistics through teaching and research by developing appropriate curricula and teaching practices, acquiring talented faculty members, and providing an environment conducive to teaching, research and learning.

Master of Science in Statistics

The Master of Science in Statistics inculcates huge exposure of knowledge and provides the platform to pursue suitable career in the relevant field. The breadth and depth of work will depend on the degree level and the students are encouraged to develop new ideas in research and to apply them in real world problems.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Lahore

Doctor of Philosophy in Statistics

While a career in mathematics can be very attractive, it takes time to acquire the necessary skills, particularly for advance research at the Ph.D. level. Graduate study is essential for most fields. The graduate course sequence for this program provides a foundation upon which more advanced statistics will be built. In graduate study, required course work completes the basic training and then more specialized courses taken the frontiers of research. Applied statistics students will take courses in various application areas to acquire experience in modeling the real world, and to learn how statistics can help with problems from the other disciplines. This program will also help students to develop their capacity of reasoning so that they will think more logically and independently in making rational decisions.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Lahore

Faculty Members

Lahore Campus

Professors

Dr. M. Qaisar Shahbaz, PhD, National College of Business Administration and Economics (NCBAandE), Pakistan

Assistant Professors

Dr. Tajamal Hussain, PhD, University of the Punjab, Lahore, Pakistan

Dr. Saman Shahbaz, PhD, National College of Business Administration and Economics NCBAandE), Pakistan

Dr. Nadeem S. Butt, PhD, University of the Punjab, Lahore, Pakistan

Dr. Faisal Tahseen Shah, PhD, niversity of the Punjab, Pakistan.

Dr. Muhammad Ismail, PhD, National College of Business Administration and Economics (NCBAandE), Pakistan

Department of Biosciences

The insights, products and a variety of biomedical and biotechnological applications emerging from the field of genomics are widely considered as transformation engines for medicine and biology in the coming years. An equitable contribution of developing countries, such as Pakistan, in this whole process, is not only vital for the economic growth of the country but also of global importance to best reap the profits of human resource world-wide. We believe that our graduates with broad based knowledge will fill this vacuum. A degree in any of the below mentioned disciplines will prepare students for suitable careers in the field of teaching, clinical and research institutes, pharmaceutical companies, biotechnology industries, etc.

Graduate Programs

Currently the following graduate programs are being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Biosciences

The Master of Science in Biosciences aims to produce professionals who have thorough knowledge and skills to develop a career in Biosciences. The department is committed to provide the fresh graduates with an environment conducive for learning, critical thinking in different aspects of bioscience. Provide students an opportunity to learn tools and techniques in various fields of life sciences such as Botany, Zoology, Microbiology, Biochemistry, Molecular, Biology, Bioinformatics and Biotechnology etc. Students are encouraged to conceive a research project related to some burning biological and health issues to perform research as an integral part of their degree program. A degree in Biosciences discipline will prepare students for a promising career in the field of teaching, clinical and research institutes, pharmaceutical companies, biotechnology industries, etc.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus(es)

- Islamabad, Sahiwal

Doctor of Philosophy in Biosciences

The Doctor of Philosophy in Biosciences aims to explore the principles of biology and organism diversity so that the students develop critical thinking skills that are essential to assimilate, interpret and impart knowledge. The department is keen to provide all possible resources to the students so that they gain maximum knowledge and practical skills needed to be highly competitive to avail the best opportunities in their professional careers. Students are encouraged to conceive a research project related to some burning biological and health issues and to perform research as an integral part of their degree program. The program offers research in different dimensions of Bio Science, which includes Bioinformatics, Molecular Biology, Virology, Microbiology, Immunology, Cancer Genetics and Cell Biology. It also encourages the students to come up with new innovative ideas and try new things to achieve new heights of success in the field. A degree in Biosciences discipline will prepare students for a promising career in the field of teaching, clinical and research institutes, pharmaceutical companies, biotechnology industries, etc. The PhD graduates develop tools, techniques and diagnostic solutions various problems for different sectors of Pakistan.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Master of Science in Biochemistry and Molecular Biology

Biochemistry and Molecular Biology are quite diverse fields and MS degree in it enables students to get entry into equally diverse areas such as biotechnology, cell biology and Pharmaceutical health professions. Students will explore how life works from a biochemical, cellular and molecular perspective through a combination of lectures, labs, seminars and hands-on research experience. The career potential of a Biochemist/ Molecular biologist is very broad. Graduates are prepared to play their roles in many aspects of scientific research, teaching and industry. Contributing towards basic or applied research graduates may get involved as researchers at various research organizations.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Doctor of Philosophy in Biochemistry and Molecular Biology

The central mission of the Doctor of Philosophy in Biochemistry and Molecular Biology program is to apply rigorous scientific principles to understand the underlying biochemical and molecular mechanisms of life. Biochemistry and molecular Biology are the knowledge hubs for all other disciplines. The graduates will be able to review, synthesize, critique and integrate relevant concepts, discoveries and applications in Biochemistry or molecular biology and related fields. The curriculum is designed to provide a broad background in protein biochemistry, biotechnology and molecular genetics, in addition to an appropriate depth of knowledge in the field selected for the Ph. D. thesis research.

Another main objective is to strengthen candidates' knowledge and technical proficiency, preparing them for collaborative, multidisciplinary assignments in several fields and to provide training in the preparation of scientists who are professional leaders, and a source of benefit to the society. The career potential of a Biochemist/Molecular biologist is very broad. Contributing towards basic or applied research graduates may get involved as researchers at various research organizations. Graduates may seek jobs in various laboratories housed in Universities, Medical centers or industrial laboratories. Attain leadership positions in universities, RandD institutes and especially different industries (Medical, Pathology and Diagnostics Laboratories, Forensics, Dairy, Food, Agriculture, Pharmaceutical, Chemical and Cosmetics industries). Business opportunities do exist as the graduates could get positions in the Biotechnology industry and regulatory agencies.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Master of Science in Molecular Genetics

The curriculum of Master of Science in Molecular Genetics program is designed to provide a broad background in major fields of genetics, providing an understanding of concepts that are essential to modern biologists. A working knowledge of genetics will be imparted in important disciplines ranging from ecology to medicine. Upon successful completion of this course, the student

should be able to apply knowledge of genetics to ecological, environment and clinical research. At the end student should be able to perform techniques of molecular genetics and interpret genetic data in an applied context.

In addition to an appropriate depth of knowledge, the students will be prepared to pursue further research in the field selected for the Ph. D. thesis. Additionally, this knowledge is necessary to understand current ethical debates regarding genetic issues. Upon successful completion of this course, our graduates should be able to apply knowledge of genetics to ecological, environment and clinical research using genetic data in an applied context. The degree will prepare students for suitable careers in the research, clinical institutes, pharmaceutical companies, biotechnology industries, etc.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Doctor of Philosophy in Molecular Genetics

The science of Molecular Genetics has been transformed in the past decade. A wealth of genetic resources is now available to researchers regarding many species that directly or indirectly influence human health, biotech industry, food safety, and agriculture sector. The technical approach of molecular genetics will shed light on molecular pathology of many dominating diseases in Pakistan that are poorly understood at present, eventually paving the way for economically suitable treatment and prevention strategies. Bearing this in mind, molecular genetics will soon underpin much of recent national and international issues ranging from ecology to medicine. Upon successful completion of this course; our graduates should be able to apply knowledge of genetics to ecological, environment and clinical research using genetic data in an applied context. The degree will prepare students for suitable careers in the field of teaching, clinical and research institutes, pharmaceutical companies, biotechnology industries, etc.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Master of Science in Microbiology and Immunology

The Microbiology and Immunology program will cover a range of fields, from the more applied disciplines such as medical, public health, industrial, and food microbiology, to basic fields of immunology, microbial ecology, physiology and genetics of microbes. This major will help understand the disease-causing potential of bacteria, fungi and viruses, and the responses of the immune system. These studies will teach the students how microbiology and immunology can be applied and will prepare them for suitable careers in areas as diverse as medicine, brewing, food spoilage, control of environmental pollution, biotechnology and space science.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Doctor of Philosophy in Microbiology and Immunology

The Doctor of Philosophy in Microbiology and Immunology program at CIIT is a diverse science that emphasizes the areas of molecular

genetics, cell biology, immunology, cell and virus structure and morphogenesis, animal virology, general bacteriology and physiology, host/parasite relationships, medical microbiology, microbial genetics, and recombinant DNA research. Students are prepared for creative research careers in all of these fields. The objective is to provide scope in microbiology, immunology, and molecular genetics as well as depth and training in independent study and research for graduate students. The science has its roots in the fundamental human needs of health, nutrition, and environmental control, and it provides opportunities for study in the basic biological fields of genetics and cellular and molecular biology. The graduates will be prepared for careers in biomedical research, medicine, dentistry, or other health professions, biotechnology and genetic engineering, industrial microbiology, agricultural or environmental sciences, public health, and law or bioethics, among others.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Master of Science in Molecular Virology

The Master of Science in Molecular Virology program aims to produce graduates with focused and unique understanding as well as expertise in techniques of virology. Graduates will develop an understanding of the scientific basis of established and novel virology concepts, as well as the specialist knowledge, practical skills and critical awareness required to enable graduates to pursue a career in academic, clinical or industrial virology. Upon successful completion of this course, our graduates should be able to apply knowledge of virology for environment and clinical research in an applied context. The degree will prepare students for suitable careers in the field of teaching, clinical and research institutes, pharmaceutical companies, biotechnology industries, etc.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Master of Science in Bioinformatics

Over the past two decades, explosive epidemics of unidentified and re-emerging diseases have given the world a few close calls. Some have affected international trade and tourism; others have led to the mass slaughter of poultry and farm animals. These epidemics have resulted in overwhelming the health services and diversion of essential resources from elsewhere. Almost all these diseases have caused fear and panic. The availability of complete genome sequences for several human pathogens coupled with bioinformatics will lead to significant advances in understanding completely the biological processes underlying the normal physiology of both hosts and pathogens. The medical developments arising from genome projects are required to be exploited to monitor the disease susceptibility and spectrum of disease in our indigenous populations, which we hypothesize, would be different from rest of the world and also within the country.

The insights, products and a variety of biomedical and biotechnological applications emerging from the field of genomics are widely considered as transformation engines for medicine and biology in the coming years. An equitable contribution of developing countries, such as Pakistan, in this whole process, is not only vital for the economic growth of the country but also of global importance to best reap the profits of human resource world-wide. We believe that our graduates

with broad based knowledge will fill this vacuum. A career in Bioinformatics will prepare the students for suitable careers in the field of teaching, clinical and research institutes, pharmaceutical companies, software warehouses, biotechnology industries, computer sciences field, etc.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Faculty Members

Islamabad Campus

Professors

Dr. Raheel Qamar, T.I., Dean, Research, Innovation and Commercialization, PhD University of North Texas, USA

Dr. Fauzia Yousaf Hafeez, PhD, Quaid e Azam University, Islamabad, Pakistan

Advisors

Dr. Shahzad. A. Mufti, PhD, Case-Western Reserve University, USA

Dr. Asrar Muhammad Khan, PhD, University of Sydney, Australia

Associate Professors

Dr. Syed Habib Bokhari, Post Doctorate, University of London, UK, George Mason University, USA, PhD University of Glasgow, UK

Dr. Mahmood A. Kayani, PhD University of Wales, Swansea, UK

Assistant Professors

Dr.Sumaira Farrakh, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Syed MusstjabAkberSaha, PhD Quaid e Azam University, Islamabad, Pakistan

Dr. Irfan Sadiq, PhD Pisa University, Italy

Dr. Tayyaba Yasmin, PhD PMAS Arid Agriculture University, Rawalpindi, Pakistan, Post Doctorate, The University of Edinburgh, Scotland, UK

Dr. Muhammad Zeeshan Hyder, PhD University of Arid Agriculture, Rawalpindi, Pakistan

Dr. Abdul Rauf Siddiqi, PhD, Paris Descartes University, France

Dr. Saadia Naseem, PhD, University of Hanover, Germany

Dr. Nazish Bostan, PhD Quaid e Azam University, Islamabad, Pakistan

Dr. Qaiser Fatimi, PhD, University of Innsbruck, Austria, Post Doctorate, University of California, Riverside, California, USA

Dr. Muhammad Imran, PhD, INPL - ENSAIA - LIBio, Nancy, France

Dr. Kiran Munir, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Muhammad Saeed, PhD Innsbruck University, Austria

Dr. Aisha Naeem, PhD University of Illinois at Urbana Champaign (UIUC), USA

Dr. Zahid Ali, PhD University of Hanover, Germany

Dr. Muhammad Jamil, PhD Wageningen University, Netherlands

Dr. Zertashia Akram, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Mustafa Nawaz Shafqat, PhD Kansas State University, USA

Dr. Muhammad Nadeem Hassan, MPhil Quaid e Azam University, Islamabad, Pakistan

Dr. Amira Tariq University of Vienna Austria.

Dr. Abid Ali Khan University of Basque Country Spain.

Dr. Ramla Shahid, PhD, Cambridge University, UK

Dr. Saleem Ahmed Bokhari, PhD, Tsinghua University, China

Sahiwal Campus

Assistant Professors

Dr. Shazia Mannan, PhD, Quaid e Azam University, Islamabad, Pakistan. Post Doctorate, Molecular Phytopathology, Central science Labortry York, UK

Dr. Muhammad Shafiq Shahid, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Awais Ihsan, PhD, Huazhong Agriculture University, China

Dr. Awais Zulfiqar, PhD, Zhejiang University, China

Dr. Sumaira Kanwal, PhD, Kongju National University, Korea

Dr. Ibrar Hussain, PhD, Swedish University of Agricultural Sciences, Sweden

Dr. Muhammad Ibrahim, PhD, Zhejiang University, Hangzhou, China

Department of Meteorology

Department of Meteorology was established in 2005 and the only institute in the country offering degree in Meteorology. In 2005 MS Meteorology program was launched with three specializations including Meteorology, Seismology and Remote Sensing and GIS. Later on specialization of Remote Sensing and GIS and Meteorology at Master level were introduced as separate disciplines in 2010. PhD in Meteorology with specializations in Meteorology and Remote Sensing and GIS is intact in our department since 2010. We are the sole Institute in County to offer PhD in Meteorology. The program aims to provide consultancy, solutions and future trends in the areas of Climate Change, Numerical Weather Predication, Hydrology and Water Resources, Snow and Ice, Agriculture and Food Security, Oceanography, Land use and Land cover and a range of relevant state-of-the-art technologies. Department of Meteorology launched to focus attention on these multidisciplinary fields and their significance in Pakistan, and to make sincere and serious efforts for the growth and advancement of education and research in these fields.

Remote Sensing and GIS lab is well equipped with the state of the art hardware and software. GPS, Arc GIS, Arc View, Map Info, Arc Info and ERDAS IMAGINE-image processing software have been installed on the latest machines. The lab is fully equipped with state of the art HP plotter and Scanner. In addition, the Remote Sensing and GIS lab hosts a huge data bank of satellite data purchased and archived from satellite ground stations. The data bank includes SPOT, Landsat, IKONOS, NOAA-AVHRR, MODIS and ASTER data of various years. The lab offers a peaceful environment where students can carry out their research in an innovative way.

The Department of Meteorology maintains an automatic 'MEADE 8 inch LX200-ACF' telescope and 'DSI PRO II' monochrome CCD Camera to monitor astronomical events and night time observations. These instruments offer a range of applications for researchers and amateur astronomers. There have been arranged moon sighting events at CIIT campus for the students and public in the past and would be in the future as well.

The department has established its own meteorological research laboratory equipped with the most advanced equipment and computers vital for performing the experiments and quite capable to impart basic training to the students. Automatic Weather Station offers high performance in a very compact design, robust and lightweight, easy to install, field-proven reliability and accuracy, low power consumption, wide selection of sensors, extensive calculation and data logging capacity, user-friendly set-up and graphical display software. The basic sensors suite measures wind speed/direction, pressure, temperature, relative humidity and precipitation. AWS systems are widely used in:

- Climatological measurements
- Hydrological networks
- Energy production and management
- Building automation
- Environmental research
- Sport and recreational activities

Some of the important equipment of AWS includes Laser Ceilometers, Visibility Sensor, Pyronometer and Lightening Detector.

CIIT is developing linkages with research and development organizations and industries for the development of quality human resources in the vital field of Meteorology, Atmospheric Science, Remote Sensing and GIS, Climatology, Seismology and Global Warming etc. Furthermore, these facilities can also be utilized to train private and public sector organization professionals by offering, short and long term

professional academic and practical courses to the executives and technicians, for the enhancement of their expertise. In this connection CIIT has signed memorandum of understanding (MOU) with some research and development organizations like Pakistan Meteorological Department (PMD). Recently, Department of Meteorology, CIIT has signed MOUs with Institute of Space Technology (IST) and Pakistan Space and Upper Atmosphere Research Commission (SUPARCO). Thus, department of Meteorology will collaborate with organizations like Pakistan Meteorological Department (PMD), WAPDA, NESCOM, SUPARCO etc. to work on problems of applied nature in the field of Atmospheric Science, Climatology, Remote Sensing and GIS, Seismology and many others. The MOUs signed between CIIT and University of Illinois Urbana Champaign (UIUC) is of great importance for the research activities carried out in the department. With this MOU the department sends some of its most suitable MS student every year for a period of 4 months to conduct the research activities during the last semester of their study.

Graduate Programs

Currently the following graduate programs are being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Meteorology

The Master of Science in Meteorology is a versatile program. Many advances in Meteorology can be attributed to breakthroughs in related areas of mathematics, physics, engineering, and technology. Because of the collection and analysis of a vast amount of data from around the world and the numerical simulation of meteorological and climatological processes, supercomputers and the latest advanced mathematical techniques are an integral part of the science of the atmosphere.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Master of Science in Remote Sensing and GIS

The Master of Science in Remote Sensing and GIS program is focusing on art of acquiring information about objects, area or phenomenon without physical contact. Geographic Information System (GIS) is a computer based information system used to digitally represent and analyze the geographic features present on the earth's surface and the events that are taking place on it. GIS has been an effective tool for implementation and monitoring of different infrastructures. Department of Meteorology started MS in Remote Sensing and GIS program in 2010. The program aims to provide consultancy, solutions and future trends in the areas of Climate Change, Hydrology, Snow and Ice, Agriculture and Forest, Oceanography, Land use and Land cover and a range of relevant state-of-the-art technologies.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Doctor of Philosophy in Meteorology

Currently Department of Meteorology is offering Doctor of Philosophy in Meteorology program, which has been started in 2010 with two modules including Module A (Meteorology) and Module B (Remote Sensing and GIS). The duration of studies for PhD shall normally not be less than three years and not more than 5 years. They have to complete 18 credit hours of Graduate Level course work in addition to the MS course work and then appear in a comprehensive

examination. CIIT provides the students with a broad-based theoretical knowledge as well as enhanced experimental research and computational skills to enable them to handle challenging research problems independently and innovatively.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Faculty Members

Islamabad Campus

Professors

Dr. Mohsin Jamil, PhD, University of London, UK

Advisors

Dr. Gul Muhammad, PhD, University of London, UK, Post Doctorate, Edinburgh University, UK, Post Doctorate, FU Burlen Germany

Dr. Shahid Nadeem Qureshi, PhD, University of Hamburg Germany

Associate Professors

Dr. Shahina Tariq, PhD, University of Peshawar, Pakistan

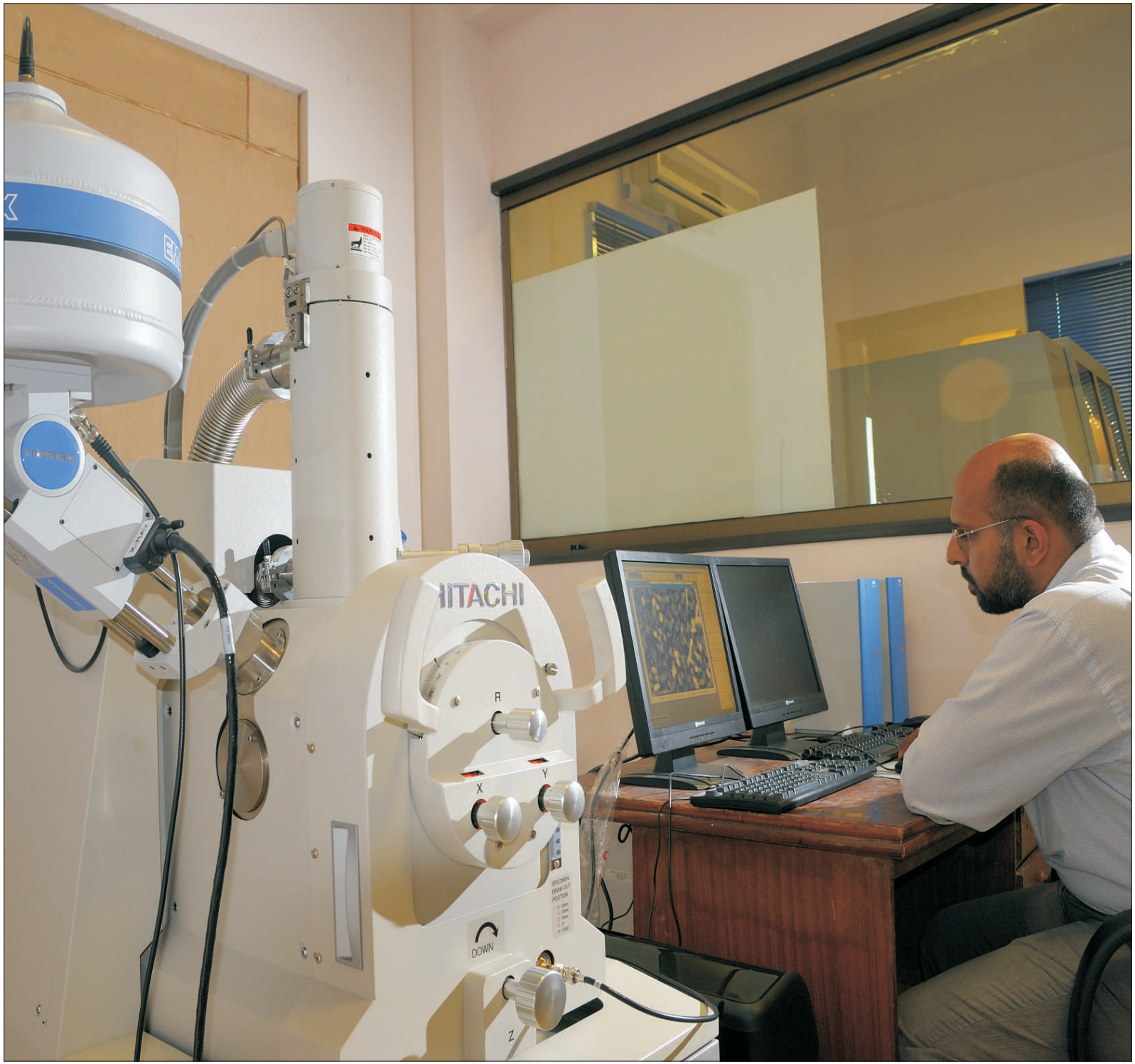
Assistant Professors

Dr. Rashed Mahmood, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Dr. Kalim Ullah, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Dr. Abdul Ghaffar, PhD, University of Punjab, Lahore, Pakistan

Dr. Syed Faisal Saeed, PhD, Stockholm University, Sweden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Department of Physics

Physics is a study aimed at unraveling the laws of nature and understanding how they operate. It has established itself as a powerful tool of far reaching applicability, both directly and through spin offs. The development of technology spearheaded by physics leads to the creation of new industry, e.g. electronics, lasers, communications, alternative energy sources, semi- and super-conductors, computers, and information technology. These technologies have transformed the society and have left a deep imprint on the fabric of human development. Over the last few decades, several branches of physics have been remodeled as engineering sciences. These are at the cutting edge of the technology revolution. While searching for fundamental constituents of matter and their forces, it is helping to use laws of nature to design and develop devices leading to optical and quantum computers.

More recently, the 'reductionist' approach of physics has led to some mergers of various disciplines of physics, chemistry, biology, and engineering into new interdisciplinary fields of nanoscience and technology, biophysics, genetic engineering, etc.

Department of Physics at Islamabad Campus

The Department of Physics has highly qualified faculty with diverse research interests in both theoretical and experimental physics, materials science, and electronics. In Pakistan, a major problem for scientists aspiring to explore events at the cutting edge of science has been the inaccessibility of experimental facilities including modern fabrication, growth, and characterization facilities. With the increasing importance of nano-scale materials and devices in the technologies of the future, this need has become even more urgent. The Department of Physics has, under some approved mega-projects, developed state-of-the-art laboratories for research in the above mentioned field. These laboratories are unique in Pakistan in terms of the experimental facilities and expertise they offer, as listed below:

Design and Fabrication of Micro- and Nanoelectronic Devices for Applications.

Design Tool: TCAD Simulation and Modeling Package.

Environment: Class (1000) Clean room.

Research Facilities

State of the art research facilities are provided at the Department along with advanced tools and equipment like, RF and DC Magnetron Sputtering, Plasma Enhanced Chemical Vapor Deposition (PECVD), Electron Beam Evaporator, Photolithography, Reactive Ion Etching, Furnaces, Spin coater, Wet etching benches, Optical microscope and Spectroscopic Ellipsometer.

General User Facilities for Characterization

Scanning Probe Microscopy (SPM)

Dynamic Temperature X-Ray Diffraction (DTXD)

X-Ray Fluorescence Spectroscopy (XRFS),

MDC CV system for I-V/C-V/G-V characterization and CVBT analysis Hall Effect System (o.37 T, 0.55 T and 1T)

Semiconductor Characterization System (fully integrated)

Differential Hall Measurement set up with transient Ion Drift Measurement (TIDM)

Microwave Annealing System connected with in-situ metrology unit Cryogenic Probe System, Thermo Electronic Measurement System

Laboratories

Optics Laboratory

The laboratory has discrete laser sources and optical components to conduct experiments related to light and optical fibers. It has complete sets of equipment to study different optical phenomena, characterization of optical fibers, and optical amplification. In addition, fully equipped laser and vacuum laboratories are also being established.

Graduate Teaching Laboratory

This laboratory is equipped with modern equipment for sample synthesis and characterization, such as X-ray diffraction, scanning electron microscope, spectrometers, and vibrating sample magnetometer, etc.

Research Groups

1. High Energy Physics Group

Research interests

Quark gluon plasma, finite temperature field theories, study and analysis of heavy particle decays in Standard Model and Minimal Super symmetric Standard Model, applications to cosmology and early universe.

Research facilities

Establishment of a regular node in the ALICE, LHC (CERN) grid is underway.

2. Radiation Physics Group

Research interests

Heavy Ion Interaction Studies, Environmental Radiation Dosimeter, Track Detection Methodology and Applications, Radiation Effects in Various Materials, Geological/ Cosmological Studies, Neutron Activation Analysis and Applications.

Research facilities

HP (Ge) Gamma Ray Spectrometer, NaI (Tl) Gamma Ray Spectrometer, Alpha Particle Spectrometer, Radon Gas Detection System, Automatic Scanning System to Measure Radiation Tracks in Solids, Optical Microscopes, Annealing Furnaces, Radiation Sources and Survey Monitors, G.M. BF-3 Neutron Detector and Surface Barrier Detectors.

3. Applied Thermal Physics Group

Research interests

Preparation and Characterizations of superconductors, thermal insulators, composites, ferrites, and nanoparticles.

Research facilities

Thin film coating unit, dc electrical resistively and thermal transport properties measurements.

4. Magnetic Materials Group

Research interests

Study and applications of magnetic interactions in nanoparticles, thin films, multi layers and magnetic semiconductors.

Research facilities

Nano particle synthesis via wet chemistry and solgel routes, vibrating sample magnetometer (3 Tesla, 50 – 400 K).

5. Nano materials Synthesis Group

Research interests

Synthesis and applications of semiconductor oxide nanostructures and nano materials.

Research facilities

Planetary ball mill, Uniaxial press UV-VIS spectroscopy, Hydro-thermal cells and complete wet chemical synthesis.

6. Nanomaterials Applications Group

Research interests

Nanostructure growth phenomena, waveguide, biosensors, magnetic nanostructures, semiconductor nanostructures, Fuel cells, solar cells incorporating nano particles.

Research facilities

UHV growth system, room temperature and low temperature growth.

7. Advanced Electronics Group

Research interests

Classical and Quantum Optics Engineering, Quantum Computing, Computer Generated Holography and Associative Memory, Fiber Optical Sensors Development.

Research facilities

Photon Counting/Detecting System, Photo multiplier tubes, Dual Channel 8 GHz Acquisition Board, Lock-in-amplifier, Oscilloscope 40 GHz, Wave Function Generator, Power Meter.

8. Thin Films Technology Research Group

Research interests

TFT research group covers the fabrication of II-VI semiconductor compound materials thin films and characterization including structural, optical and electrical measurements. The research interests also includes solar cell fabrication and IR detectors

Research facilities

High vacuum coating unit, close spaced sublimation technique, laser coating vacuum system, high temperature receptivity measurements system, IV characterization unit, annealing unit, UV-VIS-NIR spectrophotometer.

9. Lasers and Applied Photonics Group

Research interests

Atomic and Molecular Spectroscopy, Technological applications of Fixed Frequency and Tunable Lasers, Laser Deposited Thin Films, Ultrafast Optics, Low-Pressure Glow Discharges.

Different Laser Systems, Vacuum Systems, Spectrometers, Detection Electronics and Characterization Equipment, High Voltage Power Supplies, and other related Specialized Equipment are being acquired.

International Research Collaborations

University of Albany, NY, USA.

University of Lancaster, UK.

ALICE experiment in LHC (CERN), Geneva, Switzerland.

AandM Texas, Austin, TX, USA.

University of Illinois at Urbana Champaign, USA.

Queen Mary College University of London, UK.

University of Bologna, Italy

Technical University, Darmstadt, Germany.

Tsinghua University, Beijing, China.

Institute of Physics, Belgrade, Serbia.

JINR, Dubna, Moscow Region, Russia.

Technical University of Berlin, Germany.

University of Geneva, Switzerland.

University of Calgary, Canada.

Areas of Research at CIIT Lahore Campus

Material Science is an interdisciplinary field of research which involves the properties of matter and how they are applied in science and engineering. The study of materials at nano scale has formed a new branch of physics known as nanoscience or nanotechnology which is at the forefront of the world wide universities and research institutes. Material Science is contributing in many areas of biotechnology, computer industry, optical communication etc.

The Department has PhD faculty members which have a research background in the fields of materials and nanoscience. They are in the phase of developing their own labs. Currently they have collaboration with other universities to utilize their lab facilities for material development characterization.

Plasma Physics is a study of matter in its plasma state and its interaction with other materials. It is a sound field of theoretical and experimental research which later finds its applications in Astrophysics, energy resources, food processing industry, and medical science. A physicist with a strong research background in plasma physics can enter into world renowned research centers and universities for pursuing higher studies and a good career. One of the senior faculty members is conducting active research in the field of Plasma Physics and has been listed in American journal "who is who" as a renowned scientist contributing to the field of science.

As everyone is acquainted with the significance of Lasers and fiber Optics communication in the present world .These are one of the most dynamic and applied fields in all branches of science and telecommunication. Opportunities are available in the Department not only to conduct research under the guidance of our competent faculty members but also to send the students to other countries on Scholarships or making available other sources of funding to elevate your career as a professional.

Combining Physics, Mathematics and Computer Science, Quantum Computing is developed as a fascinating area of research which involves study of atoms and how they can be used to perform memory and processing tasks. One of the senior faculty members is providing guidance to those who opt to go in this dynamic field of research which can provide an enormous improving in the processing speed of existing computers.

Graduate Programs

Currently the following graduate programs are being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Physics

The Master of Science in Physics program is thesis based and offered in a variety of experimental and theoretical research areas which include; material science, high energy physics, laser and photonics, condensed matter, plasma physics, radiation physics, quantum optics, etc. The Department has some state of the art experimental facilities for graduate students to carry out their research.

Entry Requirements

- 16 years degree in one of the subjects: Physics, Computer Science (with BSc. in Physics and Mathematics), Mathematics (Applied), Computer Engineering, Engineering Sciences, BE in Electrical Engineering, BS in Material Science/Metallurgical Engineering and BE in Mechatronics, BS in Medical Physics, Applied Physics, Computational Physics, Space

Physics/Space Sciences and the relevant allied field from an accredited educational institution with First Division (annual system) or CGPA 2.5/4.0 (semester system). Candidates majoring in subjects other than physics will be required to take some additional pre-requisite courses.

- No third division (annual system) or D grade (semester system) throughout the academic career.
- GAT (General) with 50% marks minimum.

Offering Campus(es)

- Islamabad, Lahore

Master of Science in Nanotechnology

The Master of Science in Nanotechnology program has applications in diverse sectors of the economy, including energy, health, electronics, transportation, environment, and national security. The Department of Physics has a strong faculty with diverse interests and state of the art research facilities in nano-science and nano-technology. The Department of Physics feels that this new two-year Master of Science program in nanotechnology will equip scholars with the necessary skills which will help the country, especially, in finding alternate energy solutions.

Entry Requirements

- 16 years degree in one of the subjects: Physics, Computer Science (with BSc. in Physics and Mathematics), Mathematics (Applied), Computer Engineering, Engineering Sciences, BE in Electrical Engineering, BS in Metallurgy/Material Engineering and BE in Mechatronics and the relevant allied field from an accredited educational institution with minimum First Division (annual system) or CGPA 2.5/4.0 (semester system). Candidates majoring in subjects other than physics will be required to take some additional pre-requisite courses.
- No third division (annual system) or D grade (semester system) throughout the academic career.
- GAT (General) with 50% marks minimum.

Offering Campus

- Islamabad

Doctor of Philosophy in Physics

The Doctor of Philosophy in Physics program offered by the Department of Physics has been contributing significantly in higher education learning. Besides doing theoretical research in a variety of areas like high energy physics, quantum optics, etc., availability of state of the art experimental facilities at the department offers great opportunity to the scholars to carry out their research in the field of material science, condensed matter, high energy physics, radiation physics, nanotechnology, etc. in accordance with the highest standards set by the international community.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus (es)

- Islamabad, Lahore

Faculty Members

Islamabad Campus

Professors

Dr. Arshad Saleem Bhatti, PhD, Cambridge University, UK

Dr. Sajid Qamar, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Mahnaz Qader Haseeb,

PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Muhammad Aslam Khan, PhD, Hull University, UK

Dr. Mais Suleynanov, PhD, Joint Institute for Nuclear Research, JINR, Dubna, Moscow, Russia

Dr. Khusniddin Olimov, PhD, Uzbekistan Academy of Sciences, Uzbekistan

Dr. Ehtiram Shahaliyev, PhD, Joint Institute for Nuclear Research, JINR, Dubna, Moscow, Russia

Advisors

Dr. M. Zafar Iqbal, PhD, Manchester University, UK

Dr. Ashraf Atta, PhD, Birmingham University, UK

Dr. Mrs. Nasim Zafar, PhD, Cambridge University, UK

Dr. Kamal-ud-Din Ahmed, PhD, University of London, UK

Dr. Hameed Ahmed Khan, PhD, Birmingham University, UK

Dr. Javaid Anwar, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Abdul Waheed, PhD, Bahauddin Zakariya University, Multan, Pakistan

Mr. Aziz Ahmed Qureshi, MSc, University of Peshawar, Pakistan

Mr. Manzar Abbas, MPhil, Quaid e Azam University, Islamabad

Associate Professors

Dr. Farida P. Tahir, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Izhar ul Haq, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Ishaq Ahmad, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Muhammad Anis-ur-Rehman, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Nazar Abbas Shah, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Ahmer Naweed, PhD, University of Massachusetts, USA

Dr. Sadia Manzoor, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Amer Wali Rauf, PhD, Edinburgh University, UK

Dr. Ashfaq Hussain Khosa, PhD, Quaid e Azam University, Islamabad, Pakistan

Assistant Professors

Dr. Uzma Khalique, PhD, Eindhoven University of Technology, Netherlands

Dr. Ahsan Illahi, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Muhammad Irfan Memon, PhD, Bristol University, UK

Dr. Ijaz Ahmed, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Umair Manzoor, PhD, Korea Advanced Institute of Science and Technology, Korea

Dr. Mubarak Ali, PhD, Universiti Teknologi Petronas, Malaysia

Dr. Javeed Akhtar, PhD, Manchester University, UK

Dr. Sana Sabahat, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Mushtaq Ali, PhD, University of Camerino, Italy

Dr. Waqqar Ahmed, PhD, University of Twente, Netherlands

Dr. Waqas Khalid, PhD, Philipps Universitat, Marburg, Philippines

Dr. Najeeb-ur-Rehman , PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Muhammad Kamran, PhD, Innsbruck University, Austria
Dr. Salman Khan, PhD, Quaid e Azam University, Islamabad, Pakistan
Dr. Shumaila Karamat, PhD, Nanyang Technical University, Singapore
Dr. Syed Rizwan Hussain, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China
Dr. Sameena Shah Zaman, PhD, Vienna University, Austria
Dr. Sonia Zulfiqar, PhD, Quaid e Azam University, Islamabad, Pakistan
Dr. Fazal Ghafoor, PhD, Quaid e Azam University, Islamabad, Pakistan
Dr. Faheel Hashmi, PhD, University of Paul Sabatier, Toulouse, France
Dr. Muhammad Umair Hassan, PhD, Cambridge University, UK
Dr. Lubna Tabassum, PhD, University of Camerino, Italy
Dr. Uzma Tabassum, PhD, University of Camerino, Italy
Dr. Hajrah Tabassum, PhD, University of Edinburgh, UK
Dr. Farrukh Shahzad, PhD, Karl-Franzen University, Graz, Austria
Dr. Ahmat Khurshid, PhD, PIEAS, Nilore, Islamabadm Pakistan
Dr. Attiq-Ur-Rehman, PhD, University of Bergen, Norway
Dr. Qaiser Waheed, KTH Royal Institute of Technology, Sweden
Dr. Saira Arif, PhD, University of Vienna, Austria

Lahore Campus

Professors

Dr. Saleem Farooq Shaukat, Post Doctorate, East China University of Science and Technology, China , PhD, Brunel University, London,
Dr. Ashfaq Ahmad, Post Doctorate, Miyagi National College of Technology, Natori, Japan, PhD, Harbin Institute of Technology, China.

Chief Scientific Officer

Dr. Syed Javaid Iqbal, Post Doctorate, University Putra, Malaysia, PhD, Martin Luther University Germany.

Associate Professors

Dr. Muhammad Asif, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Assistant Professors

Dr. Hafiz M. Ashfaq Ahmad, PhD, Harbin Institute of Technology, China
Dr. Salman Naeem Khan, PhD, Zhejiang University, China
Dr. Naveed Aslam, PhD, Government College University, Lahore, Pakistan
Dr. Azeem Mir, PhD, CIIT Islamabad, Pakistan
Dr. Shabana Nisar, PhD, Syracuse University, USA
Dr. Muhammad Asif, PhD, Linkoping University, Sweeden
Dr. Muhammad Aamir Razaq, PhD, Uppsala University, Sweeden
Dr. Muhammad Idrees, PhD, PIEAS, Islamabad, Pakistan
Dr. Rizwan Raza, PhD, KTH, Stochholm, Sweeden
Dr. Hassan Mahmood, PhD, University at Albauy state university of New York, USA
Dr. Abdul Sattar, PhD, University of Canterbury, New Zealand
Dr. Majid Niaz, PhD, UniversitiTeknologi Petronas, Malaysia
Dr. Farah Alvi, PhD, University South Florida, United State
Dr. Nadeem Akram, PhD,

Stockholm University, Sweeden
Dr. Zahida Ehsan, PhD, University of Leuven-Katholieke Universiteit Leuven, Belgium
Dr. Muhammad Jamil, PhD, Government College University, Lahore, Pakistan

Department of Pharmacy

Pharmacists are the third largest healthcare professional group in the world and currently, there are about 6000 pharmacists in Pakistan. However, according to the WHO recommended pharmacist/ population ratio of 1:2000 for optimal health care delivery, more than 75,000 pharmacists are required for the current population. Further, the role of pharmacist in the health care system is escalating day by day due to the introduction of uncounted new drugs, emergence of new microbes and the changes in the health care delivery systems.

This situation has created a huge demand for more professional pharmacists, not only for the country, but also in the world where there is a severe shortage of pharmacists. In view of the present and emerging needs of the pharmacy profession, decided to launch the Department of Pharmacy at its Abbottabad Campus. The major theme behind this idea was to play an active role to cater the national health care needs through abroad-based higher and professional education of pharmacy. In order to deliver quality education in the field of pharmaceutical sciences, the department has arranged excellent facilities and has the services of internationally qualified faculty members.

Graduate Programs

Currently the following graduate programs are being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Pharmacy

The Master of Science in Pharmacy program currently focuses on research training in pharmaceutics, pharmacology, pharmaceutical chemistry and pharmacognosy. This program includes coursework as well as cutting-edge research focusing on topics like discovery and evaluation of novel drugs, determination of a drug's effects on the body, delivery methods to improve drug treatment, and how medication is used and applied to enhance patient outcomes. Other areas of research activity include cosmetics, nutraceuticals, herbal medicines, and strategies for assessing individual variations in drug response, and clinical research. This program fulfills high demand of scientifically trained young people in the pharmaceutical industry, herbal industry and hospital/community pharmacy.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Abbottabad

Doctor of Philosophy in Pharmacy

The Doctor of Philosophy in Pharmacy program aims to prepare students for positions in academia, government and the pharmaceutical industry that will require experience and knowledge in the conduct of original investigation related to the pharmaceutical sciences. The department maintains an active research program with emphasis in discovery of anticancer, anti diabetic, anti Alzheimer drugs, Targeted drug delivery, enzyme inhibition, cell culture, immunopharmacology, neuropharmacology and cardiovascular diseases. The activities of department researchers have long been supported by a wide range of funding sources.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Abbottabad

Faculty Members

Abbottabad Campus

Professors

Dr. Nisar ur Rehman, Post Doctorate, School of Pharmacy, University of London, UK. PhD, School of Pharmaceutical Science, University of Science, Malaysia

Dr. Izhar Hussain, Post Doctorate Imperial College of Science, Tech. and Medicine, London, UK Post Doctorate Kansas State University, Manhattan, Kansas State KS, USA, Ph.D Imperial College of Science, Tech. and Medicine, London, UK.

Advisors

Dr. Qazi Najam us Saqib, Post Doctorate, Purdue University, Indiana, USA, PhD, University of Karachi.

Associate Professors

Dr. Jamshed Iqbal, Post Doctorate, University of Bonn, Germany, PhD, University of Bonn, Germany

Dr. Taous Khan, Post Doctorate, PhD, Kyungpook National University,

Dr. Abdul Jabbar Shah, PhD, Agha Khan University, Karachi, Pakistan

Assistant Professors

Dr. Ghulam Murtaza, PhD, Islamia University Bahawalpur, Pakistan

Dr. Abdul Mannan, PhD, Quaid-i-Azam University, Pakistan/Arkansas State University, USA

Dr. Shujat Ali Khan, PhD, Islamia University Bahawalpur, Pakistan

Dr. Saira Azhar, PhD, University of Science, Malaysia

Dr. Arfat Yameen, PhD, Quaid-i-Azam University, Pakistan

Dr. Wajahat Mahmood, PhD, Menzies School of Health Research Charles Darwin University Australia

Dr. Ghulam Abbas, PhD, HEJ Research Institute of Chemistry, Karachi, Pakistan

Dr. Khalid Raouf, PhD, University of Peshawar, Pakistan

Dr. Sami Siraj, PhD, China Pharmaceutical University, China


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Faculty of Business Administration

Welcome message by Faculty Dean!

I am delighted that you are considering graduate studies at COMSATS Institute of Information Technology (CIIT). CIIT has been at the forefront of research based education and has played an active part in shaping the modern day higher education since its inception in 2000. On the basis of research Performance CIIT currently ranks 6th amongst 134 higher education institutions of the country.

The Faculty of Business Administration at CIIT, with its distributed network in the regional campuses, has emerged as one of the leading Business Administration Faculty of the country and is house to intellectual excitement and world-class research. The faculty of Business administration is an amalgamate of three departments including the Department of Management Sciences, Department of Humanities, and Department of Development Studies. Whether you intend to develop your existing expertise or to become competitive in a new area, Faculty of Business Administration at CIIT offers wide-ranging programs, giving you opportunity to distinguish yourself in the market.

Our academics are at the forefront of developments in the business, management and social sciences and their expertise is called upon by governments, businesses and media across the country and abroad. The selection criteria for students strictly reside upon their academic ability, intellectual curiosity and commitment to their chosen field of study. The interaction between staff, faculty, students and visitors both in and out of the classroom makes CIIT a dynamic, conducive and stimulating environment.

CIIT aims at fostering well groomed global citizens who not only succeed against global competition, but can also emerge as inspirational thinkers. I hope this prospectus will inspire you to join this league of thinkers.

Prof. Dr. Qaisar Abbas


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onference of
Chapter

Department of Management Sciences

Department of Management Sciences contributes effectively to CIIT's dynamism, flexibility and innovativeness, which has precipitated in its phenomenal ascent over the past ten years to its present position as one of the most effective institutions in this country's higher educational landscape. The Department of Management Sciences endeavors to contribute to the broader social role in providing high quality education, distinguished by cutting edge technologies and modern managerial practices. Department of Management Sciences is committed to the objective of preparing students at par with the market trends. It has one of the largest concentrations of doctoral degree holders in the country and maintains multiple partnerships and cooperation agreements with prestigious universities across the globe. The Department of Management Sciences has its presence in all 8 campuses with strength of around 6,000 students and over 440 full time faculty members.

Already enjoying a good reputation among employers, our program gives students a thorough insight into latest trends in management and business practices. Greater emphasis is laid upon the intellectual augmentation and perpetual development of students with both curricular and extracurricular efforts. Also grooming the personality of our students and sharpening their communication skills remains a top priority for the department.

Graduate Programs

Currently the following graduate programs are being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Management Sciences

The MS in Management Science program offers a professional graduate course of study designed to provide competency in management and to acquaint the student with a variety of business activities. The specializations offered include: General Management, Finance, Marketing, Information Technology Management, and Business Economics. On successful completion of the course the graduates will have an excellent opportunity in finding employment in areas with a broad, critical and practice-based understanding of Management Sciences disciplines. This knowledge makes them ready for a variety of leadership positions in complex contemporary environments and teaching careers in universities.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus(es)

- Islamabad, Wah, Abbottabad, Lahore, Sahiwal, Attock

Master of Science in Project Management

It is a well-known fact that vast sums of public resources are wasted due to mismanagement of projects, particularly in the social sector. Project failures – as measured with respect to the non-attainment of its goal, and/or cost or schedule overruns – are common in Pakistan. This problem is attributable in part to the lack of project management knowledge of the initiators, planners and implementers of projects as well as the lack of support from researchers in academia and profession who are supposed to highlight grey areas and suggest feasible solutions. CIIT's MS (PM) program will help to fill a major gap in project management education and research in Pakistan. The graduates will have endless opportunities in both corporate and academic world at the end of program.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus(es)

- Islamabad, Abbottabad, Lahore

Master of Science in Energy Management

The aim of MS in Energy Management program at CIIT is to strengthen the alliance between industry and academia in the energy sector and help to create robust business partnerships between organizations and institutes both within Pakistan and with other developing nations. There are, however, only a very few institutions and "Think tanks" in the world that focus on Energy Management and Energy Strategies at the national and global levels. Equipped with the knowledge imparted in the Energy Courses, the students acquire the capability to break new grounds and produce new knowledge if they undertake research work in the field of Energy Management.

The graduates of this program will be able to work in several important and highly demanded jobs including: Energy Analysts, Managerial Positions in the Energy organizations and Energy Intensive Industries, Energy Policy and Planning Strategists, Energy Investment Portfolio Management Officers, CEO of Energy Companies/Utilities Analysts, Energy Consultants, Energy Conservation and Audit Energy Project Management Officers, Energy Environment Specialists, Managers of companies of 21st century (energy efficient and committed to sustainable development).

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Master of Science in Banking and Finance

The primary objective of banking and finance at CIIT is to develop knowledgeable and capable executives and workforce to move quickly to key positions in the financial services sector and to demonstrate the skills necessary to tackle problems within the complex world of international finance and banking. Graduates of banking and finance are one of the most sought after graduates worldwide and their employment opportunities are practically endless. After the successful completion of the degree, the graduate may work for a public or private organization, do consultancy or work in the field of academia.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus(es)

- Islamabad, Abbottabad, Wah

Master of Business Administration (1.5 years)

The MBA curriculum has been designed to develop an in-depth understanding of all business functions. Most importantly, the areas are integrated throughout the curriculum to develop an understanding of all aspects of business. The one and a half year program will meet the increasing demand for advance business education which will not only combine text book learning with case study methodology but will expose students to an environment which will facilitate development of their conceptual skills as well as personal growth. This program is offered to those who have completed their 16 years of education. Following specializations are offered in the program:

Finance
Marketing
Logistics and Supply Chain Management
Human Resource Management

International Business

On successful completion of the course the graduates would have opportunities in practically all the sectors in an economy including telecom, energy, textile and many more.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus(es)

- Islamabad, Abbottabad, Wah, Attock, Sahiwal, Lahore, Virtual Campus

Master of Business Administration (2.5 years)

The two and half year MBA program will meet the increasing demand for advanced business education, which will not only combine text book learning with case study methodology but will expose students to an environment which will facilitate development of their conceptual skills as well as personal growth. This program will be offered to those who do not have a business or management related previous qualification.

The basic objective of this program is to provide students with knowledge of business. Students will be able to understand financial theories and markets, the financial reporting system, and financial analysis, will be able to identify customer needs and participate in the process of developing products and services to meet these needs. They will come to know about production models and distribution systems, and their role in the value creation process. Courses in the MBA program are designed to introduce students to the various areas of business such as accounting, finance, marketing, human resources, operations management, etc.

Entry Requirements

- A 16 years non business education like BE, MBBS, MA, M.Sc, IT, Maths and other equivalent qualification from an accredited institution with First Division (annual system) or CGPA 2.5/4.0 (semester system).
- No third division (annual system) or D grade (semester system) throughout the academic career.
- GAT (General) with 50% marks minimum.

Credit Hours Requirement

- Minimum 69 Cr Hr.

Offering Semester(s)

- Fall and Spring

Offering Campus

- Islamabad

Master of Science in Economics

As the economy continues to expand and diversify, there is growing need for economic expertise for understanding various facts of this increasingly complex economic system. Demand for well educated economics graduates comes from business, industry, academia, government and international development finance institutions. CIIT is well placed to play an important role in catering to these national and global needs by producing high quality economics graduates with MS and PhD degrees. The Graduate Program in Economics would aim to develop the best economics program in the country and in the region. The graduates of the program could take up careers in governmental and nongovernmental organization. Specializations offered include: International Economics, Development and Public Policy, Agricultural Economics, Marketing.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus(es)

- Islamabad, Abbottabad, Lahore

Doctor of Philosophy in Management Sciences

The program addresses the need to train students to develop and sharpen management theories to enhance their contribution to management education, research and practice. Students acquire advanced knowledge of literature and theory in their area of their specializations and the business and management field overall. They also gain theoretical and practical knowledge of advanced research skills, essential for publishing in leading academic journals. The Ph.D. program furnishes opportunities to its graduates in research, academia, business, and government worlds. Specializations offered include:

Management
Finance
Marketing
Information Technology Management
Business Economics

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus (es)

- Islamabad, Lahore

Faculty Members

Islamabad Campus

Professors

Dr. Qaisar Abbas, Post Doctorate, Cardiff University, UK, PhD, Nankai University Tianjin, China
Dr. Khalid Riaz , PhD,Iowa State University, USA
Dr.Abdel Hamid Muhammad Nasr, PhD, Charles University, Prague, USA

Advisors

Dr. Faiz Bilquess, PhD, University of Manchester, UK
Dr. Muzaffar Ali Qureshi, PhD, Rensslare Polytechnic Institute, Troy, USA

Associate Professors

Dr. Syed Zulfiqar Ali Shah, PhD, Business School, University of Manchester, UK
Dr. Muhammad Arshad Khan, PhD, Pakistan Institute of Development Economics (PIDE), Islamabad, Pakistan

Principal Research Officer

Dr. Aurangzeb Zulfiqar Khan, PhD, German University of Administrative Sciences, Germany

Assistant Professors

Dr. Amna Yousaf, PhD, University of Twente, Neitherland
Dr. Bashir Ahmad Fida, PhD, Shanghai University of Finance and Economics, China
Dr. Farrukh Nawaz Kayani, PhD, University of International Business and Economics, China
Dr. Husnain A. Naqvi, PhD, University of Dundee,UK.
Dr. Malik Asghar Naeem, PhD, University of Hong Kong, Hong Kong
Dr. Muhammad Azhar Khan, PhD, Hokkaido University Sapporo, Japan
Dr. Muhammad Majid Khan, PhD, University of Massachusetts, USA
Dr. Muhammad Zahid Iqbal, PhD, National University of Modern Languages (NUML), Islamabad, Pakistan
Dr. Muhammad Zakaria, PhD, Quaid e Azam University, Islamabad, Pakistan

Dr. Raja Saquib Yusaf Janjua, PhD, Vienna University of Economics and Business Administration, Austria
Dr. Seeme Mallick, PhD, Macquaire University, Australia
Dr. Shahab Alam Malik, PhD, Harbin Institute of Technology, China
Dr. Umara Noreen, PhD, Foundation University, Pakistan
Dr. Uzma Javed, PhD, Cardiff University, UK
Dr. Azad Haider, PhD, Federal Urdu University of Arts, Science and Technology, Pakistan
Dr. Faisal Abbas, PhD, Center for Development, Research University of Bonn, Germany
Dr. M. Iftikharul Hasnain, PhD, Federal Urdu University of Arts, Science and Technology, Pakistan
Dr. Mumtaz Ahmed, PhD, International Islamic University, Islamabad, Pakistan
Dr. Noureen Adnan, PhD, University of Surrey, UK
Dr. Azad Haider, PhD, FAST, Islamabad, Pakistan
Dr. Mansoor Ahmed, PhD, Leeds University, UK
Dr. Usman Ayub, PhD, CIIT Islamabad, Pakistan

Lahore Campus

Professors

Dr. Talat Afza, PhD, Wyane State University, USA
Dr. Ahmad Kaleem, PhD, Malaya University, Kaula Laumpur Malaysia

Associate Professors

Dr. Abdus Sattar Abbasi, PhD, National University of Modern Languages (NUML), Islamabad, Pakistan

Assistant Professors

Dr. Abdul Haque, PhD, Hauzhong University of Science and Technology, Wuhan, China
Dr. Hafiz Zahid Mahmood, PhD, Development Planning and Project Management Institute, Humbdolt University of Berlin, Germany
Dr. Muhammad Khan, PhD, Federal Urdu University of Arts, Science and Technology, Islamabad, Pakistan
Dr. Waheed Akhtar, PhD, NUML Islamabad, Pakistan.
Dr. Yahya Rashid, PhD, University of British Columbia, Vancouver, Canada
Dr. Asma Imran, PhD, Foundation University, Rawalpindi, Pakistan
Dr. Ahmad Nawaz, PhD, University of Geottingen, Germany
Dr. Zahera Waheed, PhD, Heriot-watt University, Edingburgh, UK
Dr. Muhammad Shahbaz Shabbir, PhD, University of Malaya, Malaysia (On Study Leave)
Dr. M. Ali Jibran Qamar, PhD, University of Gloucestershire, UK
Dr. Faisal Tahseen Shah, PhD, University of the Punjab, Pakistan
Dr. Muhammad Amir Rashid, PhD, University Technology Malaysia (UTM), Malaysia

Abbottabad Campus

Professors

Dr. Syed Amjad Farid Hasnu, PhD, University of Bradford, UK, Post Doctorate, University of Bradford, UK
Dr. Khawaja Farooq Ahmad, PhD, University of Newcastle, UK, Post Doctorate, University of Newcastle, UK

Associate Professors

Dr. Kashif Rasheed, PhD, Victoria University of Melbourne, Australia

Assistant Professors

Dr. Waseem Ikram, MBA, University of Wales, UK, MBBS, University of Karachi, Pakistan

Dr. Amjad Ali, PhD, Foundation University, Islamabad

Dr. Imran Naseem, PhD, Qurtuba University of Science and Technology, D.I Khan, Pakistan

Dr. Muhammad Saeed Lodhi, PhD, HRADEC KRALOVE University, Czech

Dr. Osman Sadiq Paracha, PhD, University Technology Malaysia, Malaysia

Dr. Mansoor Shahab, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Dr. Yasir Javed, PhD, Massey University, New Zealand

Wah Campus

Advisors

Dr. Mushtaq Ahmad, PhD, University of Wales, Australia

Associate Professors

Dr. Saqib Gulzar, PhD, Harbin Institute of Information Technology, China

Dr. Samina Nawab, PhD, Institute of Policy and Management Beijing, China

Assistant Professors

Dr. Abdul Qayyum Khan, PhD, University of Peshawar, Pakistan

Dr. Adnan Tahir Qureshi, PhD, National University of Modern Languages (NUML), Islamabad, Pakistan

Dr. Babur Wasim Arif, PhD, National Graduate Institute for Policy Studies (GRIPS), Tokyo, Japan

Dr. Syed Muhammad Ali Tirmizi, PhD, Foundation University, Islamabad, Pakistan

Dr. Syed Mazhar Abbas Zaidi, PhD, Foundation University, Islamabad, Pakistan

Attock Campus

Assistant Professors

Dr. Muhammad Sajjad, HoD, PhD, Foundation University, Islamabad, Pakistan

Dr. Shabir Hyder, PhD,Federal Urdu University of Arts, Science and Technology, Islamabad, Pakistan

Dr. Saddam Hussian, PhD, University of Peshawar, Pakistan

Dr. Muhammad Imran Malik, PhD, Foundation University Islamabad, Pakistan

Dr. Muhammad Shakil Ahmad, PhD, University Technology Malaysia, Malaysia

Dr. Jamshaid Ahmed, PhD, Hamdard University, Karachi, Pakistan

Sahiwal Campus

Assistant Professors

Dr. Raja Irfan Sabir, Post Doctorate, Huazhong University of Science and Technology, China PhD, Wuhan University of Technology, China

Dr. Rashid Saeed, PhD, University of Agronomic and Veterinary Sciences, Bucharest, Romania

Dr. Hafiz M. Arshad, PhD, Islamia University of Bahawalpur, Pakistan

Dr. M. Tahir Yaqoob, PhD, BZU Multan, Pakistan

Dr. Iram Batool, PhD, Technische Universitat Braunschweig, Germany

Vehari Campus

Assistant Professors

Dr. Munir Ahmed, PhD, Bahauddin Zakariya University, Multan, Pakistan

Dr. Asad Afzal Humayon, PhD, Foundation University Islamabad, Pakistan

Department of Development Studies

Many developing countries have limited success in achieving higher economic growth and poverty reduction due to many factors, of which the most important are the insufficient emphasis on the historical, present and emerging patterns and trends of development and related aspects. The emerging imperatives of progressive change in social, economic and political spheres clearly point towards the pressing and inevitable need for developing greater understanding and practical indulgence in the existing and futuristic trends in policy, practice and academic spheres of the subject of Development. Emphasis is also placed on providing a sound basis for conceptual understanding of issues related to study of development policy with particular reference to Pakistan.

The department of development studies was established during first half of 2004. Along with carrying out the academic activities, the department also conducts several other activities including research, workshops, seminars, etc. More than hundred research papers have been published by the department in the HEC recognized journals. Department is running several research projects funded by national and international donor agencies. Further department of development studies have strong linkages with a number of international organizations and remains part of several international events.

Master of Science in Development Studies

The MS in Development Studies core curriculum integrates substantive knowledge, spanning the disciplines of social, environment, administrative and management sciences in order to foster the development of cross-disciplinary skills necessary to prepare students for the field of Development Studies. In addition, specific learning outcomes for the program identify essential knowledge and skills that each graduate should acquire throughout the course of the program.

The MS degree program in Development Studies will be spread over 30 credit hours including 12 credit hours of core courses, 12 credit hours of elective courses and 6 credit hours of research thesis.

The aim of the Development Studies Program is development of professionals, managers, practitioners, consultants, teachers and students to equip them with transferable knowledge and skills necessary in the varying fields and disciplines of different 'development' and related subjects. After completing studies, the graduates will be able to thrive in any world class organization and competitive international environment.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Abbottabad

Faculty Members

Abbottabad Campus

Professors

Dr. Shehla Nasreen Amjad, PhD, University of Bradford, UK

Associate Professors

Dr. Bahadar Nawab, PhD, Norwegian University of Life Sciences, Norway

Dr. Musarrat Jabeen, PhD, University of Karachi, Pakistan

Assistant Professors

Dr. Tahir Mehmood, PhD, Georg-August University, Goettingen, Germany

Dr. Adnan Dogar, PhD, Ecoles Des Hautes Etudes En Sciences Sociales, France

Dr. Zahid Hussain, PhD, Agriculture University Peshawar, Pakistan

Dr. Arif Alam, PhD, University of Tokyo, Japan

Department of Humanities

The Department of Humanities is committed to fostering a high quality teaching, learning and research culture that manifests the utmost need to meet the international standards of Social Sciences subjects in the current science and technology driven times. Moreover, it aims to distinguish itself as a department by creating an innovative blend of theory, practice and research in the programs that are offered to prepare students to face global challenges. In this connection, it envisions itself carrying out research and introducing pedagogical practices and innovations in unique interdisciplinary areas. The department as a forward thinking vibrant unit sees a vital need to make learning relevant to practical life.

On a broader note, it inspires the students to acquire knowledge in the multidimensional areas of life making an impact on their moral and ethical life choices. All this is planned to be accomplished by learning from the past and combining that with the understanding of serious problems mankind presently faces. In this way, the Department hopes to instill inquisitiveness aided by critical thinking and knowledge that makes a positive and constructive change in the sundry lives of our Social Science students.

Faculty Members

Islamabad Campus

Principal Research Officer

Dr. Aliya Zafar, PhD, University of Florida, USA

Advisors

Dr. Amir Hamid Jafri, PhD, Oklahoma State University Stillwater, USA

Assistant Professors

Dr. Farhat Nisar, PhD, National University of Modern Language (NUML) Islamabad, Pakistan

Dr. Najia Asrar Zaidi, PhD, University of Balochistan, Quetta, Pakistan

Dr. Fayyaz Ahmed Faize, PhD, International Islamic University (IIU), Islamabad, Pakistan

Lahore campus

Advisors

Dr. Hina Qanber Abbasi, PhD, Moseon State University, Russia

Associate Professors

Dr. Shazia Hassan, PhD, University of Karach, Pakistan

Principal Research Officer

Dr. Zulfaqar Ali Chughtai, PhD University of Sindh, Pakistan.

Assistant Professors

Dr. Filza Waseem, PhD, National University of Modern Language, Islamabad, Pakistan

Dr. Urooj Sadiq, PhD, Institute of Clinical Psychology, University of Karachi, Pakistan

Dr. Tahira Jabeen, PhD, University of Punjab, Lahore, Pakistan

Dr. Khawar Bilal, PhD, Institute of Clinical Psychology, University of Karachi, Pakistan

Dr. Muhammad Zuabir, PhD, University of Punjab, Lahore, Pakistan

Dr. Shameem Fatima, PhD, University of Punjab, Lahore. Pakistan

Abbottabad Campus

Associate Professor

Dr. Mushtaq Khan Jadoon, PhD, University of Groningen, Netherlands

Assistant Professors

Dr. Zahid Shah, PhD, University of Peshawar, Pakistan

Dr. Nasir Ali Khan, PhD, University of Karachi, Pakistan

Dr. Muhammad Shakeel Ahmad, PhD, Quaid i Azam University, Islamabad, Pakistan

Vehari Campus

Advisors

Dr. Ahmad ud din Hussain, PhD, Bahauddin Zakariya University Multan, Pakistan

Assistant Professors

Dr. Abdul Razaq Azad, PhD, University of Karachi, Pakistan

Faculty of Information Sciences and Technology

Welcome message by Faculty Dean!

Welcome to the Faculty of Information Sciences and Technology. True to our claims we dare say that our Faculty of Information Sciences and Technology has all the hallmarks that ought to be present in to-day's competitive world. Our dynamism to adapt to the changing times in respect of our courses, hiring of the requisite faculty and nearly dogged pursuit of our students after they have left our doors till they get good jobs is a pride of ours. We also strive to give atmosphere to our students where they feel at home not only in satisfying their academic queries we cater to their non-academic needs such as admissions, career counseling, job hunting and above all make them people of principles and letters.

Information Science is a unique area in many respects. We have a unique faculty and graduate program structure. The faculty has special connections with leading industries. The faculty is committed to interdisciplinary research. Computer Science departments are intensely involved in joint projects with faculty members in other departments producing world class research. The proof of this commitment is publication of papers in journals and conferences of international repute.
Our mission of the multidisciplinary Health Informatics Program is to "develop health care systems as information environments." A useful model of the emergence of informatics is to consider different roles of clinicians, management and IT services in health care. Health Informatics is the science of information management in healthcare and its application to support clinical practice, decision-making and research. Health Informatics is a body of knowledge and a set of techniques to organize and manage information in support of research, education and patient care.

I wish you best of luck.

Prof. Dr. Sajjad Mohsin

Department of Computer Science

With the emergence of digital era, the world has literally changed the way it functions and computer has played a big role in the transformation. Not only, it has made our life easier but also became a prime source of lucrative career for a number of talented people. If this all fascinates you and want to explore the frontiers of information technology, then Department of Computer Science COMSATS Institute of Information Technology (CIIT) is the place for you.

The Department of Computer Science (CS) was established in year 2001 and in few years it became one of leading and state of the art department in Pakistan and developing world imparting education in Computer Science and Technology. Our talented faculty members not only lecture out their knowledge and perception to the students, but also motivate them to be intellectuals and professionals in their approach. This Scholastic attitude increases the urge of students to seek more and improvise their knowledge for future benefits of computer science.

To deliver Quality Education, faculty members regularly undergo various professional training sessions such as FDP (Faculty Development Program) which enhances pedagogical skills. Moreover, Academic/ Research based Workshops are conducted to give them awareness about the different research domains. This training process makes them able to impart knowledge to their students following the set international standards that is one of the prominent characteristics of the department. As a consequence, on successful completion of the degree programs, our graduates have excellent opportunities of employment in numerous areas such as Information Technology, computing in industry, research in computer science or related disciplines, and teaching at university levels.

Computer science is increasingly concerned with the application of core techniques and methods to challenging real-world problems, for examples, in banking, aerospace, manufacturing, defense, medicine, telecommunications, pharmaceutical industries, consumer products, biomedical, intelligence, nonprofits, government, finance, insurance, health care and much more. This shift in emphasis is reflected in the research we conduct and in the graduate and postgraduate programs we offer. The graduate and postgraduate programs comprise of Master of Science in Computer Science, Master of Science in Software Engineering and Doctor of Philosophy in Computer Science.

Research Environment: Conducive atmosphere for research exists at the Computer Science department which encourages MS and PhD students to participate and engage themselves with devotion and commitment to research. Senior faculty members provide requisite lead to their junior partners resulting in full-fledged research activities wherein both faculty as well as the students eagerly participates. The quality of research is fairly meeting the international standards.

State of the art Laboratories: The well-equipped computer labs and other practical facilities are open to carry out research work. A high bandwidth connection of internet is available round the clock over wired and wireless LANs. This connectivity becomes further productive when research scholars use HEC sponsored access to digital libraries and numerous research journals.

Furthermore, the Embedded Software Lab, based at the Computer Science department, facilitates software development for embedded systems. The laboratory contains embedded kits with varying processing power and available resources. These include kits with and without memory management unit and also the DSP processor based kits. All of these kits run a variant of Linux as the core embedded kernel. Therefore students learn the embedded development

environment through student projects. The experiments done over the Intel based systems will be deployed to the embedded kits.

Sun Lab - An Investment into Future: CIIT is proud to be the first academic institution in Pakistan who has built Sun Lab for this purpose. In order to meet the academic objectives, CIIT has an overall 54 Sun computers installed at its different campuses. These computers include specialized servers and desktop machines. This computing facility is being used in various undergraduate and graduate programs in each campus.

CIIT Computational Cluster Research Project (CCCRP): High-performance computing clusters have gained the attention of researchers, scientists, and analysts since the release of the first parallel computing environment, Parallel Virtual Machine (PVM). Today, Computing Clusters are changing the economics of High performance Computing, offering opportunities to those interested in building HPC solutions. The CCCRP is an effort to provide researchers with a facility that allows them to study the dynamics of cluster based computing and to carry out software development projects in the area of parallel computing. The project was aimed at setting up a modest (40-50 GFLOPS/sec) computing cluster using commodity-of- the-shelf (COTS) components. For this purpose, normal COTS components were purchased, in-house assembled and connected. Later, they were tuned up to work together in a single logical unit. So far, we have achieved 250GFLOPS/sec and further expansion in terms of hardware and performance is underway. The facilities in other departments like Electronics Lab, Microprocessor Lab, VLSI Lab, DSP Lab and library facilities are also accessible to pursue research work.

CERN Collaboration: CERN, the European Organization for Nuclear Research, is one of the world's largest and most respected centers for scientific research. At CERN, the world's largest and most complex scientific instruments are being used to study the basic constituents of matter — the fundamental particles. By studying what happens when these particles collide, physicists learn about the laws of Nature. The instruments used at CERN are particle accelerators and detectors. Accelerators boost beams of particles to high energies before they are made to collide with each other or with stationary targets. Huge array of detectors observe and record the results of these collisions. Founded in 1954, the CERN Laboratory sits astride the Franco–Swiss border near Geneva. It was one of Europe's first joint ventures and now has 20 Member States. Study of huge collision data needs excessive computing resources which will be arranged by using Universal grid, of which CIIT setup is a part. In February 2009, COMSATS is listed among the grid computing sites for ALICE Experiment.

Specialization at a Glance: Numerous areas of research are offered by the department under the supervision of foreign qualified PhD faculty members such as Database Systems, Business Intelligence, Artificial Intelligence, Software Engineering, Semantic Web, Computer Networks, Communication, Security, Mobile Adhoc Networks, Wireless Networks, Multimedia Technologies, Computer Graphics and Visualization, Natural Language Processing, Image Processing, and Socio Informatics to name but a few.

Graduate Programs

Currently the following graduate programs are being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Computer Science

The Master of Science in Computer Science is a quality research program which draws upon a renowned reputation of excellent quality research. It also depends upon the exceptional teaching quality and facilities of the Computer Science Department at the CIIT. Industrial links enable us to provide a broad based

program at a level beyond that of undergraduate degree. The program combines a wide range of taught advanced courses, with a research project undertaken in the institute or in industry. It aims to impart a sound understanding of the general principles of computer science. It provides sufficient breadth and depth of experience in up-to-date methodologies and in-depth treatment of selected, leading-edge research topics to significantly advance your career prospects within IT industry and to aid you in undertaking research in computer science. In order to accommodate the different needs for further education, recognizing in particular the needs of people in employment, we provide flexible ways of pursuing the MS degree in Computer Science by offering different specializations.

Academically challenging courses are designed to help students acquire these skills. Students must take responsibility for their own learning: a vital skill in such a rapidly developing field. Students begin by learning core areas such as computer Architecture, algorithms and operating systems before they take advance electives in different areas such as databases, networks, graphics, semantic web, Artificial Intelligence etc to create a well-rounded program of study. By the end of the degree program, you will have covered the essential aspects of computer science in breadth and depth. Together with team project and possible work placements the course provides excellent preparation for professional computer scientists. The academic demands of this degree program from its outset are reflected in the additional entry requirements which include Mathematics. Crucially we regard enthusiasm, hard work and commitment as essential to meet the intellectual demands of computer science as a subject of academic study in a vibrant research-oriented environment.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus(es)

- Islamabad, Abbottabad, Lahore, Wah, Attock, Sahiwal

Master of Science in Software Engineering

The Master of Science in Software Engineering is a specialized program which aims to bridge the gap between computer science theory and its practical applications using different technologies and tools. Program will prepare professionals who have a mastery of software development principles, theory, practice, and process to develop high quality software applications and to strive for research solutions against different challenges. Following the said philosophy, the Master of Science in Software Engineering program assists working professional in software engineering field and students who want to extend their skills not only in software development but in research. Advanced courses being taught in this program opens up new avenues of research and development which are crucial in the field of software engineering. All courses being taught at this very level includes an extensive coaching week of classes, practical lab work, and group activities.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Doctor of Philosophy in Computer Science

The Doctor of Philosophy in Computer Science program is to produce well groomed computer scientists who are capable of fulfilling the need for computer applications, research, and academia. The program is divided into various stages to make sure that a comprehensive learning is achieved as a strong base for result oriented research in both qualitative and

quantitative terms. Furthermore, this program targets to enhance scientific approach for maturing the needs of computing applications in real world scenarios, that's why specific research based, current and future need based, theoretically sound and practical courses are offered. The Doctor of Philosophy in Computer Science is challenging and rewarding, it provides training of independent research that enables the scholars to develop real skills in research and subsequently these skills enable our students in career development and in post PhD study.

The Doctor of Philosophy in Computer Science has the tendency to motivate the scholars to bring originality in their research thought process. Special emphasis is given to the professional research development of the scholars through many activities/symposiums that are highly appreciated at both national and international level. Additionally, strong collaborations with renowned world class institutes provide them the facility to make continuous interactions in area of interest which also enhance their own scientific approach. In our Doctor of Philosophy in Computer Science program, we provide our students a strong foundation with course work in advance topics of computer science and cross disciplinary areas which set their foundation to meet challenges of quality research and to publish their scientific articles in international conferences and journals as determined by the HEC.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus (es)

- Islamabad, Lahore, Abbottabad, Wah

Health Informatics Unit

The Health Informatics Unit has established on Inter Departmental Research Group. Centre for Advanced Studies in Telecommunication (CAST), Computer Science Department (CS) and Health Information and Management System (HIMS), Ministry of Health are members of research group. Health Informatics Unit encompasses health information systems used in health care delivery and management. The Group focuses on the use of health information technology to improve the quality and reduce the cost of health care. Research Group members share an interest in health information technology issues such as using technology to support patient-centered care, develop disease management tools, enhance the coordination and continuity of care, identify beneficial uses of the Internet, and assist in the timely collection of data.

Health Informatics Unit offers courses of study ranging from an introductory overview to an intense, full curriculum in Health Informatics, with special emphasis placed on the fields of health information systems, management and health-enabling technologies. Courses of study are offered as part of an innovative curriculum, which involves collaborations with international universities and healthcare institutions. Health Informatics focuses on the application of computer information systems to health care and public health. It extends beyond simply using the computer as a tool for computation into the process of knowledge acquisition, storage, retrieval, representation and manipulation of data.

Our mission of the multidisciplinary Health Informatics Program is to “Integrate Health care system with I.T." A useful model of the emergence of informatics is to consider different roles of clinicians, management and IT services in health care. Health Informatics is the science of information management in healthcare and it blends clinical practice, decision-making and research. Health Informatics is a body of knowledge and a set of techniques to organize and manage information in support of research, education and patient care.

Career Potential/Career Prospects

After completing Masters in Health Informatics you will have the capability to apply for a wide variety of posts both in public and private hospitals, pharmaceutical industries, and multi-national Health Care Organizations, N.G.Os and Overseas organizations. Following could be the professional roles:

Clinician with health Informatics leader

Health information management and exchange specialist

Health information privacy and security specialist

Research and development scientist

Programmers and software engineer

Health IT sub-specialist

Practice workflow and information management redesign specialist

Clinician/practitioner consultants

Implementation support specialists

Implementation managers

Technical/software support

Strategic Health Informatics Advanced Research: The Health Information is supporting innovative research to address well-documented problems that impede the adoption of health IT. The knowledge generated and innovations created from this program will accelerate progress toward the meaningful use of IT in health, adaptive and nationwide health care system. The MS students get research opportunities in the fields of Health Informatics, Electronic Health Record, Modeling to Develop a Clinical Practice, Networking, Data Mining, Health Early Warning System, IT skills for health professionals and dispensing of controlled medicines through software, computing for Physicians, Dental Surgeons and Pharmacists are available. Health Informatics Unit and University of Otago, New Zealand are research partners. Students' thesis will be supervised by senior Professor(s) of University of Otago and some other leading overseas universities, in addition to local faculty.

The Health Informatics Unit has following International linkages:

Member of the International Medical Informatics Association (IMIA) USA

Global Health Work Force (GHWA) Geneva (Switzerland) a subsidiary of World Health Organization (W.H.O)

The Commission on Accreditation for Health Informatics and Management Education (CAHIM) USA

Global Allied for ICT and Development

(GAID) approved by the United Nations

Global Development Network (GDN)

Health System Action Network (HSAN)

Health Care Information for All 2015(HIFA)

Geneva Foundation for Medical Education and Research (GFMER)

The World Health Organization (WHO), Department of Human Resources for Health,

Reproductive Health and Research, the Health Professionals Global Network (HPGN)

Canada's Health Informatics Association (COAH)

International Network for the availability of Scientific Publications (INASP)

mHealth Alliance (USA)

Community mHealth Working Group (USA)

Rural and Remote Health(The Electronic Journal Research, Education, Practice and Policy)

National Prevention Information Network(NPIN)

United Nations Foundation (USA)

Health Data Management (USA)

National Coordinator for Health Information Technology (USA)

Information Technology and Innovation Foundation

Graduate Programs

Currently the following graduate program is being offered and pursued as per latest trends in the professional dynamic market. The introduction of program is as under:

Master of Science in Health Informatics

The Master of Science in Health Informatics program at CIIT is designed in such a manner that deliver advanced training in informatics to health care professionals who want to redirect their careers to become health informatics researchers, as well as those who are interested in integrating health informatics expertise in their current professional roles. This program is likely to appeal to the so-called "early adopters" within the health care environment, health professionals involved in system implementation and individuals with an interest in conducting related research.

This program requires satisfactory completion of courses of the program and the structure suggested by the department. This includes routine classroom coaching of core and elective courses demonstrated and explained with help of case studies, examples and real life scenarios. Health Informatics Unit offer courses of study ranging from an introductory overview to an intense, full curriculum in Health Informatics, with special emphasis placed on the fields of health information systems, management and health-enabling technologies. Courses of study are offered as part of an innovative curriculum, which involves collaborations with international universities and healthcare institutions. Health Informatics (HI) focuses on the application of computer information systems to health care and public health. It extends beyond simply using the computer as a tool for computation into the process of knowledge acquisition, storage, retrieval, representation and manipulation of data.

Entry Requirements

- A 16 years degree in relevant field (MBBS, BDS, Pharm. D, and BS Nursing) from an accredited educational institution with First Division (annual system) or CGPA 2.5/4.0 (semester system).
- No third division (annual system) or D grade (semester system).
- GAT (General) with 50% marks minimum.

Offering Campus

- Islamabad

Faculty Members

Islamabad Campus

Professors

Dr. Sajjad Mohsin, PhD, Muroran Institute of Technology, Japan

Associate Professors

Dr. Romana Aziz, PhD, Manchester University, UK
Dr. Nasro Min-Allah, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China
Dr. M. Manzoor Ilahi Tamimy, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Assistant Professors

Dr. Muhammad Asim Noor, PhD, Johannes Kepler University, Linz, Austria
Dr. Majid Iqbal Khan, PhD, University of Vienna, Austria
Dr. Malik Najmus Saqib, PhD, Technical University, Vienna, Austria
Dr. Shehla Abbas, PhD, University of Bordeaux, France
Dr. Mansoor Ahmed Awan, PhD, Vienna University of Technology, Austria
Dr. Farhana Jabeen, PhD, Manchester University, UK
Dr. Sheikh Zia ud din, PhD, Asian Institution of Technology, Pathum Thani, Thailand
Dr. Naveed Ahmed, PhD, Cambridge University, UK
Dr. Abid Khan, PhD, Harbin Institute of Technology, China
Dr. Sadaf Tanvir, PhD, University of Grenoble, France
Dr. Iftikhar Azim Niaz, PhD, University of Tsukuba, Japan
Dr. Amir Hayat, PhD, Graz University of Technology, Austria
Dr. Muzafar Khan, PhD, Universiti Teknologi PETRONAS, Malaysia
Dr. Ahmad Raza Shahid, PhD, University of York, UK
Dr. Rafi Ullah, PhD, PIEAS, Nilore, Islamabad, Pakistan
Dr. Muhammad Tahir, PhD, Ecole National Superieur Des Telecommunication, France
Dr. Fatima Ashraf, PhD, Universiti Utara Malaysia, Malaysia
Dr. Yasir Faheem, PhD, University of Paris, France
Dr. Ubaid Abbasi, PhD, University of Bordeaux, France
Dr. Amir Hanif Dar, PhD, Beijing Institute of Technology, China
Dr. Abid Hussain, MS, CIIT, Islamabad, Pakistan

Health Informatics Unit

Advisors

Dr. Shafaat A. Khan, MS, New York Medical College, USA

Lahore Campus

Professors

Dr. Syed Asad Hussain, PhD, Queen's University Belfast, UK, Post Doctorate, University of Sydney, Australia
Dr. Zulfiqar Habib, PhD, Kagoshima University, Japan, Post Doctorate, Kagoshima University, Japan

Advisors

Dr. Javaid Sikandar Mirza, PhD, University of Salford, UK

Assistant Professors

Dr. Mudasser Naseer, PhD, Beihang Universty, Beijing, China

Dr. Muhammad Atif, PhD, Eindhoven University of Technology, Netherlands
Dr. Ghulam Rasool, PhD, TU Ilmenau, Germany·
Dr. Saqib Rasool Ch, PhD, Brunel University, UK, Post Doctorate, University of Manchester, UK
Dr. Muhammad Umair, PhD, Vrije Universiteit Amsterdam, Netherlands
Dr. Muhammad Adnan Hashmi, PhD, University Pierre and Marie Curie, France
Dr. Muhammad Humayoun, PhD, University of Grenoble, France, Post Doctorate, Pohang University of Science and Technology, South Korea
Dr. M. Salman Ahmad Khan, PhD, Graz university of Technology, Austria
Dr. Rao Adeel Nawab, PhD, University of Sheffield, UK
Dr. Ali Hassan, PhD, University of London, UK
Dr. Syed Asim Ali, PhD, University of Paris, France
Dr. Tabbasum Naz, PhD, Vienna University of Technology, Austria
Dr. Atif Manzoor, PhD, Vienna University of Technology, Austria
Dr. Muhammad Intizar Ali, PhD, University of Vienna, Austria
Dr. Hamid Turab Mirza, PhD, Zhejiang University, China
Dr. Tayyaba Anees, PhD, Vienna University of Technology, Austria
Dr. Ijaz Ahmed, PhD, PhD, University of Madeira, Portugal
Dr. Muhammad Hasanain Ch, PhD, Asian Institute of Technology, Thailand
Dr. Safee Ullah Chaudhary, PhD, Korea Advanced Institute of Science and Technology (KAIST), South Korea

Abbottabad Campus

Associate Professors

Dr. Khizar Hayat, PhD, Montpellier 2 University, France
Dr. Sajjad Ahmad Madani, PhD, Vienna University, Austria
Dr. Waqas Anwar, PhD, Harbin Institute of Technology, China

Assistant Professors

Dr. Imran Ali Khan, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China
Dr. Danish Irfan, Ph.D, Harbin Institute of Technology, China
Dr. Babar Nazir, Ph.D, University Technology Petronas Malaysia
Dr. Tasswar Iqbal, Ph.D, Vienna University of Technology, Austria
Dr. Abbas Khalid, PhD, Lancaster University, UK
Dr. Eraj Khan, PhD, Lancaster University, UK
Dr. Muhammad Shahzad Sarfraz, PhD, Asian Institute of Technology, Bangkok, Thailand
Dr. Rafi us Shan, PhD, Lancaster University, UK

Wah Campus

Associate Professors

Dr. Ehsan Ullah Munir, PhD, Harbin Institute of Technology, China
Dr. M. Wasif Nisar, PhD, Graduate School of Chinese Academy of Sciences (GSCAS), Beijing, China

Assistant Professors

Dr. Zareen Mehboob, PhD, University of Manchester, UK
Dr. Nadir Shah, PhD, Beijing University, Beijing China

Dr. Waqar Mehmood, PhD,

Innsbruck University, Austria
Dr. Tariq Umar, PhD, Lancaster University, UK
Dr. Farrukh Zeeshan Khan, PhD,Vienna University of Technology, Austria
Dr. Mohammad Kamran, PhD, FAST University Islamabad, Pakistan

Attock Campus

Assistant Professors

Dr. Farman Ali Khan, PhD, Vienna University of Technology, Austria
Dr. Qasim Khan, PhD, Norwegian University of Science and Technology, Norway
Dr. Adnan Sohail, PhD, Vienna University of Technology, Austria
Dr. Saqib Iqbal, PhD, University of Huddersfield UK

Sahiwal Campus

Associate Professors

Dr. Shaukat Iqbal, PhD, Ghulam Ishaq Khan Institute of Engineering Science and Technology, Topi, Swabi, Pakistan
Dr. Amjad Farooq, PhD, Computer Science, UET, Lahore

Assistant Professors

Dr. Muhammad Naeem, PhD, Government College University, Lahore, Pakistan
Dr. Muhammad Ramzan, PhD, Mathematics, GIKI
Dr. Muhammad Sadiq Hashmi, PhD, Computer Aided Geometric Design, IUB
Dr. Muhammad Raza, PhD, Mathematics, BZU Multan
Dr. Muhammad Waseem, PhD, CIIT, Islamabad
Dr. Javed Ferzand, PhD, Graz University of Technology, Graz, Austria
Dr. Sadia Aziz, PhD, Wuhan University of Technology, China
Dr. Qaisar Abbas, PhD, Huazhong University of Science & Technology, China
Dr. Syed Khuram Shahzad, PhD, Graz University of Technology, Graz, Austria

Vehari Campus

Associate Professors

Dr. Ziauddin, PhD, Gomal University, D.I.K, Pakistan

Assistant Professors

Dr. Muhammad Imran, PhD, Government College University Lahore, Pakistan
Dr. Muntazim Abbas Hashmi, PhD, Government College University, Lahore, Pakistan

Faculty of Engineering

Welcome message by Faculty Dean!

Engineering at CIIT offers unique opportunities for innovative education, and research. At CIIT engineering education was initiated in 1999 with single discipline and now, after more than nine years, engineering has grown beyond expectations having eight different engineering disciplines at undergraduate and graduate levels and many more are in progress. It has been consistently ranked among top eight Engineering Faculties of Pakistan by Higher Education Commission of Pakistan.

Since its inception, Faculty of Engineering has been active in recruiting outstanding new faculty members to support their teaching and research activities. Under the umbrella of Faculty development program every year we send our faculty members for higher education and short-term scientific and research training in well reputed International Universities. Our young and highly qualified Faculty members have tremendous potential to change the traditional way of thinking about engineering education, pedagogy and research excellence. I am convinced that as it continues to mature and expand it will emerge as an internationally recognized centre of excellence in the field of Engineering.

Since the establishment, we have increased our students to over 8,000 at different campuses of CIIT. The Engineering education at CIIT is distinguished by the extraordinary quality of its students. Our students represent a rich blend of diverse geographic locations in Pakistan and are ranked among the top tier statistically.

When it comes to career development and planning, students at COMSATS Institute of Information Technology are supported by our career development centers and Industrial Liaison offices at different campuses. The Industrial liaison offices work closely with career development offices to liaise with relevant employers in order to learn their hiring priorities and guide the students accordingly. These arrangements reflect CIIT's commitment, enabling all of our students to access the maximum possible range of career opportunities in engineering sectors.

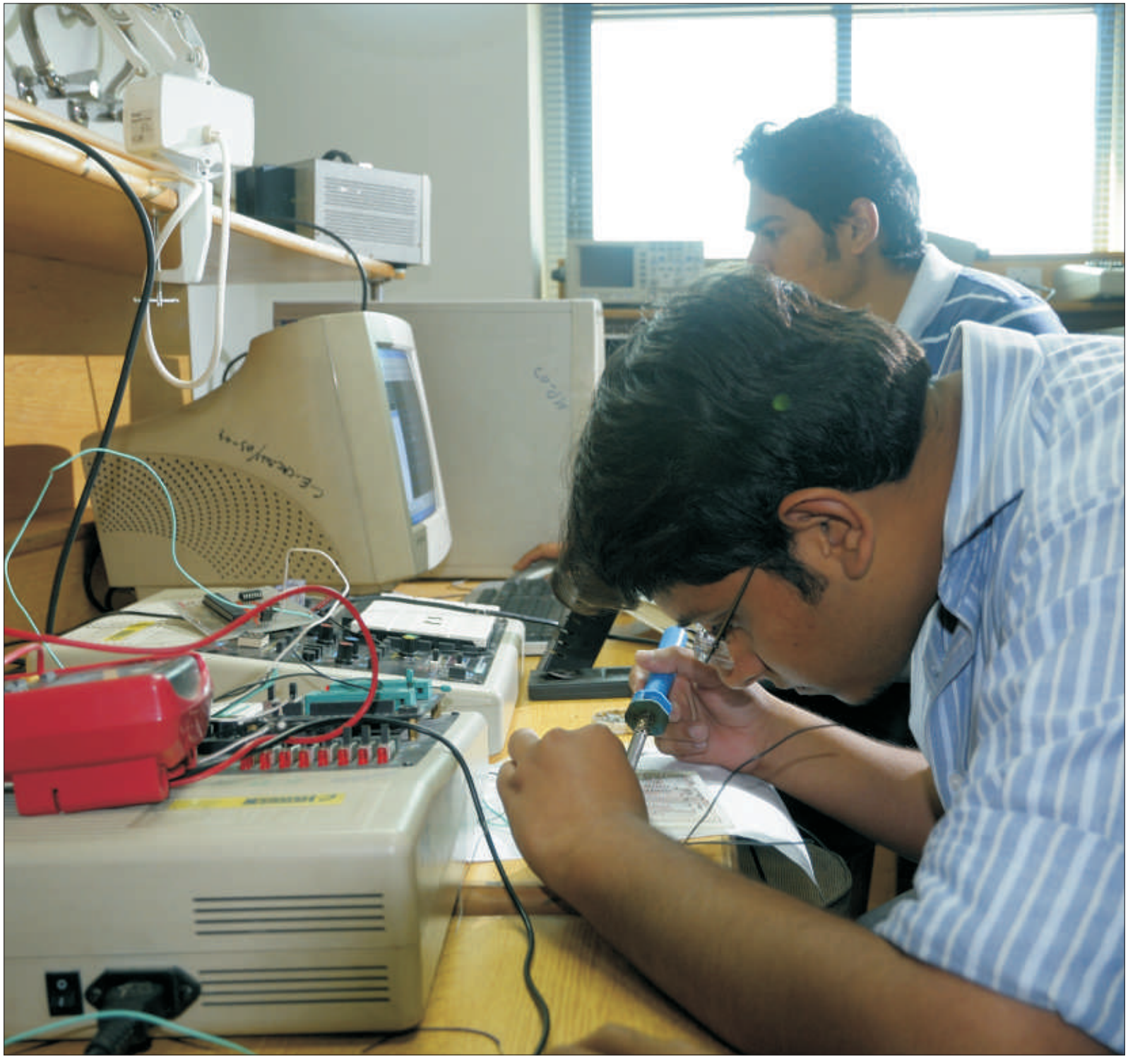
We offer Graduate/undergraduate degree programs at different Campuses of CIIT in Telecommunication Engineering, Electronics Engineering, Electrical Engineering, Electrical Power Engineering Computer Engineering, Chemical Engineering, Mechanical Engineering and Civil Engineering. We are also in process of launching few degree programs in collaboration with International Universities of very good repute. We have established a Center for Advanced Studies in Telecommunication (CAST) at Islamabad Campus in order to conduct state of the art research in this area. Similar centers of excellence in other areas of Engineering are going to be established in other campuses of CIIT.

Our newly developed campuses are equipped with state-of-art teaching and research labs, libraries (one of the largest in the country), modern teaching aids and supplemented with wide range of facilities for extracurricular activities. Apart from educational excellence, we recognize that the choice of an institution is influenced by practical concerns such as location and cost. Our campuses are located at very convenient places and we are also striving to keep our tuition fee well-below the tuition fee charged by many other institutions of the country.

Our past achievements are a source of pride to CIIT and many more exciting changes are planned for the years to come, the changes which are premeditated to ensure that the Faculty of Engineering at CIIT remains one of the leading Faculties nationally and internationally. This is the best time to be a student at Engineering departments of CIIT and take full advantage of their rich learning environment.

Best wishes,

Prof. Dr. Shahzad A. Malik



Department of Electrical Engineering

Graduate programs in Electrical Engineering provide advanced education and research to develop knowledge and expertise in communications, computer, control, power, and electronics. Strong emphasis is placed on the areas of mobile wireless communications, communication signal processing, broadband computer networks, RF/microwave engineering, optical communications, and embedded electronic system design. Specialized state-of-the-art laboratories and computer facilities are available in the above areas. The following primary research areas have been proposed:

- Computer Engineering.
- Power and Energy Engineering.
- Electronic Systems Engineering
- Photonic System Engineering.
- Automation and Control Engineering
- Telecommunications Engineering
- Networks Engineering
- Communication and Radar Technology

The Department of Electrical Engineering at CIIT has the following Labs for research and development:

- VLSI/ Comp. Architecture Lab
- Microprocessor Lab
- Communication Lab
- Electronics Lab, Microwave Lab and Control Lab
- Project Lab, Graduate Lab and Networks Lab
- Radio Frequency Lab

These Labs have State-of-the-art software and hardware technology. We have latest software tools in these areas. The field of Computer Engineering encompasses both software and hardware. Our labs are well-equipped so that the students can take up research projects in any of the mainstreams of computer engineering. In addition to basic lab equipment we also have advanced equipment.

Research Groups

Mobile Communication and Networks (MCN)

The advancements in Mobile Cellular Communications have revolutionized the concepts of connectivity, reliability and ease of communication. Mobile cellular networks have received wide spread approval and appreciation from masses. However, better Quality of Service (QoS) and resource management requirements have introduced several new challenges for researchers. The group aims to conduct research and development in areas of security, QoS, wireless resource management and mobility management in next generation cellular mobile networks.

Currently work is underway on Adaptive Call Queuing Schemes that prioritize resource distribution among new and handoff calls on the basis of call types (voice, multimedia calls) and user mobility.

Signal Processing for Wireless Communications (SPWCOM)

The Signal Processing Group develops signal processing algorithms that cover a wide variety of application areas including speech and image processing, wireless sensor networks, analog and digital communications, radar and sonar. Our prime focus is on algorithm development in general, with the applications serving as motivating contexts. Our approach to new algorithms includes some unconventional directions, such as algorithms based on fractal signals, chaotic behavior in nonlinear dynamical systems in addition to the more conventional areas of signal modeling, quantization, parameter estimation, sampling and signal representation. When developing new algorithms, we often look to nature for inspiration and as a metaphor for new signal processing directions.

The group aims,

To develop new algorithms based on advanced filtering techniques.

To take into account the probabilistic modeling in recognition algorithms.

To enhance the performance of MIMO OFDM systems.

To develop recent research based CAD Models/ Simulations.

Optical and Wireless Communications (OptiCom)

The Optical and Microwave Communications Research Group at CIIT Lahore undertakes research on a range of topics applicable to cutting edge wireless broadband and optical communications technology. Optical communication systems (OCS) have successfully rationalized in back bone transmission systems in terms of economic scalability, technology up gradation, protocol transparency, high data rates and logically independent hierarchical connectivity (WDM). Optical Communication is the only source to accomplish the up-coming high Bandwidth demands due to the advancements in Technology.

The key areas of research in Optical communication are WDM Passive optical networks, free space laser communication, high precision optical measurement technologies, and optical sensors, Free Space Optics (FSO), Fiber Channel Storage Area Networks, Fiber over Wireless (FiWi) networks, Radio-and-Fiber (RandF) and Radio-Over-Fiber (RoF). The research activities in Microwave communications are focused on multiple-element antennas and associated signal processing techniques, target recognition, Antennas Propagation, Microwave Filters, Mm-wave and Submm-wave (THz) antennas.

The major objectives of the OpticoM group are:

To develop an open source graphical user interface (GUI) based software toolkit for the purpose of education, research and design of optical fiber communication systems.

To study the cutting edge technologies in field of optical and microwave communication.

To do research in latest developments in field of optical and microwave communication.

To develop Computer Aided Design (CAD) models/simulations.

To produce quality research publications.

Multirate Communication Network (MRCN)

With the influx of the internet and multimedia applications in everyday life, the need for a cost effective solution, that offers reliable communication with higher data rates, cannot be overlooked. We can save extra cost and effort involved in setting up a new dedicated network by opting for the "No New Wires" solution for communication networks, such as the digital subscriber line (DSL) and the power lines. However these wire line media have their share of problems, including multipath signal propagation, crosstalk and high noise content in the channel. Application of multirate signal processing techniques/wavelet transforms in combination with multicarrier Modulation can be utilized to mitigate these channel impairments.

The greatest motivation for pursuing Wavelet Multicarrier Modulation (W-MCM) systems lies in the freedom that they provide to communication system designers. By tailoring the design specifications, a wavelet based system that best suits an engineering requirement could be conceived. The

group has the objective to design and hardware implementation of transceivers based on Multirate signal processing techniques and MCM.

The future directions for the group are:

- Design and Hardware Implementation of transceivers based on Multirate signal Processing techniques and MCM
- Wavelet OFDM for wireless communications
- Discrete wavelet Multitone for PLC and DSL
- Equalization techniques for discrete wavelet multitone modulation (DWMT) techniques

Computer Vision (COMVIS)

Computer vision research is becoming more and more essential for the technological advancement of a country with the increasing number of applications in civil, defence and industrial sector. Some of the key application areas of computer vision are in public security. In civil applications, one of the most prominent application fields is security e.g. surveillance, biometric authentication, forensic record analysis such as face, finger prints etc to assist in crime control.

The group has focus on primarily these application areas:

- Applied Basic Research in Image Pattern Recognition: fundamental issues in statistical learning.
- Biometric Recognition: individual identification by analyzing their physiological and behavioral characteristics, including face, iris, fingerprint, palm print, etc.
- Intelligent video processing and understanding: automatic video analysis and understanding to reduce human intervention in surveillance.
- Surveillance (tracking, identification, road safety)
- Object categorization and scene analysis in natural images (e.g. building extraction, object recognition, camouflage breaking, feature analysis)

Renewable Energy and Power Systems (REPS)

Renewable Energy and Power Systems research group is multidisciplinary group that fosters collaborative research efforts and advances in the areas of efficient and sustainable power system technologies. The group will develop fundamental and applied knowledge that is required for the next generation of low-emission, high –efficiency power generation systems. The objectives of the REPS group are publishing of research papers, Starting of M.Sc in Power and Energy System, Industrial Projects and Collaboration, Seminars/Workshops on MATLAB, ANSYS, MEMS, AutoCAD, etc. Design and Implementation of UPS to generate, Micro-Power Using Jogging Machine Projects, Offering of Short Training Course (Power Distribution System Design), Development of Micro Grid Station at CIIT LHR using Renewable Technologies, Involvement of Undergraduate final year students in Implementation of Renewable Energy Projects (Photovoltaic System, Micro-Wind Turbine, Biomass, etc), to empower the CIIT students in design methodology of Power Distribution System.

- Applied Basic Research in Image Pattern Recognition; fundamental issues in statistical learning.

Biometric Recognition: individual identification by analyzing their physiological and behavioral characteristics, including face, iris, fingerprint, palm print, etc.

Intelligent video processing and understanding: automatic video analysis and understanding to reduce human intervention in surveillance.

Surveillance (tracking, identification, road safety)

Object categorization and scene analysis in natural images (e.g. building extraction, object recognition, camouflage breaking, feature analysis)

Islamabad Campus Research Groups

Antenna and Microwave Engineering Research Group

The research group was established in 2005 with a few projects in the area of antennas. Thanks to the large human resource and state-of-the art equipment the research group is now actively involved in various applications of microwave engineering. Apart from conventional research work on filters and antennas we focus the activities towards interdisciplinary research. Group members have a large number of publications on their credit ranging from high impact transactions to international conferences. We specialize in antenna designing and offer a wide range of undergraduate and post graduate projects every year.

We are hosting various antenna focused research projects, currently six research students are working towards their PhDs in this research group. Apart from PhD students we have a number of graduate students working in the lab. Alongside antennas we are working on RF front-end design involving both active and passive components. Our research group is also involved in electronically tunable band-pass filter and band-stop filter for various wireless communication standards. We are heading towards broader microwave applications by initiating the research work on microwave near-field and far-field imaging, dielectric characterization and microwave meta-material applications.

Communications Research Group

The Communications Research Group at the Department of Electrical Engineering works within the broad area of Wireless and Digital Communication systems and theory. Our focus is on investigation of techniques and algorithms at the physical layer of the OSI model that can contribute to reliable high speed communications over the transmission channel.

The group members have been actively involved with developing adaptive/blind equalization algorithms, near-capacity channel coding, EXIT-Chart analysis of Communication Systems, and measurements and modeling of radio channels for MIMO systems, Sensor Networks, and UWB systems. The group members have published more than 70 research papers in prestigious international peer-reviewed journals and conference papers.

Our current research efforts are on Cooperative Communications, Cognitive Radio, Multi-carrier CDMA and Blind Channel Estimation. Some of the group members have research proposals submitted to local funding agencies while other funding applications are in preparation.

Integrated Circuits and System Research Group

The Integrated Circuits and Systems Research Group (ICSRG) wants to promote RandD activities in the areas of Integrated circuits and systems using

ASICs and FPGA based prototyping. The three essential activities are to maintain a healthy offering of related courses at the graduate and undergraduate levels to train an adequate number of researchers on an on-going basis. The second priority is practical product design as a result of research. The third initiative is the development of open source curricula and supporting materials using open source software and hardware platforms to aid third world nations achieve a level of engineering education that is globally acceptable.The group is actively engaged in research in quite a few areas like Fast prototyping set up to enable product design, HDL/ESL methodologies, computer architecture, clocking and serial links, embedded systems and simulation of mixed-mode systems and digital and analog systems.

Networks Research Group (NRG)

The Networks Research Group (NRG) embraces dynamic and dedicated researchers that carry out research in the future and demanding areas spanning from Wired to the Wireless Communication Networks.

The mission of Network Research group is to study, explore, design, analyze and develop the feasible, economic, reliable, scalable, dynamic, self-healing and self-managing solutions for the wired and wireless futuristic network systems.

Core research of this group includes; 3G/4G Mobile Communication Systems, Next Generation All-IP Network and Systems, Mobile Ad hoc Networks (MANETs), Wireless and Underwater Sensor Networks, Embedded System Design, Wireless Network Planning and Optimization, Real-Time Spam SMS filtering in Wireless Networks, and Seamless Mobility and Bandwidth aggregation in Heterogeneous Network Environment for Multi-interface Mobile devices.

The group aims to publish and discuss its research in various International journals and flagship conferences round the globe.

Robotics and Control Research (RCR) Group

The Robotics and Control Research Group is actively working within the domain of analysis, design and development of robotic mechanisms and control systems. The group has published more than 20 research papers in reputed international conferences and journals and authored one book and a book chapter (Springer).

Research interest are within the domain of design and development and analysis of robotic mechanism, Mechatronics systems and Control systems.

Renewable Energy and Power Engineering

The Renewable Energy and Power Engineering Research Group works on the technologies for renewable energy generation, power production and energy management to reduce energy consumption and improve energy efficiency. The research activities are with in the area of Power and Energy, Power Electronics, Solar thermal and photovoltaic, Smart grid, Wind power generation, Machine Design, Power Quality Issues and AC/DC Drives.

Signal Processing Research Group

The Signal Processing Research Group is working on a wide range of topics in signal processing with emphasis on adaptive signal processing, statistical estimation and detection methods, multi-scale analysis, multivariate data driven time-frequency algorithms, and image processing. In addition to working on core algorithms in the above mentioned areas, the group focuses on practical applications of signal processing methods in communications, healthcare, renewable energy, and source separation.

Currently, a research project funded by HEC is underway which aims to develop robust data and image fusion techniques using multivariate multi-scale data driven algorithms; another research proposal related to signal processing applications in renewable energy is under review in ICT RandD fund.

Graduate Programs

Currently the following graduate programs are being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Electrical Engineering

The Master of Science in Electrical Engineering program is designed to prepare students for technically demanding careers in industry as well as for post-master's graduate studies in Electrical Engineering. It allows students to take up rigorous and appropriately structured advanced engineering courses for employment/research in industry. The program includes 24 credit hours of course work and 6 credit hours of research work. MS in Electrical Engineering program focuses on the topics ranging from fundamental techniques to cutting edge technologies in Electrical Engineering. Our primary aim is to provide a learning experience which maximizes our students' employability in a competitive job market and subsequently accelerates their career progression with an excellent preparation for PhD studies.

On successful completion of the course the graduates will have an excellent opportunity in finding employment in areas with a broad, critical and practice-based understanding of Electrical Engineering and specialized disciplines. This knowledge makes them ready for a variety of leadership positions in complex contemporary environments and teaching careers in universities.

Specializations in Electrical Engineering

Computer Engineering
Power and Energy Engineering
Electronic Systems Engineering
Photonic Systems Engineering
Automation and Control Engineering
Telecommunications Engineering
Networks Engineering
Communication and Radar Technology

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus(es)

- Islamabad, Abbottabad, Wah, Lahore, Attock

Doctor of Philosophy in Electrical Engineering

The Department of Electrical Engineering offers Doctor of Philosophy in Electrical Engineering program and conducts research in various specialized areas. The quality and impact of the research are demonstrated by many highly cited publications in National/International ISI indexed journals. Students begin the program with the completion of courses and then proceed to do research in their area of specialization. A Doctor of Philosophy in Electrical Engineering program is usually completed in three to five years and it requires course work and research work

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus (es)

- Islamabad, Abbottabad, Lahore, Wah

Master of Science in Computer Engineering

The Master of Science in Computer Engineering program has been designed for students who wish to broaden and deepen their understanding of computer engineering. The program provides a unique opportunity to develop cutting edge, in-depth knowledge of specific computer engineering disciplines. MS students are encouraged to participate in research with different research groups. The degree requirements include 24 credit hours of course work and 6 credit hours of research work.

Specializations in Computer Engineering

Communication Systems
Embedded Systems
Image and Signal Processing
Machine Learning and Artificial Intelligence
Computer and Wireless Networks
Software Engineering
Control Systems

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Doctor of Philosophy in Computer Engineering

The Department of Electrical Engineering encouraged by the Ph.D. faculty in the field of Computer Engineering has launched Doctor of Philosophy in Computer Engineering program. The program is aimed to provide highly skilled manpower for the industry, research organizations and universities. The Electrical Engineering Department has a strong research base reflected by the large number of publications in National/International ISI Indexed Journals. The duration of the program is three to five years which includes course work and research work.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Islamabad

Faculty Members

Islamabad Campus

Professors

Dr. Shahid Ahmed Khan, PhD, University of Portsmouth, UK
Dr. Nassrullah Khan, PhD, Essex University, UK
Dr. Shahzad A. Malik, PhD, Ecole National Superieur Des Telecommunication, France

Associate Professors

Dr. Shafayat Abrar , PhD, Liverpool University, UK
Dr Raja Ali Riaz, PhD, Southampton University, UK

Principal Engineer

Dr. Qadeer ul Hassan, PhD, Boston University, USA

Assistant Professors

Dr. Jamshed Iqbal, PhD,University of Genova, Italy
Dr. Mustafa Shakir, PhD, Beijing Institute of Technology, China
Dr. Safdar Hussain Bouk, PhD, Keio University, Japan,
Dr. Shahrukh Agha, PhD,

Loughborough University, UK
Dr. Shurjeel Wyne, PhD, Lund University, Sweden
Dr. Muhammad Fasih Ud din Butt, PhD, University of Southampton, UK
Dr. Syed Irfan Ahmed, PhD, Carleton University, Canada
Dr. Zeeshan Ali Khan, PhD University of Nice- Sophia Antipolis, France
Dr. Junaid Ahmed, PhD, Manchester University , UK
Dr. Naveed Ur Rehman,PhD, Imperial College, London, UK
Dr. Moazzam Islam Tiwana, PhD, Institute National de Telecommunication, Evry, France
Dr. Ahmed Bilal Awan,PhD, Institut National Polytechnique de Lorraine (National Polytechnic Institute of Lorraine), France
Dr. Junaid Nawaz, PhD, MAJU, Pakistan
Dr. Guftar Ahmed, PhD, Jacobs University, Germany
Dr. Hammad Umer, PhD, Imperial College London, UK

Abbottabad Campus

Professors

Dr. Shahid Khattak, PhD, Technische Universitat Dresden, Germany
Dr. Laiq Khan, PhD, University of Strathclyde, Glasgow, UK

Associate Professors

Dr. Imdad Khan, PhD, Birmingham University, UK
Dr. Owais, PhD, Linkoping University, Sweden

Chief Engineer

Dr. Abdur Rashid, PhD, University of Manchester, UK

Assistant Professors

Dr. Ghulam Mujtaba, PhD, Loughborough University, UK
Dr. Mohsin Amin, PhD, France
Dr. Sohail Razzaq, PhD, Lancaster University, UK
Dr. Khurram Aziz, PhD, Vienna University, Austria
Dr. Sajjad Ali Mushtaq, PhD, Ecole National Superieur Des Telecommunication de Bretagne, France

Lahore Campus

Associate Professors

Dr. Saleem Akhtar, PhD, Ecole National Superieur Des Telecommunication, France

Assistant Professors

Dr. Ali Nawaz Khan, PhD, Harbin Institute of Technology, China
Dr. Ejaz Ahmad Ansari, PhD, Asian Institution of Technology, Thailand
Dr. Naveed Bin Rais, PhD, University of Nice-Sophia Antipolis, France
Dr. Muhammad Saqib Sarfraz, PhD, Technical University Berlin, Germany
Dr. Umer Farooq, PhD Universite Pierre et Marie CURIE, France
Dr. Junaid Zafar, PhD Manchester University, UK
Dr. Sobia Baig, PhD, Ghulam Ishaq Khan Institute of engineering Science and Technology, Topi, Swabi, Pakistan
Dr. Muhammad Khurram, PhD University of Nice-Sophia Antipolis, France
Dr. Asim Ali Khan, PhD Manchester University, UK

Dr. Mujtaba Hussain Jaffery, PhD University of Surrey, UK
Dr. Hafiz Muhammad Asif, PhD Lancaster University, UK
Dr. Aamer Saleem, PhD,

Warwick University, UK
Dr. Irfan Ahmad, PhD, University of Grenoble, France
Dr. Muhammad Nadeem, PhD, Auckland University, New Zealand

Wah Campus

Advisors

Dr. Muhammad Amin, Ph.D UET, Taxila, Pakistan

Associate Professors

Dr. Rahim Dad Khan, Ph.D, East China University of Science and Technology (ECUST), Shanghai, China
Dr. Sheraz Anjum, Ph.D Graduate School of Chinese Academy of Sciences, Beijing, China
Dr. Nadia Nawaz, Ph.D Essex University, UK

Assistant Professors

Dr. Mubashir Hussain Rehmani, Ph.D, Universite Pierre et Marie CURIE, France
Dr. Ayaz Ahmad, PhD, Paris Sud 11 University, France
Dr. Sajid Siraj, PhD Manchester University, UK
Dr. Muhammad Iqbal, PhD University of Posts and Telecommunication, China
Dr. Wasim Qaiser Awan, PhD, Ivanovo State Power Engineering University, Russia
Dr. Abdul Naeem, Ph.D, KTH-Royal Institute of Technology, Sweden

Attock Campus

Associate Professors

Dr. Muhammad Altaf, PhD, Essex University, UK

Assistant Professors

Dr. Shujaat Ali Khan Tanoli, PhD, Asian Institute of Technology, Bangkok, Thailand
Dr. Saeed Ehsan Awan, PhD, PIEAS, Nilore, Islamabad, Pakistan
Dr. Junaid Ali Khan, PhD, International Islamic University, Islamabad, Pakistan
Dr. Muhammad Asif Zahoor Raja, PhD, International Islamic University, Islamabad, Pakistan

Department of Chemical Engineering

The Department of Chemical Engineering was established in Fall 2005 at Lahore campus. Chemical engineers are involved in the application of knowledge gained from the basic sciences and practical experience in the development of design, operation and management of plants and processes for economical and safe conversion of chemical raw material stouseful products.

The Department aims to impart quality education in a research oriented atmosphere with excellent opportunities for the personal and professional growth. The department combines academics with useful work experience as mandatory elements of the degree requirements.

The Department of Chemical Engineering is offering five areas of specialization which are of immense national importance. These are Textile processing, Environmental Technology, Bio-Chemical Engineering, Polymer and Rubber Technology and Oil and Gas Production and Processing. State-of-the-art laboratories have been established to carry out the most recent research and development in these areas. The department also plans to launch fully fledged programs in these areas.

Graduate Programs

Currently the following graduate programs are being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Chemical Engineering

The graduate Master of Science in Chemical Engineering Program emphasizes the practical application of Chemical Sciences and Technology to the needs of society. The program is designed to help prepare students for industry, teaching and research careers, and to meet the need for rigorous and advanced training in the applied aspects of modern technology. The objectives of MS degree program in Chemical Engineering are to create new knowledge by participating in the process of discovery and invention, educate the graduate students with a solid background of fundamentals, stretching their imagination, and preparing them for an exciting future, serve the society through research, education and outreach activities.

On successful completion of the program the graduates will have an excellent opportunity in finding employment in areas with a broad, critical and practice-based understanding of Chemical Engineering and specialized disciplines. This knowledge makes them ready for a variety of leadership positions in complex contemporary environments and teaching careers in universities.

The Department offers specializations in the following fields:

Oil and Gas production and Processing;
Environmental Technology;
Polymer and Rubber Technology;
Bio-Chemical Engineering;
Textile Processing

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Lahore

Doctor of Philosophy in Chemical Engineering

The purpose of the Doctor of Philosophy in Chemical Engineering Program is to provide research experience to enable chemical engineering graduates to develop new knowledge in the discipline. The Program is in line with the CIIT Graduate Handbook guidelines. The developmental changes in program shall also be incorporated following the later versions in accordance with

the stipulated administrative, academic and research forums.

The objective of Chemical Engineering PhD Program is to provide a comprehensive and rigorous education to the graduate students. The program is expected to produce chemical engineers who will contribute to the chemical engineering industries worldwide. The graduates of this program will be able to utilize the principles of chemical engineering for addressing the needs of industry, the scientific community, and society. The program is intended to disseminate the research outcomes in the form of industrial solutions, publications and public presentations.

Admission requirements, program duration, course work and thesis/research project details are given at page 57.

Offering Campus

- Lahore

Faculty Members

Lahore Campus

Professors

Dr. Robina Farooq, PhD, East China University of Science and Technology, Shanghai, China

Dr. Asad Ullah Khan, PhD Imperial College London, UK

Advisors

Dr. Amjad Hussain Dilawari, PhD, University of London, UK

Dr. Pervez Khalid Butt, PhD, Imperial College London, UK

Dr. Javaid Ahmad, PhD University of Leeds, UK

Associate Professors

Dr. Moin-ud-Din Ghauri, PhD, University of Sheffield, UK

Dr. Nasir Mahmood, PhD, Martin Luther University of Halle-Wittenberg, Germany

Dr. Anwar ul Haq, PhD, Ivanovo State University of Chemistry and Technology, Russia

Assistant Professors

Dr. Mazhar Amjad Gilani, PhD,Clausthal University of Technology, Germany

Dr. Javed Iqbal, PhD, MartinLuther University Halle-Wittenberg, Germany

Dr. Aqeel Ahmad Bazmi, PhD, University Technology Malaysia (UTM), Malaysia

Dr. Zulfiqar Ali, PhD, Martin Luther University of Halle-Wittenberg, UK

Dr. Asim Laeeq Khan, PhD, Katholic University of Leuven, Belgium, Germany

Dr. Murid Hussain Malik, PhD, Korea Advanced Institute of Science & Technology (KAIST), Korea

Dr. Muhammad Rafi Raza, PhD, Universiti Teknologi Petronas, Malaysia

Dr. M. Umar Manzoor, PhD, University of Ulster, UK

Dr. Sikander Rafiq, PhD, University Technology Petronas (UTP), Malaysia

Department of Civil Engineering

The Department of Civil Engineering was initially established at CIIT Wah and Abbottabad Campuses from session Fall 2012. The department offers MS in Environmental Engineering which is a two year graduate program after BS Engineering in line with international standards. The department has diverse and experienced faculty of international repute.

Graduate Programs

Currently the following graduate programs are being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Environmental Engineering

The MS in Environmental Engineering is a two year graduate program after BS Engineering. The program spans over 4 semesters with a minimum requirement of 30 credit hours. There is a research project in the last semester of the program in which the students apply their learning in consolidation. The program focuses on the attainment of environmental excellence in civil engineering projects and thereby to deliver improved environmental performance in project specification, design and construction. Closely aligned with industry's needs, this MS aims to provide students with the knowledge and skills to equip them for a career in environmental engineering. The course prepares students to think and act holistically with regard to environmental and sustainability issues, by developing their ability to make sound judgments in relation to the built and natural environments, while meeting the principles of sustainability.

The overall objective of the program is to provide advanced education and training for graduates in engineering, science, and related areas to meet current and future needs of environmental engineering in the region. The program emphasizes on providing engineers with an in-depth understanding of the technical, economic and managerial factors and their integration in the specification, design and operation of environmental engineering systems. The MS in Environmental Engineering form an important foundation, with a variety of topics including the modeling and analysis of hydrological systems, atmospheric physics and chemistry, pollution transport, and the impact of environmental pollution on human health. Specialized course topics in water supply, and Industrial and Hazardous Waste Management are also offered. The graduates of this program have career in the most demanding industry.

Environmental Engineering is an ever-green and demanding field. The demand of environmental engineers in the country in general and Hazara Division, AJK and GB in particular is at its peak. The following facts and figures reinforce the argument to initiate MS in Environmental Engineering at CIIT Abbottabad:

Deforestation in Himalayan range results in adverse effects on environment, climate and annual precipitation pattern. Indus water system which is the backbone of the agriculture economy of Pakistan originates from Himalaya mountain range. Any change in rainfall precipitation may have amplified impacts on economy of Pakistan. There is a dire need to assess the quantum of deterioration and to cope with the natural calamities with the help of environmental engineering expertise.

Water scarcity and energy crisis in country have warranted the construction of large dams. However large dams are always associated with environmental implications. Hence a huge number of environmental engineers will be required for environmental degradation assessment and their mitigation. The construction of mega projects such as large dams would further accentuate the requirement of

environmental engineer.

The programme lays heavy emphasis on the practical application of knowledge, while at the same time recognizing the importance of theoretical knowledge in developing the intellectual capacity of the graduate engineers. Possible employers of Environmental Engineering graduates are Ministries of Water and Power, Irrigation, Environment and Natural resources, Regional development, Municipal councils, water service companies, Private consulting firms, National and International Non-Governmental Organizations, Environmental Protection Agency (EPA), Civil Engineering contractors, and Institutions of higher learning among others.

Entry Requirements

- A 16 years degree in relevant field (Civil Engineering/ Environmental Engineering/ Agricultural Engineering/ Chemical Engineering) from an accredited educational institution with First Division (annual system) or CGPA 2.5/4.0 (semester system)
- No third division (annual system) or D grade (semester system) throughout the academic career.
- GAT (General) with 50% marks minimum.

Offering Campus

- Abbottabad

Faculty Members

Abbottabad Campus

Associate Professors

Dr. Muhammad Ashraf Tanoli, PhD, Tottori University, Japan

Assistant Professors

Dr. Muhammad Atiq Ur Rehman Tariq, PhD, Delft University of Technology, Holland

Dr. Tayyab Ashfaq, PhD, Korea Advanced Institute of Science and Technology (KAIST), South Korea

Wah Campus

Professors

Dr. Tayyeb Akram, PhD, Texas A and M University, USA

Assistant Professors

Dr. Zafar Mahmood, PhD Saitama University, Japan

Dr. Hassan Abbas, PhD Michigan State University, USA

Dr. Qadir Bux alias Imran Latif, PhD UniversitiTun Hussein Onn, Malysia

Dr. Khalil Ahmad, Ph.D, Iowa State University, USA

Dr. Qazi Samiullah, Ph.D, INSA Lyon, France

Scheme of Studies (SoS) of All Graduate Programs

Note:

a) The approved Scheme of Studies of all graduate programs are available in the Registrar Office of the respective campus.

b) The approved Rules and Regulations governing graduate programs can be obtained from the Registrar Office of respective campuses.

c) All other regulations approved and issued from time to time regarding graduate degree programs shall be applicable.

Contacts

CIIT Campuses Map Guide

CIIT Islamabad

CIIT Islamabad campus is access able via Rawalpindi and Islamabad. From Rawalpindi take the Murree road crossing Faizabad chowk and heading straight towards Rawal Chowk. Take right to and take Park Road that will lead you to the splendid campus of CIIT located on the right side after 10 minutes drive. From within Islamabad follow any route connecting to Zero point and then take the Islamabad highway. After reaching Faizabad chowk take left and you will be heading towards Rawal chowk. After having reached to the Rawal Chowk, take right and take Park Road that will lead you to the splendid campus of CIIT located on the right side after 10 minutes drive.

CIIT Abbottabad

Taking the route of Wah from Islamabad you will be crossing Wah, Hasanabdal and Hawalian to enter the main city of Abbottabad. Then on following the road leading to Military Academy Kakul will give you a sight to CIIT Abbottabad campus.

CIIT Wah

Starting from Islamabad, take the road to Taxila. After Crossing Taxila underpass, take 'U' turn infront of POF Barrier No. 5 and move back towards Taxila. Drive further for 200 meters on G.T. Road., where CIIT Wah campus is situated on left side of the road.

CIIT Lahore

Starting from Islamabad follow motorway route to Lahore. On reaching Lahore take Canal road i.e. near to Tokhar Niaz Baig chowk. From the roundabout turn towards the Raiwind road, at the end of the road, turn on right for Defence road on which the Lahore CIIT campus is situated.

CIIT Attock

Starting from Islamabad towards Peshawar on Grand Trunk Road, after crossing Wah and Hassanabdal, PAF Aeronautical Complex Kamra will be reached. At Kamra, from Qutba Chowk take the left road. Then following the Kamra Road again take left from the crossing to enter Attock City where CIIT's Campus is located on the right side before entering into the main city.

CIIT Sahiwal

Following the motorway route or Grand Trunk Road from Islamabad to Lahore, further take the road from Lahore to Multan to approach Sahiwal city. On arrival at Sahiwal city, take the Tufail Shaheed Road and after crossing Over Head Bridge, move towards Police Lines to reach Jail road, where CIIT Sahiwal Campus is situated.

CIIT Vehari

From Multan, take the Multan road to reach Vehari campus located near Peer Murad Adda on the right side of the road.

From Burewala, take the Burewala road to reach “V” chowk, and from there gear on to Multan road to reach Vehari campus located near Peer Murad Adda on the left side of the road.

Admission Office Contacts

Following admission offices may be contacted for any admission inquiry:

CIIT Principal Seat

Mr. Qazi Ammar Zia Uddin
Assistant Registrar (Exams)
Phone (Off): 051-9049-5217
Fax (Off.): 051-9247006
E-mail: qaziammar@comsats.edu.pk

CIIT Islamabad

Ms. Seemi Haq
Incharge (Admissions)
Phone (Off): 051-9049-5033
E-mail: seemihaq@comsats.edu.pk

CIIT Abbottabad

Mr. Kamran Shafique Hashmi
Incharge (Student Affairs)
Phone (Off): 0992-383591-6
Fax (Off.): 0992-383441
E-mail: kamranhashmi@ciit.net.pk

CIIT Lahore

Mr. Imran Qureshi
Deputy Registrar (Admissions)
Phone (Off): 042-111001007
Fax (Off.): 042-99203100
E-mail: miqureshi@ciitlahore.edu.pk

CIIT Wah

Dr. Akmal Javaid
Incharge (Student Affairs)
Phone (Off): 051-9272614-5
Fax (Off.): 051-4546850
E-mail: akmal@ciitwah.edu.pk

CIIT Attock

Dr. Jamshed Ahmad
Incharge Admission
Phone (Off): 057-9316330-1
Fax (Off.): 057-9316329
E-mail: dr.jamsheed@ciit-attock.edu.pk

CIIT Sahiwal

Mr. Safdar Ali
Incharge (Admissions)
Phone (Off.): 040-9200100
Fax (Off): 040-4305006
E-mail: safdar@ciitsahiwal.edu.pk

CIIT Vehari

Ms. Tayyaba Noreen
Incharge (Admissions)
Phone (Off.): 067-3362774
E-mail:
tayybanoreen@ciitvehari.edu.pk

CIIT Virtual Campus

Mr. Fazal ur Rehman
Incharge (Student Affairs)
Phone(Off.): 051-9101237-9
Fax(Off.): 051-9258489
E-mail: fazal@vcomsats.edu.pk

Administration Contacts

Principal Seat

Rector
Dr. S.M. Junaid Zaidi, S.I.
Phone (Off): 051-9247000-3
Fax (Off.): 051-9247006
E-mail: rector@comsats.edu.pk

Pro-Rector
Dr. Haroon Rashid, S.I.
Phone (Off):051-9049-5051
E-mail: haroon@comsats.edu.pk

Registrar
Prof. Dr. Izhar Hussain
Phone (Off): 051-9049-5112
Fax (Off.): 051-9247006
E-mail: registrar@comsats.edu.pk

Controller of Examinations
Mr. Muhamamd Sohail Ghani
Phone (Off): 051-9049-5131
E-mail: sgw@comsats.edu.pk

Director, Planning, Development and Human Resource Development (PD & HRD)
Mr. Tahir Naeem
Phone (Off): 051-9049-5169
E-mail: tnaeem@comsats.edu.pk

Dean, Research, Innovation and Commercialization
Prof. Dr. Raheel Qamar, T.I.
Phone (Off): 051-9049-5036
E-mail: raheel_qamar@comsats.edu.pk

Advisor, Quality Enhancement Cell
Mr. Sarfraz Pirzada
Phone (Off): 051-9049-5132
E-mail: spirzada@comsats.edu.pk

Additional Treasurer
Mr. Muhammad Azam
Phone (Off): 051-9049-5078
E-mail:muhammad_azam@comsats.edu.pk

Additional Registrar (Office of the International Students)
Mr. Shahid Iqbal
Phone (Off): 051-9049-5059, 051-9243192
E-mail: siqbal@comsats.edu.pk

Additional Registrar (Academics)
Mr. Nadeem Uddin Qureshi
Phone (Off): 051-9049-5079
E-mail: qureshi@comsats.edu.pk

Additional Registrar (Management)
Mr. Fayyaz Hussain
Phone (Off): 051-9049-5102
E-mail: fayyazhussain@comsats. edu.pk

Senior Program Manager (Rector Secretariat)
Mr. Ali Tawab Baloch
Phone (Off) 051-9049-5273
E-mail: alitawab@comsats.edu.pk

Academics

Dean of Faculties

Dean, Faculty of Science
Prof. Dr. Arshad Saleem Bhatti
Phone (Off): 051-9049-5118
E-mail: asbhatti@comsats.edu.pk

Dean, Faculty of Engineering
Dr. Shahzad A. Malik
Phone (Off): 051-9049-5296
E-mail: smalik@cosmats.edu.pk

Dean, Faculty of Information Science and Technology
Dr. Sajjad Mohsin
Phone (Off): 051-9049-5101
E-mail: smohsin@comsats.edu.pk

Dean, Faculty of Business Administration
Dr. Qaisar Abbass
Phone (Off): 051-9049-5087
E-mail: qaisar@comsats.edu.pk

Dean, Faculty of Architecture and Design
Arch. Prof. Zain-Ul-Abdin
Phone (Off): 051-9049-5192
E-mail: zain@comsats.edu.pk

CIIT Islamabad Campus

Administration

Incharge Campus
Prof. Dr. Shahid A. Khan
Phone (Off): 051-9049-5214
E-mail: shahidk@cosmats.edu.pk

Additional Registrar (Academics)
Mian Gul Muhammad
Phone (Off): 051-9049-5245
E-mail: miangulmuhammed@comsats.edu.pk

Incharge (Student Affairs)
Mr. Muhammad Ahsan Mirza
Phone (Off): 051-9049-5336
E-mail: ahsenmirza@comsats.edu.pk

Hostel
Mr. Murad Hussain
Incharge Hostels
Phone (Off): 051-9242951
E-mail: murad@comsats.edu.pk

Transport
Mr. Muhammad Hussain Ahmed
Transport Officer
Phone (Off): 051-904955224

CIIT Abbottabad Campus

Director
Prof. Dr. Khan Gul Jadoon
Phone (Off): 0992-383591-6
Fax (Off.): 0992-383441
E-mail: kgjadoon@ciit.net.pk

Administration

Chairman (Computer Science)/Additional Registrar/ Associate Professor
Dr. Sajjad Ahmad Madani
Phone (Off): 0992-383591-6
E-mail: madani@ciit.net.pk

Hostel
Dr. Qazi Najam-us-Saqib
Hostel Provost/Advisor
Phone (Off): 0092-992-383591-6, Ext: 337
E-mail: najam48@ciit.net.pk

Transport
Syed Fida Hussain Shah
Transport Incharge/Deputy Registrar
Phone (Off): 0092-992-383591-6, Ext: 355
E-mail: fida@ciit.net.pk

CIIT Wah Campus

Director
Prof. Dr. Tayyab Akram
Phone (Off): 051- 9272614-5
Fax: 051-4546850
E-mail: dirwah@comsats.edu.pk

Administration
Deputy Registrar
Mr. Jawwad Ahmad
Phone (Off): 051- 9272614-5,
E-mail: jawwad_ahmad@comsats.edu.pk

Hostel
Mr. Muhammad Sharif
Assistant Professor / Hostel Warden
Phone (Off): 051-9314382-3, Ext: 222
E-mail: sharif@comsats.edu.pk

Transport
Mr. Muhammad Asghar
Transport Supervisor
Phone (Off): 051-4534200-02, Ext: 218

CIIT Attock Campus

Director
Dr. Sherzada Khan
Phone (Off): 057-9316330-1
Fax (Off.): 057-9316329
E-mail: sherzada@comsats.edu.pk

Administration and Transport
Deputy Registrar
Mr. Malik Saleem Khan
Phone (Off): 057-9316330-1
E-mail: saleem_khan@comsats.edu.pk

Hostel
Mr. Laeeq Mushtaq
Deputy Librarian/Hostel Warden
Mobile: 03339119767
E-mail: laeeqmushtaq@comsats.edu.pk

CIIT Lahore Campus

Director

Dr. Mahmood Ahmad Bodla
Phone (Off): 042-111001007
Fax (Off.): 042-99203100
E-mail: director@ciitlahore.edu.pk

Administration

Additional Registrar
Mr. Rashid Ahmad Khan
Phone (Off): 042-111001007
Fax (Off.): 042-99203100
E-mail: rakhan@ciitlahore.edu.pk

Hostel

Girls Hostel

Ms Saima Saleem
Deputy Registrar/ Superintendent Girls Hostel
Phone (Off): 042-111001007, Ext: 816, 805
E-mail: saimasaleem@ciitlahore.edu.pk

Boys Hostel

Dr. Majid
Assistant Professor
Phone (Off): 042-111001007, Ext: 845

Transport

Mr Shahid Latif
Manager C&L
Phone (Off): 042-111001007, Ext: 814, 870
E-mail: shahidlatif@ciitlahore.edu.pk

CIIT Sahiwal Campus

Director

Dr. Abdul Waheed
Phone (Off): 040-9200100
Fax (Off.): Fax: 040-4305006
Email: director@ciitsahiwal.edu.pk

Administration

Assistant Registrar

Mr. Rana Adeel Abad
Phone (Off.): 040-9200100
E-mail: adeel@ciitsahiwal.edu.pk

Hostel

Mr. Majid Hussain
Assistant Professor/ Warden Hostels
Phone (Off): 040-4305001-3, Ext: 148
Mobile: 0321-7880004
E-mail: majidhussain@ciitsahiwal.edu.pk

Transport

Mr. Fakhar Hussain
Transport Officer
Phone (Off): 040-4305001-3, Ext: 120
Mobile: 0300-7733661
E-mail: fakhar@ciitsahiwal.edu.pk

CIIT Vehari Campus

Director

Dr. Khair – Uz – Zaman
Phone (Off): 067-3362774
E-mail: director@ciitvehari.edu.pk

Administration

Assistant Registrar
Mr. Yasir Ikram
Phone (Off): 067-3362774
E-mail: yikram@comsats.edu.pk

Hostel

Girls Hostel
Ms. Tayyba Noreen
Research Associate/ Hostel Warden
Mobile: 0332-8334063
tayybanoreen@ciitvehari.edu.pk

Boys Hostel
Mr. Seyed Ali Ashiq Kirmani
Lecturer / Hostel Warden
Mobile: 0321-4206696
E-mail: alikirmani@ciitvehari.edu.pk

Transport
Mr. Saleh Imran Khan
Assistant Registrar /Incharge Transport
Phone (Off): 067-3028346

Mr. Shuaib Rasheed Ghauri
Assistant(Transport)
Mobile: 0300-4456935
E-mail: shuaibghauri@ciitvehari.edu.pk

CIIT Virtual Campus

Director
Dr. Haroon Rashid, S.I.
Phone(Off.): 051-9101108
Fax(Off.): 051-9258480
E-mail: haroon@comsats.edu.pk

General Manager
Dr. Bilal Zaka
Phone(Off.): 051-9258486 , 051-9101286
Fax(Off.): 051-9258489
E-mail: bilal@vcomsats.edu.pk

Program Manager (Academics)
Mr. Saad Bin Riaz
Phone(Off.): 051-9101236
E-mail: saad@vcomsats.edu.pk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