GRADUATE
PROSPECTUS
2015-16

COMSATS Institute of Information Technology

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COMSATS INSTITUTE OF INFORMATION TECHNOLOGY

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Message from the
RECTOR

I am delighted to share with you the COMSATS Institute of Information Technology (CIIT) graduate prospectus for academic year 2015-16.

CIIT is one of the acme institutions of higher learning in the country which is well recognized for its commitment to quality education and prolific research. CIIT chartered in 2000, started with a single classroom, meager resources, offering a few certificate courses and a postgraduate diploma in Computer Studies. With the visionary leadership and dedicated team, today it stands at an enviable position, with a choice of seven fully functional campuses along with its Virtual Campus, 06 Faculties, 18 Departments and around 100 degree programs to its prospective students.

CIIT's 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.

In 2012, CIIT was ranked at number 03, on account of research output by its qualified faculty by Higher Education Commission (HEC). Besides, CIIT was also ranked No.1 in the Computer Science & IT category by the HEC. It was a moment of celebration for CIIT when HEC ranked it at number 4 in Pakistan in General Universities (Large) category in 2013. Moreover, an international ranking agency, QS Organization, which carries out world universities ranking, awarded three stars (out of a total of five) to CIIT. The award was announced during a QS conference held in Seoul, South Korea in 2013. Another joyous moment for CIIT was when it attained position in QS Asian University Rankings 2014 for the first time. It was placed in 201-250 range of top Asian Universities.

CIIT has a unique blend of graduate programs available in the index. The research activities are not confined to publishing of research papers only but also include books and patents. The books published till date are 49 whereas 11 patent applications are filed by CIIT faculty 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.

Graduate programs offered by CIIT are an 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. 2,641 students (95 PhDs) have successfully completed their MS and PhD degrees from CIIT.

CIIT is proud of its uncompromising standards of higher education which prepare well for professional life and personal development of more than 6,480 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, H.I., S.I.
Rector

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Chapter 01 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 programs with 2,908 qualified faculty members, mostly with foreign qualifications to their credit. 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. Research activities cover both theoretical and applied research, as well as specific or contract research projects undertaken on behalf of outside bodies such as government, industry and research funding agencies.

To enhance research culture among the faculty, the Research and Development (R&D) Division was established at CIIT in January 2005, realizing the acute shortage of highly qualified researchers and scientists. Since its inception, the R&D Division under the dynamic and visionary leadership of the Rector CIIT is playing an active 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 market-driven 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 uplift the research spectrum with 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. Moreover, 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., to enhance initiatives regarding entrepreneurship, academic and research excellence. It also focuses towards achieving technological competitive edge and a world class status for the Institute.

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. CIIT's faculty members are active in research in their respective fields and the total number of 4,357 research articles has been published by CIIT faculty members till 2014. The year-wise detail of research publications is as under:

Research Output	
Year	Research Papers
2005-06	178
2007	202
2008	195
2009	373
2010	327
2011	703
2012	611
2013	949
2014	819
Total	4,357

CIIT faculty has published a number of books, summary of which is given here:

Year	No. of Books
1999	1
2002	2
2003	2
2005	3
2006	1
2009	5
2010	15
2011	12
2012	3
2013	4
2014	1
Total	49

Summary of patents application filed by the CIIT faculty is as below:

#	Publication #	Author Name	Title	Date & Place
1	US(2011), 20110162976	Dr. Robina Farooq	Recovery of nickel from industrial pickling acid solutions	7-July-11 USPTO
2	EP2342876(A2)	Dr. Shahid Khattak (Vodafone)	Decentralized and Cooperative Reception of Data by Base Stations	13-July-11 USPTO
3	US2010323706(A1)	Dr. Shahid Khattak	Method for Base Stations for overall Cell Signal Decoding	23-December-10 European Patent
4	ES2336020(T3)	Dr. Shahid Khattak & Prof. Dr. Fettweis Gerhard (Vodafone)	Process for Mitigation of Interference in a Mobile Cellular Network and Base Station of a Mobile Cellular Network	7-April-10
5	US 2009/0145774 A1	Dr. Robina Farooq & Dr. Salem Farooq Shaukat	Novel Sono electrolysis for Metal Removal	11-June-09
6	EP1906610(A1)	Dr. Shahid Khattak & Fonseca Dos Santos Andre (Vodafone)	Process and arrangement for turbo Equalization with Turbo Decoding of Signals	8-April-08
7	14/041,978	Dr. Muhammad Yar	A novel and efficient synthesis of dihydro 1,4-benzoxazines using sulphonium salts	August-13 (USPTO)
8	262/2013	Dr. Muhammad Yar	A novel and efficient synthesis of dihydro 1,4-benzoxazines using sulphonium salts	29-April-13 (IPO Islamabad)

#	Publication #	Author Name	Title	Date & Place
9	14/098,067	Dr. Shahid Khattak	Heart Murmur Extraction and Heart Impairment Identification using Fuzzy Controller	05-December-13 USPTO
10	62046584 (Provisional)	Fazal Ghafoor	Generation of high power pulse-laser using field generated coherence	05-September-14
11	14/536,650	S. M. Riaz Hussain, Shahzad A. Malik, and Shahid A. Khan	System And Method For Uninterrupted Communication Across Black Spots For Multi Interface Mobile Nodes	09-November-14

Research Centers

For institutions of higher learning, the centers of excellence are symbol of pride and recognition. The centers represent the underlying strength in various disciplines to carry out world class research and development. The CIIT has established following research centers and a few are in the developing stage:

- Center for Advanced Studies in Telecommunication (CAST)

- Interdisciplinary Research Center in Biomedical Materials (IRCBM)

- Center for Professional Development (CPD)

- China Study Center (CSC)

- Center for Policy Studies (CPS)

- Business Incubation Center (BIC)

- Center for Climate Research and Development (CCRD)

- COMSATS Center for Executive Development (CCED)

- Center of Advance Drug Research (CADR)

- Energy Research Center

Center for Advanced Studies in Telecommunication

The Center for Advanced Studies in Telecommunication (CAST) was established in December 2007, as an autonomous research cost center to produce quality research in the area of telecommunication. Initially, the establishment of CAST was funded by Higher Education Commission and CIIT's own resources. The existence of CAST has ensured long-term continuity of quality and industry related research activities. The mission of CAST is to provide service to the society through 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.

Since there was an absence of any meaningful dialogue and collaboration between regional industry and universities, CAST was established with an objective to act as an interface between the Institute and regional telecom industry (government and community groups) for research based telecommunications activities. CAST from its inception has been focused on developing strong industry linkages, with special focus on practical implementation and realization of telecommunication technologies. In this regard, CAST has created a marketing department for establishing and maintaining mutually beneficial commercial collaboration with local telecom industry.

Interdisciplinary Research Center in Biomedical Materials

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

The 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 Professional Development

An intensive interaction with the local industry revealed that the industry is facing a shortage of skilled manpower/engineers in various fields including industrial control and automation, instrumentation, mobile communication, spectrum planning and monitoring, energy conservation and power factor improvement. Keeping in view the fore-mentioned facts, 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 to enrich professional development initiatives. For this motive, Center for Professional Development (CPD) was established in 2010, under the Department of Electrical Engineering at CIIT Islamabad. The main focus of CPD is on the following:

- Technology-driven trainings for Faculty / Student.

- Trainings for personal and professional development.

- Organize Exhibitions, Seminars and Workshops on different fields of study.

- Building strong collaboration 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 socio-cultural and economic intricacies pertaining to the peoples of 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 major 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 arrange conferences, public lectures and workshops, develop media promotional strategies and work with various stakeholders to promote Chinese language and culture in Pakistan and collaborative initiatives in the scientific and economic fields.

- To provide customized consultancy services and training programs.

- To promote understanding through exchange programs of students, researchers and faculty.

Center for Policy Studies

Center for Policy Studies (CPS) was established to offer academic programs and research studies in policy areas which could benefit the government and society at large. The center intends to synchronize the expertise of the policy makers and practitioners with the academics and researchers. The center aims to play a supportive and advisory role for the policy makers by offering timely recommendations and policy alternatives 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 for policy makers through empirical research, in-depth analysis and consultative process with relevant stakeholders. It aims to bridge the gap between academia, Government, industry and civil society on various contemporary issues through a multi-disciplinary approach. Moreover, it will undertake short-term and medium-term training modules for capacity building programs 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 for promoting 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.

❍ To create awareness about dynamics issues in Pakistan's neighborhood that impinges 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.

Center for Climate Research and Development (CCRD)

There is growing recognition that no nation will be immune to the impacts of the changing climate system. Today across the globe climate centers have been established to help understand and address the challenges of climate change. The case for Pakistan is compelling, as South Asia is regarded by the global community as a region highly vulnerable to climate change. The need for building climate resilience is critical. Work on climate vulnerability, adaptation, GHG mitigation and disaster risk management has become equally important. For this purpose, CIIT has set up a Center for Climate Research and Development (CCRD).

The creation of CCRD is a manifestation of the realization that there is an urgent need to develop Pakistan's capacity to enhance understanding of climate change, develop relevant technical research capacity, establish knowledge networks and links in the region and internationally, and promotes the teaching of climate sciences.

Pakistan needs to increasingly look at its development work through a 'climate lens' to ensure adaptability and

sustainability. Hence an important aspect of the work of CCRD would focus on mainstreaming climate change into development policy and community- based adaptation to climate change across the country.

Major areas of work of CCRD will be as following:

❍ Study extreme weather conditions and associated environmental challenges by improving capabilities for scientific research,

❍ Assess climatic conditions and climate variability in the region,

❍ Conduct research on the consequences of climate change, leading to formulation of mitigation and adaptation strategies,

❍ Provide support to institutions in Pakistan for designing policies and programs in the framework of the national Climate Change Policy.

International Training Workshop on
Extreme Weather and Climate Events:
detection, monitoring, prediction
and risk management for developing countries

14-23 J___013, Beijing, China

CCRD's main office is located at CIIT Islamabad, with the technical resource center located at the CIIT campus in Abbottabad.

Following are the main research expertise relevant to the Climate Change group at CIIT Abbottabad.

- Climate change and glaciers monitoring
- Snow and glacier hydrology
- Water resources management
- Biodiversity and conservation
- Nitrogen Cycling (global warming)
- Climate change and ecosystem functioning

Center of Advance Drug Research (CADR)

The purpose of CADR is to conduct interdisciplinary research and development projects in the field of pharmacy, chemistry and biological sciences. The development of new drugs is a major goal of research center and represents an important engine of progress in the life sciences. Through recent research, based on the human genome project, the pharmaceutical research has gained importance especially the development of novel therapeutics. Thus, the decoding of the human genome has led to a dramatic increase in knowledge in terms of the number of potential targets for drugs (drug targets). The main aim of research center is the therapeutic principles and the development of innovative therapeutic approaches. They include the development of new drugs, the study of mechanisms of action, as well as the research and development of experimental therapies. For example, for the efficient implementation to achieve basic research into new drugs and therapies, the networking of all relevant stakeholders in this process is essential. The research center is therefore a strategic relationship both between basic biomedical research and the pharmaceutical industry, biotechnology companies.

COMSATS Center for Executive Development (CCED)

The CCED is a recently launched initiative by CIIT. No one will deny that in today's challenging global economy where knowledge is now universally acknowledged the most valuable asset, education is more than a pathway to opportunity – it is a prerequisite. With rapid globalization, intensive competition and the increasing need for innovation, organizations in Pakistan and overseas are looking for employees who can think critically, analytically and holistically, successfully manage change, and apply new skills using more complex technologies.

At the same time, organizations must continue to improve the way they operate, retain and manage their talent pool, and apply new best practice models in order to remain competitive and sustainable. Consequently, knowledgeable workforce – one that is best prepared to compete in this economy in the commercial as well as the public and not-for-profit sectors – is in demand. Acquiring new knowledge, learning new skills, and applying new techniques can help master the challenges of change and enable Pakistan's workforce to be more effective, efficient and innovative.

The CCED's fundamental objective is to develop, organize and administer training programs in specialized business administration and management themes in accordance with the needs of and in close consultation with organizations operating in the public, commercial and not-for-profit sectors of Pakistan. CCED already has substantial experience to draw upon in this regard as the impressive list of Pakistani and foreign organizations for which its trainers has conducted training shows. In addition, CCED intends to organize events and undertake consulting assignments its fields of expertise for any organization in need of such inputs. Through its activities, the CCED hopes to help CIIT realize its mission which is to contribute towards Pakistan's national development.

Besides these initiatives, 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.

Energy Research Center

The Energy Research Center (ERC) has been established at the CIIT Lahore since November 2014.

The scope of the work to be done at the ERC will comprise of scientific research in laboratories in various faculties and campuses of the CIIT. In addition, theoretical research on energy policy, energy economics, energy laws and regulatory issues will also be conducted by the ERC. Some of the major scientific research areas will include Industrial Energy Efficiency, Coal Based Power Generation, Smart Grids, Decentralized Energy Solutions, Energy Conservation, Fuel cell, and Membrane development, Solar Technology etc. Through an industrial outreach program, the Centre will work alongside with the industry to focus on bringing about energy efficiency in the industry. Research is required to develop and understand new technological options and how this could support innovations in and around energy sector. The ERC can play an important role in preparing comprehensive policy proposals focusing on cost-cutting specific policy areas and technologies.

Meeting the demand for reliable and affordable energy for a growing population in ways that are economically and environmentally feasible is a big challenge for Pakistan's socio-economic progress and stability. Fostering research in the energy sector is an important step forward to be followed up by the results of research to support innovation. The ERC aims to be a Center of excellence for the researchers to contribute for offering solutions to meet the energy crisis. The proposed projects also intend to help CIIT to establish teaching and multidisciplinary research facilities of high standards to enable our graduates for advanced level research in the field of environmental and energy areas in a global perspective. The Center will provide excellent opportunities for the students and researchers to conduct research in emerging energy technologies especially in areas like wind energy, solar energy, smart grid, smart metering, energy conservation, etc. It will equip the students and researchers with necessary knowledge and hands-on experience to fill various energy related assignments in the public and private sectors. Through its emphasis on maintaining a close liaison with the industry, the ERC will act as a bridge between the academia and the industry and will also open doors for future careers for our students in the power sector and other industries.

Charter of Degree Awarding Institute (DAI)

The CIIT was awarded the Charter of Degree Awarding Institute (DAI) in the public sector by the Federal Government of Pakistan on August 12, 2000. The President of Islamic Republic of Pakistan is the Patron of CIIT and the Federal Minister for Science and Technology is the Chancellor of CIIT. 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. The membership of the Board of Governors is as under:

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 Federal Education and Professional 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 the 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 intends 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 knowledge through education in academically diverse disciplines and 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.

Ranking

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 Engineering degree programs as well as research productivity of the faculty members.

CIIT attained position in Quacquarelli Symonds (QS) Asian University Rankings 2014 for the first time. QS is an international ranking body that critically evaluates and publicizes World and Asian University Rankings, which is

based on the quality criteria of the institutions including Asian Academic Peer Review, 30%, Asian Employer Review, 10%, Papers per Faculty, 15%, Citations per Paper, 15%, Faculty Student Ratio, 20%, International Students, 2.5%, International Faculty, 2.5%, Inbound Exchange Students, 2.5% and Outbound Exchange Students 2.5%. CIIT attained position in 201-250 range of top Asian Universities based on above parameters.

It was a moment of celebration for CIIT when HEC ranked it at number 4 in Pakistan in General Universities (Large) category in 2013. This success is a manifestation of its undeterred commitment and has led to an unprecedented number of applicants for securing admission in CIIT every year. Moreover, an international ranking agency, QS Organization, which carries out world universities ranking, carried out an independent analysis of various aspect of activities of CIIT and awarded three stars (out of a total of five) and out of a total, about 8-9 categories earned a perfect score of five out of five in as many as three categories of teaching, facilities; and engagement. The award was announced during a QS conference held in Seoul, South Korea in 2013.

In 2012, CIIT was ranked as number one (1) university of Pakistan in Computer Science and IT among all 132 universities of Pakistan. This ranking was announced by HEC based on QS ranking format and for enhancing Quality and Research based Rankings of Pakistani Higher Education Institutes. Besides, CIIT has also been placed at number three (3) position based on the Research Publications in accredited databases of Thomson–Reuters Web of Science for 2012 as notified by HEC.

Campuses

Besides its principal campus at Islamabad, the CIIT has six other fully functional campuses at Lahore, Abbottabad, Wah, Attock, Sahiwal, and Vehari, along with a Virtual Campus while few more campuses are in the pipeline, particularly in the province of Sindh and Balochistan.

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 land mark achievements by signing more than 200 Memoranda of Understanding (MoUs) with national and 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 06 Faculties, 18 Departments and 10 Research Centers. Presently around 100 undergraduate and graduate degree programs are on offer.

Faculty Distinction: More than 900 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 31,000 graduates since its inception in 2000. So far, 76 convocations have been organized in its campuses.

Students

Total:	37,570
Undergraduate:	24,037
Master:	5,669
Graduate:	7,864

Faculty

Total:	2,908

Faculty Development

More than 543 faculty and staff 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 Laboratories
- 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 2015-16

Islamabad Campus

Department of Computer Science

- MS in Computer Science
- MS in Software Engineering

- MS in Information Security
- PhD in Computer Science

Health Informatics Unit

- MS in Health Informatics

Department of Electrical Engineering

- MS in Electrical Engineering
- MS in Computer Engineering
- MS in Mechatronics Engineering
- MS in Renewable Energy 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 Humanities

- MS in English (Linguistics and Literature)
- MS in International Relations

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
- MS in Cyber Security
- 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
- MS in Conflict, Peace and Development
- PhD in Development Studies

Department of Environmental Sciences

- MS in Biotechnology
- MS in Environmental Sciences
- MS in Sustainable Water Sanitation Health and Development
- PhD in Biotechnology
- PhD in Environmental Sciences

Department of Mathematics

- MS in Mathematics

Department of Chemistry

- MS in Chemistry
- PhD in Chemistry

Department of Pharmacy

- MS in Pharmacy
- PhD in Pharmacy

Department of Earth Sciences

- MS in Earth Sciences (Applied Geology / Applied Geophysics)

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

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
- MS in Strategic Marketing
- PhD in Management Sciences
- MBA (2.5 years)
- MBA (1.5 years)

Department of Humanities

- MS in English (Linguistics and Literature)

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

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
- MS in Project Management

- MBA (1.5 years)

Department of Mathematics

- MS in Mathematics

Sahiwal Campus

Department of Computer Science

- MS in Computer Science

Department of Management Sciences

- MS in Management Sciences

- MBA (1.5 years)

Department of Biosciences

- MS in Biosciences

Vehari Campus

Department of Environmental Sciences

○ MS in Environmental Sciences

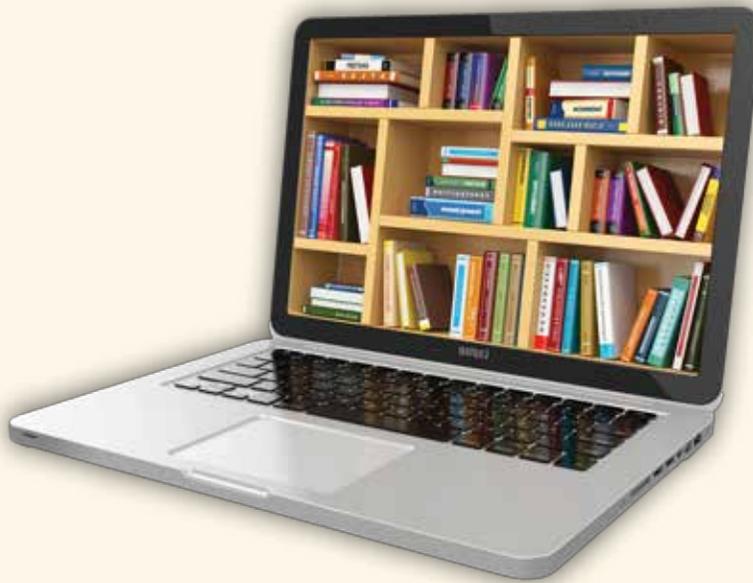## Department of Management Sciences

○ MS in Management Sciences

Virtual Campus

Department of Management Sciences

○ MBA (1.5 years)
○ MS in Project Management

○ MS in Banking and Finance

Chapter 02 Campuses

CIIT Campuses

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

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

A few more campuses are in advance stages of establishment. Presently the student strength of CIIT is 37,570 full time students with faculty strength of 2,908.

Specifically, the strength of MS students is about 7,236 and that of PhD is 628.

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 being 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 7,908 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 at Islamabad Campus

Department of Computer Science

- MS in Computer Science
- MS in Software Engineering
- MS in Information Security
- PhD in Computer Science

Health Informatics Unit

- MS in Health Informatics

Department of Electrical Engineering

- MS in Electrical Engineering
- MS in Computer Engineering
- MS in Mechatronics Engineering
- MS in Renewable Energy 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 Humanities

- MS in English (Linguistics and Literature)
- MS in International Relations

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 525,46 sq ft. The campus comprises of 74 class rooms, 50 laboratories and the Central Library with a covered area of 52,051 sq ft.


Lecture Rooms
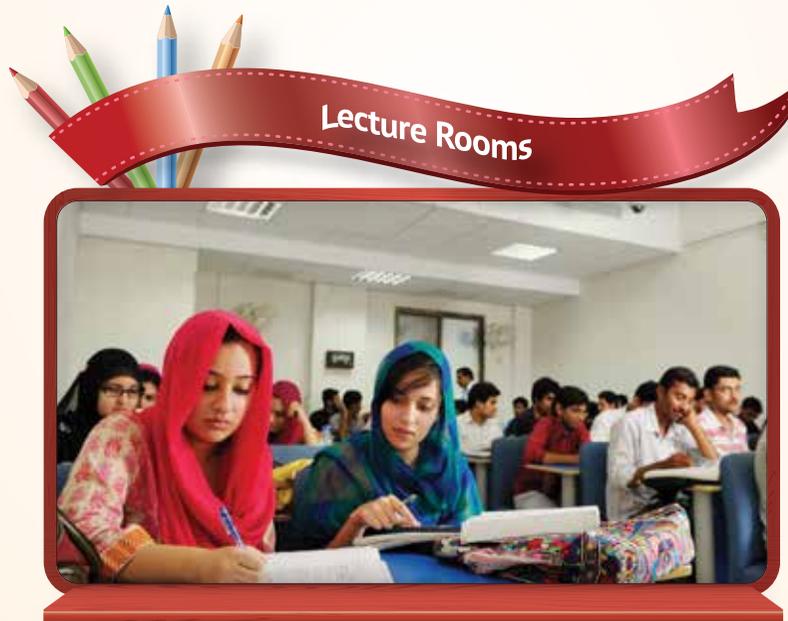
CIIT Islamabad has 74 spacious lecture theatres, with a total covered area of 40,131sq ft. Each theatre has a capacity for 100-120 students. All lecture theatres are IT enabled, air-conditioned, well furnished, and well maintained.

Laboratories

The Campus has deployed state-of-the-art IT infrastructure with a total number of 50 computer laboratories with a total covered area of 53,587.75 sq ft. Around 1,100 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.
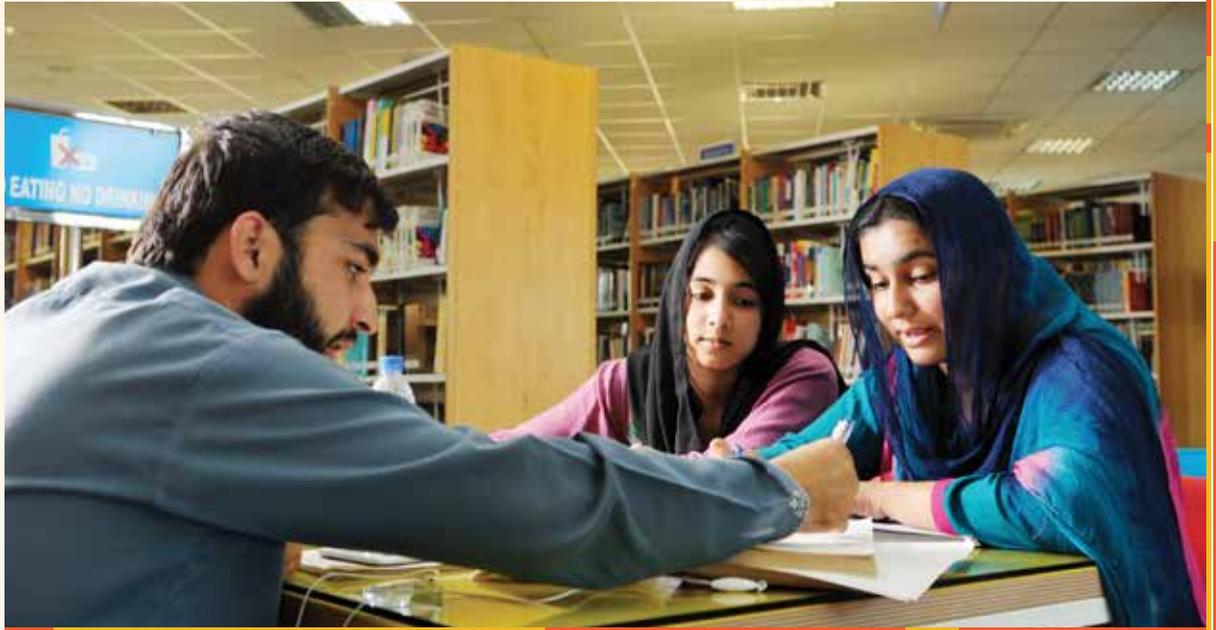
Library

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 50,000 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 33,000 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 80,000 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.

i) 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.

ii) Bibliographic and Book Information Services

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

iii) 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.

iv) International Library Loan and Photocopying Service

Library provides facility for international lending and photocopying

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.

v) 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.

vi) Research Cubicles

Specially designed for research, these cubicles are available only to PhD 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 296 male and 250 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.

Cafeteria

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 1500 persons can pray inside the mosque. Now a land mark mosque on Islamabad Campus is available to accommodate more than 3,000 people, with separate facility for females and people with special needs.

Photocopying Facility

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 evident 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 Arts 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

Student Center

A new facility, with the name of Student Centre has been provided on the ground floor of Faculty Block II, where student's queries are answered under one roof. The Student Centre is being managed by the department of Students Affairs and Career Development Centre. Student Financial Assistance office is also part of the Student Centre and deals with any financial support requests of students. State of the art equipment and computer applications are available not only to assist students but also the working staff. All queries of student are dealt here with the slogan of one window operation. The Student Centre works as a bridge between students and other departments. Students submit their requests within friendly atmosphere of the Student Centre and a ticket is issued in response to their query for future reference. The staff at the Student Centre not only provides appropriate guidance to students but also forwards their requests to the concerned departments. In case requests are dealt with by other departments, the outcome is communicated to the students and usually the entire cycle of application processing completes within forty eight hours.

ISO Certified Campus

CIIT, Islamabad Campus is an ISO Certified education organization that means practices followed in the campus are of global standards. This certification along with other accreditations ensures that quality of education is of international acceptance and administrative practices are also generally recognized.

There is an office of the Management Representative(MR) whose major task is to provide assistance to allied

departments within an education organization to develop, implement and continuously improve procedures and activates related to the quality management system. The MR ensures that all academic and non-academic functions are in line with Quality Policy of CIIT. For this purpose, the following tasks are performed by the office of the MR:

- At least two internal audits of all practices within CIIT, Islamabad Campus

- One external audit annually

- Seek advice from external professional with regards to implementation of all practices

- Identify training needs of employees and making sure that any gaps are filled

- Keep top management in loop with regards to implementation and continuous improvement at operational level

- Any non-conformances are taken very seriously and corrective actions are taken immediately

Cubator 1ne

The Cubator 1ne (COMSATS University Incubator 1) is a venture of CIIT. With a capacity to incubate 35 firms, Cubator 1ne provides impetus to business ideas by giving them a conducive environment, expert advice, mobilization of resources as well as the right networking opportunities.

Your business endeavor will hatch out of its shell and will become a growing and thriving venture once we help you 'match' the right amount of – ideas, money, hard work, networking, publicity and advice. CIIT's success story is a telling example that this is possible.

Vision

Our vision is to be 'the 1st choice' of entrepreneurs for a wide range of business services and facilities creating a beneficial atmosphere.

What we are looking for?

If you are an innovator and have a business idea or a start-up company that is working or planning to work in the following areas then do not wait just join us. Let's Hatch and Match!

i) IT, ICT and Security Products and Services

ii) Engineering and Alternate Power Energy

iii) Agriculture, Food, and Dairy Products and Services

iv) General Category

Call (051) 9240417 or email cubator@comsats.edu.pk today.

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 11 departments, 5,579 students, 16 undergraduate and 24 graduate programs, and qualified faculty strength of 630 including 206 PhDs and 79 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 at Abbottabad Campus

Department of Computer Science

- MS in Computer Science
- MS in Cyber Security
- 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
- MS in Conflict, Peace and Development
- PhD in Development Studies

Department of Environmental Sciences

- MS in Biotechnology
- MS in Environmental Sciences

- MS in Sustainable Water Sanitation, Health and Development
- PhD in Biotechnology
- PhD in Environmental Sciences

Department of Mathematics

- MS in Mathematics

Department of Chemistry

- MS in Chemistry
- PhD in Chemistry

Department of Pharmacy

- MS in Pharmacy
- PhD in Pharmacy

Department of Earth Sciences

- MS in Earth Sciences (Applied Geology / Applied Geophysics)

Facilities
Hostels

There are four on-campus hostel buildings to accommodate approximately 666 male and 110 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,

Laboratories and Electronics/Computer Engineering Facilities

CIIT Abbottabad is maintaining 79 major state-of-the-art laboratories to facilitate students and keep them up with the latest technologies in the sector of electronics, engineering and IT and Sciences. Major laboratories are CISCO, Electronics, Power System, EMI and Instrumentation, VLSI, Telecommunication/DSP, DLD and Microprocessor, Microbiology, Industrial/Pharmaceutical, Mineralogy, Soil Mechanics, Fluid Mechanics and Hydraulics Laboratory.

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 27,185 books and is growing rapidly. It subscribes to more than 20 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 33,000 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 and Students enrolled in MS and PhD Programs. Later on this facility could also be offered for the use of undergraduate students as per the policy of CIIT. Library is also giving access to around 80,000 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.

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.

Office of Development

The aim of Office of Development 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 COMSATS Institute of Information Technology (CIIT) in the historical and industrial town of Wah was a joint effort of the CIIT and Pakistan Ordnance Factories (POFs) Wah Cantt. CIIT started its campus at Wah in a record period of 70 days. The then Minister for Science and Technology/Chancellor CIIT formally inaugurated the Institute on September 14, 2001. Initially CIIT Wah started its operation in small guest house of POFs. In 2003 two purposes built academic blocks were handed over to CIIT on long term lease period by POFs. CIIT Wah extended its academic facilities by purchasing land contiguous to existing campus in 2012 measuring 96 Kanals. The campus has also acquired 20 Acres of land near Brahma Bahtar Interchange on Motorway (M-1) to meet its future academic requirements. The campus is ideally suited for students who wish to seek education in a conducive environment.

The Campus is situated at G. T. Road, Wah Cantt. Due to its location, it is easily accessible to the students coming from Wah, Taxila, Rawalpindi, Hassanabdal, Haripur 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 Technology and its incorporation in the industry. POF itself is a market with very high potential. CIIT being a world class institute in the region has paved the way for knowledge and learning, 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 since the time of its establishment. It has a modern infrastructure and highly professional faculty members. CIIT Wah is fully equipped to handle the dynamics of the fast paced IT and engineering 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.

Graduate Programs 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 spacious Lecture Halls which are fully equipped, furnished, air-conditioned and well maintained.

Teaching aids such as multimedia and sound systems facilities are available in every Lecture Hall.

Laboratories

Keeping in view the importance of practical training, Wah Campus has established the following departmental modern laboratories which have around 500 state-of-the-art computers and laptop connected through LAN,WAN and PERN:-

i) Computer Science Department

Seven Computer Laboratories are being used by the students specifically for Research and Final Year Project purposes. (FYP).

ii) Electrical Engineering Department

Communication, Control System, Microprocessor, Electric Machine and Power System, Electronics, Digital Signal Processing, Digital System Design, Advanced Electronics, Project, Electronics Devices and Physics, Basic Circuits and Transformer, Basic Power and Power Electronics and Modern Electrical Insulation Aging Test Laboratories.

iii) Establishment of Electrical Engineering Research Laboratory

Universal Service Fund awarded contracts of Rawalpindi Telecom Region (RTR) and Northern Telecom Region (NTR-1) for provision of broadband services to PTCL. Through RTR Project broadband services will be provided in five districts and 130 Educational Broadband Centers (EBCs) and 16 Community Broadband Centers will be established. CIIT Wah Campus is taken as "Model Centre". Five Computers along with all accessories including necessary furniture has been provided for this Research Lab by PTCL.

iv) Research/Post Graduate Laboratory

A Research/Post Graduate Laboratory has been established in collaboration with ZONG (CMPAK) and CIIT Wah. M/s. ZONG has provided 30 Nos. PC Units with latest know-how for research purpose.
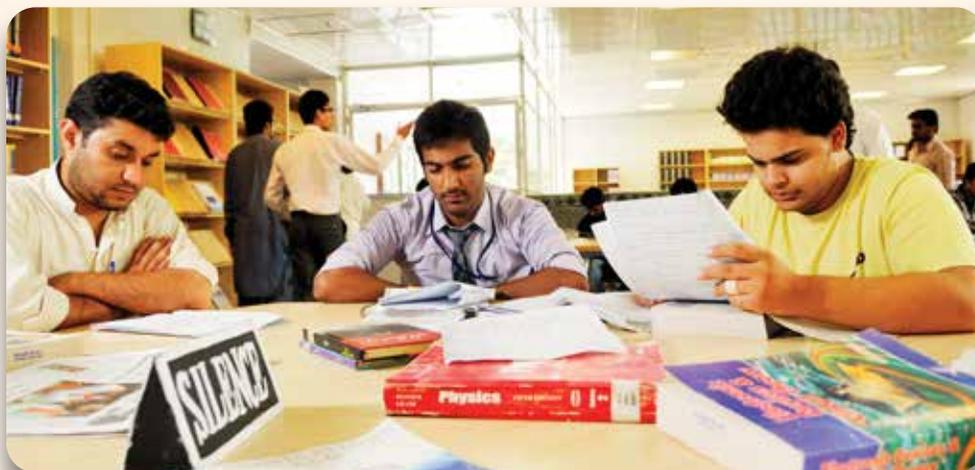
Library

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. There are over 21,000 hard copies of books and almost 5,500 in soft form. A Book Bank is also available in the library to facilitate the students in providing text books.

The library is also providing digital and e-library facilities by making available the access to 33,000 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 VPN. The Library is also giving access to around 80,000 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 also 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.

Book/Photo Copying Shop

In any 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. The facilities of photocopying, scanning, printing and book binding including stationary items on reliable rates are also available on shop.

Campus Management Solution

CU Online is the Web-based campus management system of CIIT Wah. It provides complete academic solution including registration, examination, fee, attendance, class management, course portal and more. It maintains extensive information about the students studying at CIIT Wah. Students get their marks, attendance and other information through their console. They do online course registration and course evaluation. The faculty members enter the attendance and marks and upload the reading material for students, fee vouchers, result cards and progress reports are generated by CUOnline. The system provides a wide range of reports and online query facilities.

Pakistan Education Research Network (PERN)

CIIT Wah Campus is availing bandwidth facility from Higher Education Commission under PERN Project.

Video Conferencing Facilities

The video conferencing facility is available at Campus Auditorium for about 200 persons.

Extra-Curricular Activities

CIIT Wah provides an excellent academic atmosphere to its students together with a lot of opportunities for extra-curricular activities. 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. In order to broaden the vision of students, the institute arranges the industrial trips for students.

Student Week

Considering the importance of sports in an academic institution, there are a number of activities organized at Wah. Every semester, a Student Week is organized where competitions in volleyball, football, basketball, badminton, table tennis, cricket, squash, athletics, Naat, Qirat, and Urdu/English Debates including "Culture Day" are arranged. The Institute also actively participates at national level mega events and has earned many laurels.

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.

Visio Spark

The Computer Science Department of this institute conducts its annual national level mega event titled 'Visio Spark'. The students from various national educational universities/institutions participate. The aim of conduct of event is to provide opportunity to students to upgrade, polish, discuss and enhance their intellectual and research

skills. Visio Spark also provides a platform to students where they share their research work, ideas and views. CIIT Wah Campus is a center of excellence in computing where rigorous software development activities are part of daily routine. This mega event is a step towards enforcing the commitment of CIIT Wah Campus for the development of information Technology and other Computer Science related fields in Pakistan.

Lahore Campus

Welcome to Lahore

The Lahore Campus is located on Defense 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 a constructed area of 479,141 sq ft.

The campus is equipped with state-of-the-art computers and electronic Laboratories. 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. 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 consists of 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. Currently, 5,070 students are enrolled in different degree programs.

The campus offers 30% seats to the children of industrial workers free of cost (not applicable for DDP students), besides a number of other scholarships.

Graduate Programs 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
- MS in Strategic Marketing
- PhD in Management Sciences
- MBA (2.5 years)
- MBA (1.5 years)

Department of Humanities

- MS in English (Linguistics and Literature)

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

Hostels

The campus provides hostel facilities for both male and female students. The facility is available on first-come-first-serve basis and accommodates around 717 male and 400 female students. All information in this regard is made available at Warden Office at Campus.

Transport

CIIT Lahore Campus provides pick and drop services to facilitate the students and employees of the campus. Thirteen buses, six coaches and two hiace vans have been arranged to provide this service on subsidized rates.

Lecture Rooms

The campus has 64 spacious and furnished lecture rooms, majority of which are fitted with multimedia facility. Each has a capacity of more than 50 students and is properly maintained.

Computing, Networking Services, and Laboratories

Network Operation Centre and Information Technology Centre of COMSATS Lahore offer state-of-the-art computing services on campus. There are 20 computer laboratories, each equipped with latest computer systems, Data Center as per international standards, backbone connectivity with fiber optics, high speed internet connectivity, availability of the network hotspots all over the campus including lawns, canteens, hostels and common rooms, access of digital library on campus and from home, fully equipped multimedia class rooms, and video conference facility for online lectures and seminars. Moreover through Online Student Information System, the student can check information like Personal Details, Contact Information, Quota, Academic Status, Registration, Courses (Studies, Dropped, Left Over), Teachers (by whom taught), Class Attendances, Class Proceedings (Quizzes, Assignments, Presentations), Sessional Exams, Final Exams, Projects, Thesis, Results and Marks, Result Cards, Final Transcripts, CGPA Calculation, Scholastic Statuses and Scholarship Statuses
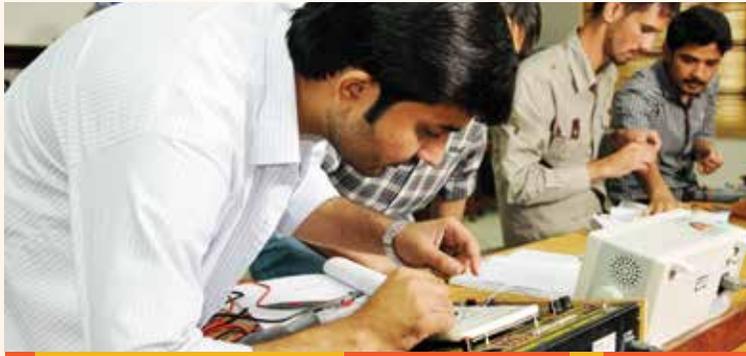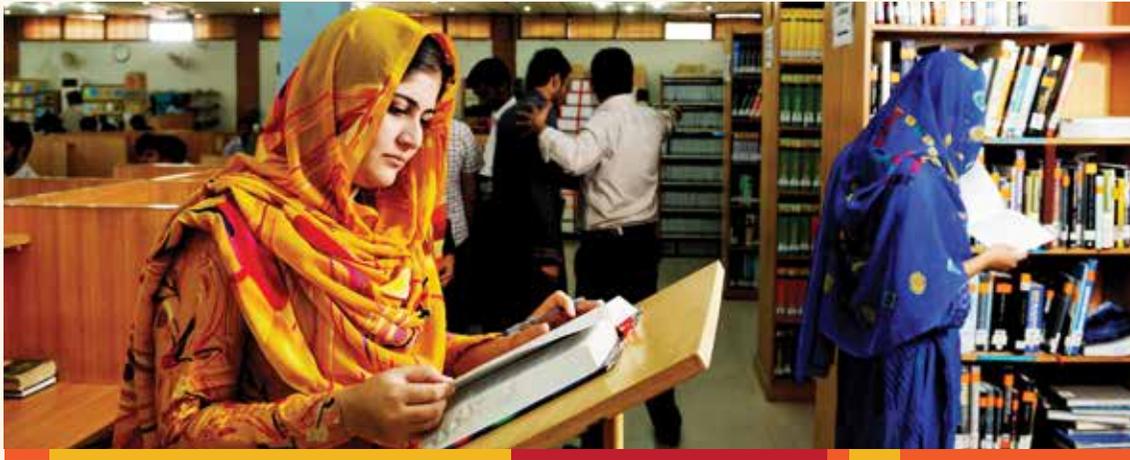
Library

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 staff provides one-on-one training and group instruction. If students need help in finding books, identifying authors or titles, the library staff is always available to assist. The library is open from morning till evening six days a week. Collections of around 24,114 books, 53 journals and magazines have been provided for the students.

The library also provides complete access to more than 80,000 online book and 32,000 high quality, peer-reviewed journals, conference 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 VPN. The e-books support program allows researchers to access most of the important test and reference books electronically in a variety of subject areas. Apart from this more than 15,000 e-books and video lectures on different subject areas are currently available on the CIIT E-Library which is in an ever-growing/developing stage and will become more and more exemplary/perfect with the passage of time.

This is the first library of Pakistan which developed LIBGUIDES portal for its users. Well trained library professionals provide specialized reference services to library users particular researchers of CIIT Lahore.

For details about library resources and services, the link library.ciitlahore.edu.pk may be accessed.

Common Room for Girls

A comfortable and spacious common room has been established near the Academic Block. This space has been designed to give female students a place to relax, offer prayers, study and have informal discussions in the 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 controlled 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 academic block under the supervision of a qualified Resident Medical Officer

Mosque

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

Students Services Center (SSC) and Job Placement Cell (JPC)

Students Services Center has been established at CIIT Lahore Campus to provide students with a range of services designed to help and assist in adjusting with 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 solutions to their everyday problems, including their adjustment to university environment, handling of academic as well as peer pressure etc. SSC achieves these goals through implementation of many programs, both within and outside the campus. SSC arranges many co-curricular and extra-curricular activities in order to bring the best out of students and prepare them for the rigors of competition and fair play.   The mission of the Job Placement Cell (JPC) is to facilitate students in finding employment through a variety of services and also assisting them in locating employment opportunities. JPC offers students grooming session for developing job hunting skills, job data bank, resume development, interview sessions and students profile directory.

Extra-Curricular Activities

CIIT Lahore Debating Society

CIIT Lahore Debating Society is a student run society that aims to promote communication, analytical and team working skills important for the future career growth of the students. It aims to include members from all disciplines and to create a more diverse population of students participating in the rational exchange of ideas, representing CIIT Lahore at various inter-university debating formats.

Attrayant Community

The aim of the society is to organize all sorts of social services and co-curricular activities. Among the social services Attrayant Community facilitates charity collection, fund collection and helping the students. With its motive of "Together We Can" Attrayant society believes in helping and promoting new talent. Co-curricular activities encompass different sports and quiz competitions, debates and seminars.

Islamic Cultural Society

The purpose of the society is to promote our religious culture through Islamic events such as naat and qirat competitions, Islamic seminars, milad etc. The society looks forward to enlighten the young minds and souls of the students.

CIIT Lahore Music Society

CIIT Lahore Music Society is a platform providing an opportunity to the rising talents in the field of music. Every semester the society organizes talent hunts to explore the upcoming vocalists, musicians, bands, and performers.

CIIT Lahore IT Society

The idea behind CIIT Lahore IT Society is to teach and bringing awareness to students about the latest technologies, to improve their IT knowledge polishing their skills and conducting workshops, seminars and competitions inviting IT professionals.

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. Newsletter is a semester wise output that focuses on day-to-day milestones reached during each semester. It also highlights various events related to academic and extra-curricular activities.

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 in 1978.

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 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
- MS in Project Management
- MBA (1.5 years)

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 continuously processing and is making addition to its existing resources.

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 students.

Library

The library is airy, well lighted and provides an ideal place for quiet study and has around 7,550 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 digital and e-library facilities by making available the access to more than 33,000 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 would also be available for the use of students as per the policy of CIIT. The Library is also giving access to around 80,000 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 also 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.
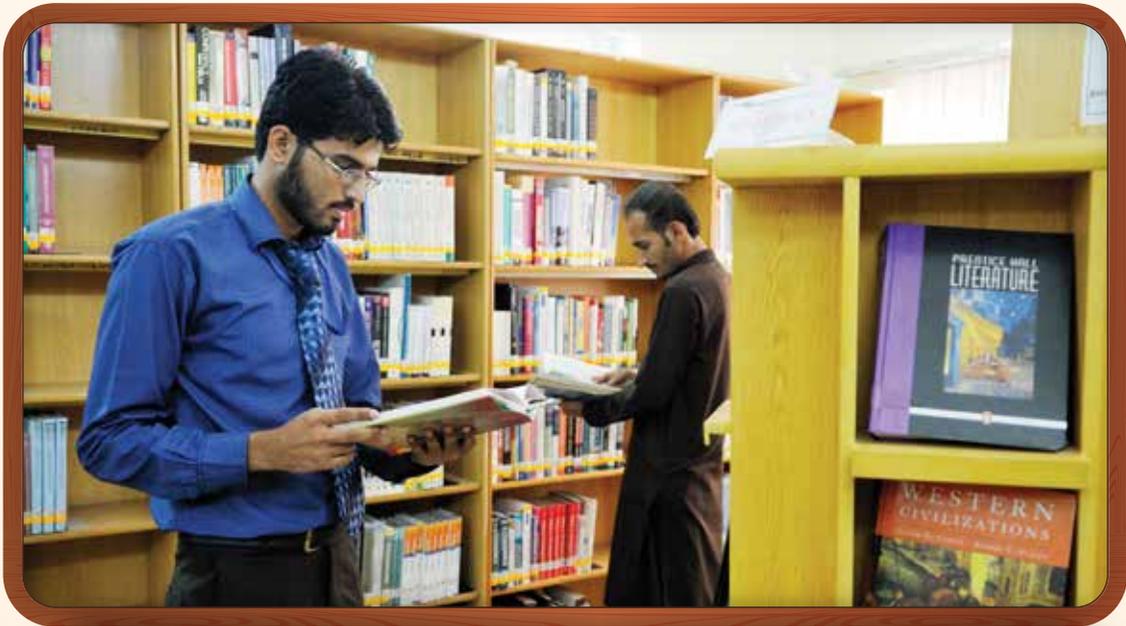
Computing Network

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

CIIT Attock Campus has newly build Mosque with 6400Sqft covered area and capacity of 500 individuals. The sound of the 'Azan' adds a sobriety to our Campus atmosphere.

Cafeteria

Proper cafeterias have been set up where quality eatables are made available for faculty and students at reasonable rates throughout the day.

Transport

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

Hostels

The campus provides hostel facility for both male and female students separately and accommodates 530 males and 100 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.

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 laboratories, one project lab and three Electrical Engineering laboratories for the students. The laboratories are fully equipped with latest computers and with all the necessary facilities. All the laboratories are available throughout the week. Student Help Desk is always ready to provide friendly and expert guidance, so that students can make best use of available resources.

Along with Computer Laboratories CIIT Attock Campus has also established state of art Electrical Engineering Laboratories like Electric Machine Lab, Electric

Measurement and Instrumentation Lab, DLD/MP Lab, Electronics Lab, Power Electronics Lab, Control Lab, Communication Lab VLSI, DSP Lab and Power Transmission Lab and Industrial Electronic Lab.

The Network Department is providing campus wide information & 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.

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 Inter-campuses T-20 Cricket Tournament in March 2012. In 2013 Attock Campus extended its outdoor sports facilities by establishing foot ground, multipurpose 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/Workshops and Symposium

Research Innovation in IT and Engineering (RIITE) and COMBITS are regular event jointly organized by the Electrical Engineering and Computer Science Departments of CIIT Attock Campus. The objective of these events is to establish a network among the seasoned and new researchers of the country. This event provides faculty members a forum for exploring mutual research interests and also enables them to chalk out possibilities of research collaborations between academia and the industry. Moreover, the event provides PhD students a platform where they can present their research findings and get valuable feedback from the research community.

Renowned scholars from major universities and representatives of various industries including Pakistan Aeronautical Complex (PAC) Kamra, Pakistan Ordnance Factory (POF) Wah Cantt and National Engineering and Scientific Commission (NESCOM) participated to deliver technical presentations at the event. This activity helps in bridging the research collaboration gap between academia and the industry. Moreover, the event provides an opportunity to start 'Knowledge Transfer Partnerships' with the officials of the industry and academia. This symposium also enables the industries to improve their quality standards as well as increase productivity through better use of knowledge, technology and skills that reside within the academic research circles.

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.
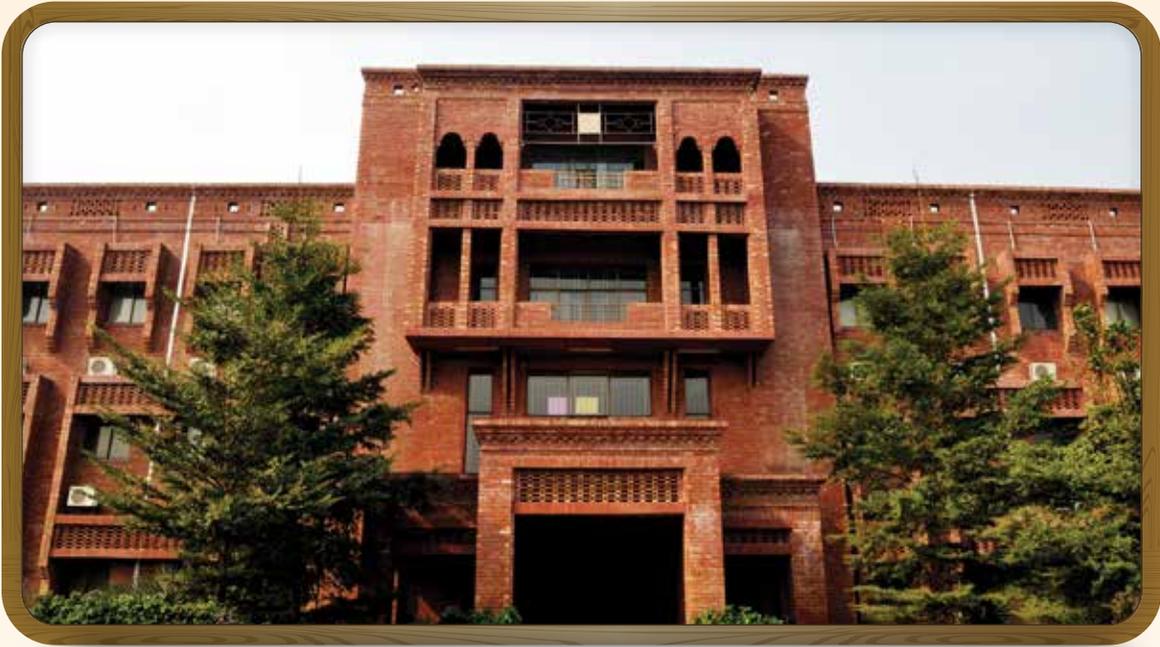
Sahiwal Campus

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 oil seeds. 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. 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 more than 3,165 students.

Graduate Programs at Sahiwal Campus

Department of Computer Science

- MS in Computer Science

Department of Management Sciences

- MS in Management Sciences
- MBA (1.5 years)

Department of Biosciences

- MS in Biosciences

Facilities

The purpose built campus is being constructed on 36 acres of land with a consented area of 73,745 sq ft. currently, there are 21 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 10,600 books 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 states - of - the - art computer Laboratories 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 Laboratory is equipped with latest multimedia facilities like multimedia projectors, scanner, CD writers and printers.

Mechanical Engineering Laboratories

We at CIIT Sahiwal have following laboratories and workshops equipped with state-of-the-art automatically operated and controlled equipment with computerized data logging and analyzing software.

- Thermodynamics Laboratory
- Refrigeration And Air-Conditioning Laboratory
- Mechanical Workshop
  - Electric Shop
  - Fitting Shop
  - Carpentry Shop
  - Machine Shop
  - Welding Shop
- Mechanics Of Machines Laboratory
- Fluid Mechanics Laboratory
- Mechanics Of Materials Laboratory
- Mechanical Vibrations Laboratory
- Heat And Mass Transfer Laboratory
- Physics Laboratory
- Engineering Mechanics Laboratory

CISCO Labs

COMSATS Cisco Academy Sahiwal is the first Cisco academy in Sahiwal region. Academy has started its first CCNA program in June 2012. This is a great opportunity for students of not only COMSATS but many other institutions of Sahiwal and surrounding areas.

COMSATS Cisco Academy is delivering the range of services and support needed to grow tomorrow's global workforce. Our main aim is to equip our students with both network theories and practical in such a way that after completion of course our students can accelerate their career.

Hostels

CIIT Sahiwal has provided furnished hostel to 370 male and 50 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.

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 4,373 kilometer sq. and an estimated population of 3.5 million. The district shares its boundaries 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

Established in 2008, Vehari campus is one of the fast growing campuses of the COMSATS Institute of Information Technology. Vehari campus started with 45 students enrolled in one program and now it has more than 1,902 students, 122 Faculty Members, 14 programs and 03 functional academic blocks. Stretched over an area of 52 acres, the campus is an excellent avenue to provide quality education to the students. CIIT Vehari is constantly making efforts to provide students the quality education and personality development to transform its students into capable professionals, sensible intellectual and responsible citizens. CIIT Vehari aims to instill a research culture for economic human Resource Development in this region driven by market forces, technological revolution and globalization.

Graduate Programs at Vehari Campus

Department of Environmental Sciences

- MS in Environmental Sciences

Department of Management Sciences

- MS in Management Sciences

Facilities

Computer Laboratories

Vehari Campus is equipped with four state-of-the-art three general purpose computer Labs with most updated computer systems and operating environment. Our computer networks connect internally at LAN and WAN connectivity with extended broadband width of 20 Mbps 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.
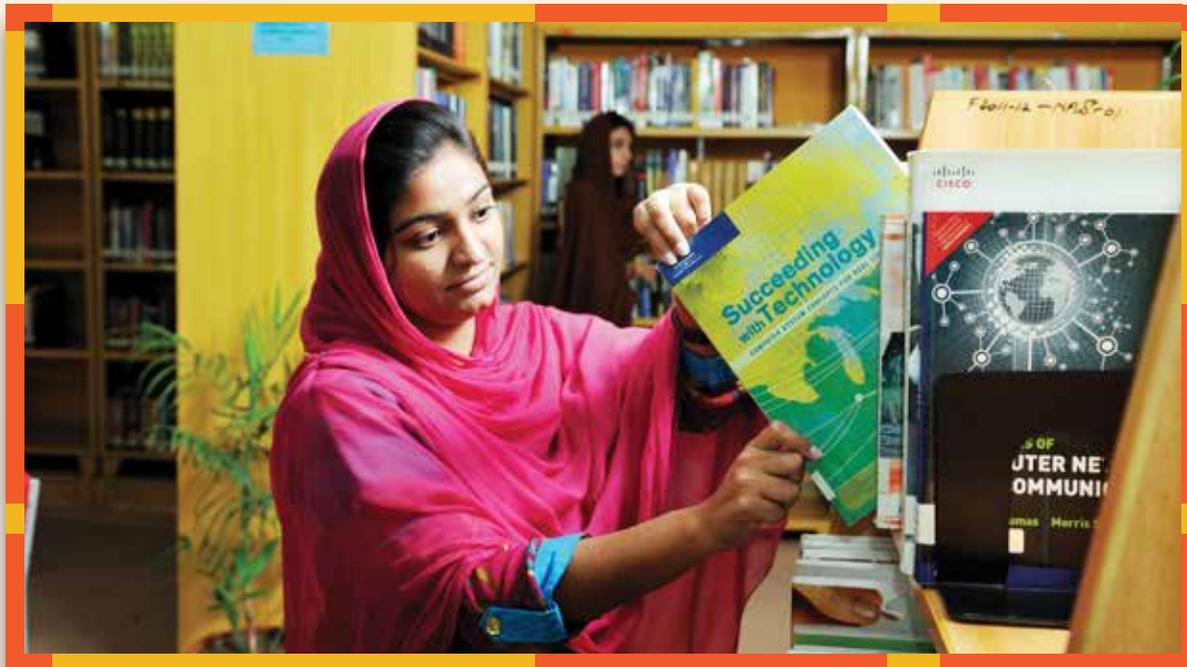
Library

Library is expected to be the treasure-house of knowledge. The campus has procured more than 5,200 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.

Hostels

Vehari Campus has provided hostel facility to 100 male and 48 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.

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, Laboratories 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 Laboratories, 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 CIIT Virtual Campus 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 Virtual Campus are facilitated with study centers situated nationwide. These study centers have computer Laboratories 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 an online admission system. NTS admission test in respective category is conducted at selected study centers.

Graduate Programs at Virtual Campus

Department of Management Sciences

- Master of Business Administration (MBA) (1.5 years)
- MS in Project Management
- MS in Banking and Finance

Lectures

CIIT VC offers online courses via asynchronous learning sessions in which students' 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 Laboratory 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. Same will also be available at official channel of Virtual Campus at YouTube. The complete courseware collection is made available to public via our dedicated library servers.

CIIT Virtual Campus dedicated Online Library URL: http://lib.vcomsats.edu.pk

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 also 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. Virtual Campus 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.
- Course lectures in high definition audio & video.
- Top quality courseware by subject specialists using blended learning approach.
- Collaborative platform for peer and tutor moderated learning activity.
- Student profiling, feedback and access to quick and reliable reporting.

Dedicated Teaching Staff

CIIT Virtual Campus 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 Laboratory 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 Virtual Campus 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 Virtual Campus affiliated study centers are working in all major districts of Pakistan having presence in all provinces of country. We also have established our presence in Gulf and Afghanistan to support students living overseas. Details of centers are available on http://www.vcomsats.edu.pk/studycenters

Support Services

COMSATS Virtual Campus realizes the importance of effective student support services for maintaining quality in learning processes. Such services not only improves level of student satisfaction but also enables management to have prompt access to operational information.

Virtual Campus Online Helpdesk is developed to assist the student to convey their complaints, inquiries and suggestion to the right section at the right time and get instant response.

Online Helpdesk URL: http://helpdesk.vcomsats.edu.pk/

To provide telephonic real time support a dedicated Call Center facility is also available to students and applicants at CIIT Virtual Campus. The Student Call Centre helps students on queries such as admission process, academic matters, LMS and Fee related issues. CIIT Virtual Campus has also established Regional Support Centers Offices at provincial level and extending towards its presence in all major districts.

Student Call Center +92 (51) 8354444

Chapter 03

**Admissions
&
Academics**

Admissions

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

General Eligibility Criteria
Pre-requisite
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 Programs

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

PhD 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 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 Programs

- 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.
- The registration of PhD Thesis of 09 credit hours shall be allowed after the completion of course work for PhD degree.
- 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 admission, they may be required to rectify 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. 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 within due date of admissions.

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

◗ All admissions at CIIT will be offered provisionally and will be confirmed once all the desired formalities are met and all the required documents are submitted by the student.

◗ Admission applications must be submitted within due date advertised at the time of admission. 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

Applicants are needed to have valid relevant NTS Test score (GAT General/ Subject) at the time of application. However, after the last date of submission of Admission Forms, entrance test will be conducted by NTS according to the admission schedule OR on a given date as notified by NTS through their website 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 relevant 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 Provisional Admission Offer Letter

The recommendations of the Departmental Graduate Admission Committees are scrutinized by the Campus Graduate Admission Committee, which finally approves the provisional admissions. 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 Chaalan Form for payment of dues.

5) Acceptance of Provisional Admission Offer

Selected candidates are required to accept their Provisional Admission Offer by submitting the signed letter in this regard together with paying the non-refundable admission and tuition fee within the specified dates. Provisional admission will only be confirmed, through a letter, once the payment of fee is confirmed, all the desired documents have been submitted by the student, verified by concerned Campus that candidate has been found eligible for admission and approved by BASAR. If candidates fail to confirm enrolment by the given deadline, selection will stand cancelled and the seat will be offered to the next candidate on the waiting list.

Grading and DI Policy

1. To be eligible for award of degree for any Graduate Program, maximum of one (01) course with C grade, out of all required courses as per Scheme of Studies, will be allowed.

2. If a Graduate student obtains C or lower grade in One (1) course, in First Semester examination results, he/ she will be allowed to register in second semester; however, his status in the result card will be reflected with probation (PB).

3. If a Graduate student obtains C or lower grade in more than one (1) course, in First Semester examination results, S/he will be dismissed (DI) from studies and his/ her admission shall stand cancelled.

4. If a Graduate student obtains or accumulates C or lower grade in more than two (2) courses in a graduate program, in second or any subsequent Semester examination results, S/he will be dismissed (DI) from studies and his/ her admission shall stand cancelled.

5. If a Graduate student having C or lower grade in One (1) course, in First or any other semester examination results, gets C or lower grade in one (1) more course during subsequent semesters, resulting to accumulation of C or lower grade in maximum of two (2) courses, s/he will be allowed to register in next semester, with probation (PB) status, and will have only one chance to improve the result of courses with C grades, if the only chance of improvement not availed previously.

6. The student will remain on probation status if he/she obtained C or lower grade in one course and his probation status will be cleared at the time of declaration of final result, if he passes all remaining courses, as per scheme of studies, in higher grades than C.

Letter Grade	Grade Points	Percentage Marks
A+	4.0	90 & above
A	3.95	89
	3.90	88
	3.85	87
	3.80	86
	3.75	85
	3.70	84
	3.65	83
	3.60	82
	3.55	81
	3.50	80
B	3.45	79
	3.40	78
	3.35	77
	3.30	76
	3.25	75
	3.20	74
	3.15	73
	3.10	72
	3.05	71
	3.00	70
C	2.95	69
	2.90	68
	2.85	67
	2.80	66
	2.75	65
	2.70	64
D	2.55	61
	2.50	60
F	0.0	59 & below
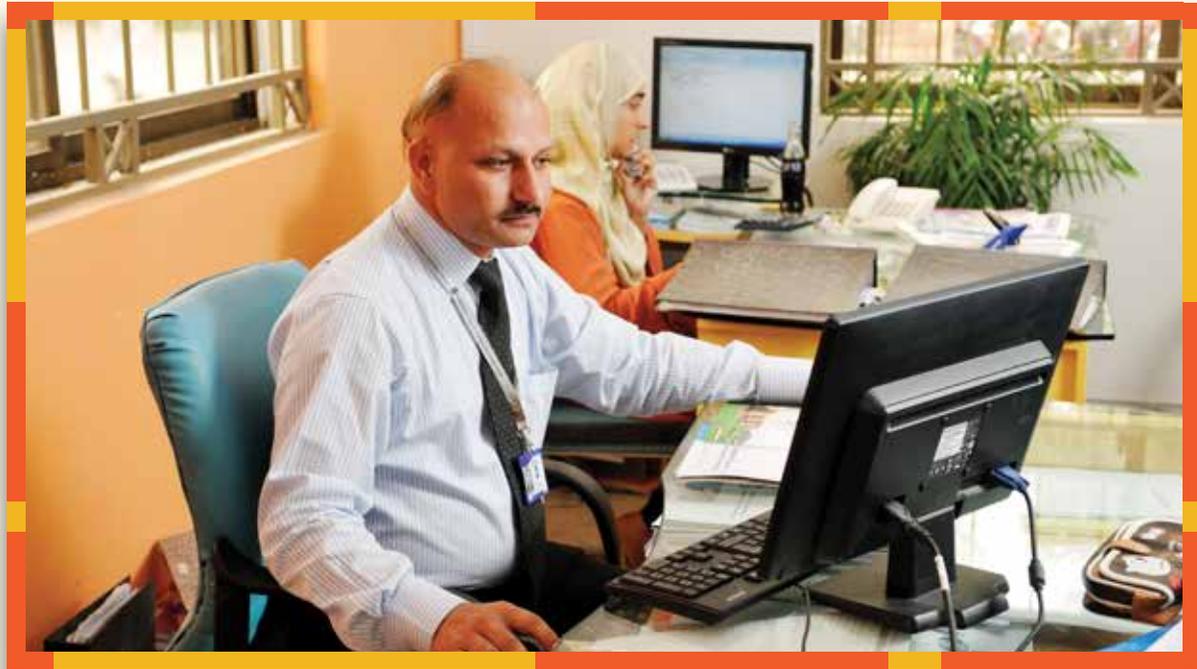
Financial Support

CIIT is providing various opportunities for winning fully funded scholarships and financial support to its students, admitted in the degree programs on purely merit basis. Financial Support Programs (FSPs) at CIIT support various categories of students in the form of scholarships, stipends, financial support, Qarz-e-Hasna etc. The Institute takes special care of its students and plays vital role to resolve the financial problems of its students. Financial Assistance is available to all students who prove to be needy regardless of race, religion, color, national origin, age or sex. The various types of Financial Assistance Programs being provided at CIIT, for its students, are as follows:

1. Need Based Financial Support Program (NBFSP)

- Pak-USAID Merit Need-Based Scholarships
- NTS 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
- For walk in needy students
- Prime Minister Initiative for Tuition Fee Reimbursement for Students of Less Developed Area

3. CIIT Financial Support Program: Qarz-e-Hasna

The needy students may also apply for Qarz-e-Hasna which is implemented under CIIT Qarz-e-Hasna Rules, 2013. A student granted admission on merit, is not an employee anywhere, and unable to pay the fees due to financial constraints can benefit under this financial support. The maximum period for complete repayment of the Qarz-Hasna is Ten years from the day of disbursement of first instalment. Further details and pre-requisites may be obtained from campus admission offices.

4. CIIT Pecuniary Program (CPP): Kinship / Siblings Pecuniary

When two or more siblings are concurrently students of CIIT, the siblings will be financially supported. A financial support of upto Rs. 8,000/- per semester will be provided to all the siblings provided the parents cannot afford to pay the fee and the students show good academic performance. Such cases will be decided by the Financial Support Program Committee (FSPC) at respective Campus.

Note: Please contact campus admission offices for more campus-specific details of financial support programs.

International Students

International students are the central point of focus of its internationalization policy and it welcomes international students from across the world. In order to attract international students and to provide opportunities to get quality higher education, CIIT offer scholarships to nominees of various foreign governments and organizations at CIIT Pakistan.

The International Office, or IO as it is more commonly known, is the first point of contact for international students. The head office located in Islamabad handles all international applications as well as provides support services to student at CIIT Islamabad. Subsidiary International Students Affairs (ISA) offices set up in each campus cater to the academic and social needs of students in each CIIT location.

International students are welcome for enrolment in different graduate and undergraduate degree programs in CIIT system. Currently the majority of these students was enrolled in Computer Science, Electrical Engineering, Mathematics, Meteorology and Bio-sciences departments and belongs to Nigeria, Sudan, Jordan, Iran, Afghanistan, Palestine, Mauritius, Turkey, Indonesia and Somalia.

For Admission and application procedure please visit www.comsats.edu.pk and select International Students tab or http://ww3.comsats.edu.pk/internationalstudents/

● **Eligibility Criteria for Degree Programs:** The degree programs eligibility criteria for international students is as follows:

● **PhD programs:** 18 years Master's degree in the relevant field from accredited National/ International University with minimum score CGPA 3.00 out of 4.00 in semester system or possess marks more than 70% secured in annual examination system with good academic standing plus International subject GRE with minimum score of 1100 or NTS subject (minimum score 60%).

● **Master of Science programs:** 16 years Bachelor's degree in the relevant field from accredited International University with CGPA 2.5/4.0 (semester system) or not less than 60% in annual system with good academic standing plus NTS General (minimum score 50%).

● **Application Procedure:** Download the application form from the International Students web portal http://ww3.comsats.edu.pk/InternationalStudents/. Application along with scans of academic documents may be sent on the following email address: int.admissions@comsats.edu.pk.

Documents Required

a) Completed admission application form

b) Statement of Purpose or Research Plan (see below)

c) Scans of degrees and transcripts of all post-secondary degrees (with English translation where required)

d) Latest passport size photograph with blue background

e) Scan of valid passport

f) Evidence showing proficiency in English language

g) GRE (subject) or NTS-GAT (Subject) score

Statement of Purpose (Research Plan)

The statement of purpose is a critical part of the application process for graduate admission, which helps in ascertaining seriousness and aptitude of the applicant. It is the only part of the process that you have complete control over; you cannot change your Grades/GPA, but you can determine the finished product of your statement. It should demonstrate excellence in writing and clarity of thinking. It is a chance to introduce yourself and describe who you are; what your background; and what is important to you. More importantly, the statement of purpose is an opportunity for an applicant to describe your purpose in pursuing graduate study; why this Institute and/or this specific program is your preferred choice; what are your reasons for graduate study, and what is your plan in pursuing this degree. It should state how well you know the institute and justify your reason for studying at CIIT.

Visa Requirement

International students who wish to study in Pakistan need to obtain a Student Visa before travelling to Pakistan. Once you have been issued a provisional admission letter, you should immediately apply for a student visa for Pakistan by sending copies of admission letter, passport and other relevant documents to the nearest Pakistani High Commission in your country of residence or a neighboring country.

Letters of Reference

Two reference letters typed in double space may accompany your application dossier. Ideally one letter may be from a faculty member of your alma mater, while the second one may be from an employer. Both letters may bring out clearly your suitability for the selected program. Alternatively, both letters could be from your former teachers.

English Language Test Requirements

CIIT Pakistan accepts the following credentials of international students to satisfy the minimum English Language requirements for entry to undergraduate degree programs:

- TOEFL Internet-based test - overall minimum score 60 (iBT)   OR

- IELTS minimum 5.0 band   OR

- English Proficiency Certificate from the Last attended Institution

Only original and valid TOEFL or IELTS (Academics) certificates (not more than two years old from last date of application submission) will be accepted.

Visiting Scholars

CIIT provides excellent facilities and research opportunities to International Scholars from accredited international universities and institutions of higher education, who wants to spend 1-2 semesters at CIIT for study or research. Application form and detail information is available at http://ww3.comsats.edu.pk/internationalstudents/

◗ Accommodation

Accommodation would be provided by CIIT to international students. This will provide an opportunity to interact, live and study with students from different backgrounds and many of whom will become friends for life. CIIT offers conducive living and studying environment for the students.

◗ Orientation and Registration

Orientation is your chance to learn about the University, ask questions, register your courses, get to know your fellow classmates, meet with an academic advisor/faculty member and begin your adventure as a new student. A formal orientation program is designed to welcome and introduce International students to CIIT and to help them adjust to life at CIIT before the official start date of classes. There will be social events where students will have the opportunity to make new friends, meet CIIT faculty & staff. It is essential for all new international students to attend the orientation, as they will need to register with the CIIT Medical Centre and fulfil other requirements as well.

Faculty of Science

Dean's Message

Welcome to the Faculty of Science at COMSATS Institute of Information Technology (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, T.I.

Department of Biosciences

Bioscience is a discipline of Life Sciences which deals with the diverse biological aspects of living organisms ranging from studying their structure to their function. Department of Biosciences in this regard provides a unique opportunity to students to get training in areas covering from Bacteria to Human, Genes to Genomes, Genomes to Ecosystems and from Basic research to applied research. The Department offers a dedicated and conducive teaching environment as well as excellent research opportunity in well-established disciplines of Microbiology and Immunology, Molecular Biology/Biochemistry, Molecular Genetics, Developmental Biology, Plant Sciences, Biotechnology and Bioinformatics.

CIIT took the initiative by establishing the Biosciences Department in 2003 by introducing a 4 year degree program in Bioinformatics at Islamabad, and added another undergraduate degree in Biosciences in 2007. Meanwhile, the graduate degree programs in above mentioned fields were also started in 2006. CIIT in this regard was the first institution to offer such diversified undergraduate as well as graduate programs in and around Islamabad.

The Department of Biosciences has, over the years, been able to attract world class faculty, who created interdisciplinary/intra- and inter-departmental research groups. They all collectively take part in teaching, research and training programs leading to the different offered degrees.

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

Master of Science in Biosciences aims to produce professionals who have thorough knowledge and skills to develop a career in any discipline of biological sciences. The department is committed to provide the fresh graduates with an environment conducive for learning and critical thinking in different aspects of biological sciences.

The Department offers opportunities to the students for learning of research techniques in fields of Plant Sciences, Animal Sciences Microbiology, Biochemistry, Molecular Biology, Bioinformatics, Biotechnology and Pathology etc. 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 pages 78-79.

Offering Campuses

❯ 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 their critical thinking skills which are essential to assimilate, interpret and impart knowledge. The department provides all possible resources to the students so that they gain maximum knowledge and practical skills needed to be highly competitive for availing the best opportunities in their professional careers. A PhD student is bound to perform research as an integral part of degree. For this, students are encouraged not only to conceive and develop a research project related to any biological and health issues but also to execute that research project independently. The program offers research in all major disciplines of Biosciences, which includes Microbiology and Immunology, Molecular

Biology/Biochemistry, Molecular Genetics, Developmental Biology, Plant Sciences, Biotechnology and Bioinformatics. It also encourages the students to come up with new innovative interdisciplinary ideas and develop new techniques to achieve new heights of success in the relevant field. The PhD graduates are not only trained to develop tools, techniques, diagnostic and therapeutic solutions but also solutions to complex problems in the fields of molecular biology and agriculture sector through use of biotechnology.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

❯ Islamabad

Master of Science in Biochemistry and Molecular Biology

The MS in Biochemistry and Molecular Biology program infuses core concepts of biochemistry and molecular biology as applied to biomedical sciences and plant biotechnology. Core concepts related to biochemistry and molecular biology are taught through the course work consisting of advanced electives and special topics. Our courses expose students to advanced methods in biochemistry and molecular biology, laboratory and literature-based research as well as include a significant number of "hands on" lab-based courses that develop

expertise in biochemistry, protein chemistry, cell signaling, vaccine development, molecular biology, and biotechnology concepts and skills. Our graduating students in this program can be an asset to academic, medical, biotechnology, agriculture as well as pharmaceutical industries.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

○ 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 PhD 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 and industrial laboratories (Medical, Pathology and Diagnostics, Forensics, Dairy, Food, Agriculture, Pharmaceutical, Chemical and Cosmetics industries) and can attain a leadership position. 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 pages 78-79.

Offering Campuses

○ Islamabad

Master of Science in Molecular Genetics

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. The subject is aimed to give knowledge of classical genetics followed by its application in functional genomics. This program will help the student to perform techniques of molecular genetics and interpret genetic data towards applied research. In addition to an appropriate depth of knowledge, the students will be prepared to pursue further research in the field selected for the PhD thesis. The degree will prepare the students for suitable careers in the medical research, pharmaceutical companies and biotechnology industries etc.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

○ Islamabad

Doctor of Philosophy in Molecular Genetics

The Molecular Genetics is suitable for graduates in life sciences, biomedical sciences and allied subjects, as well as people already employed in related fields who wish to improve and update their knowledge and gain valuable experience. The Molecular Genetics is aimed to focus on the molecular aspect of diseases which mainly include heredity diseases. The technical approach of molecular genetics will shed light on molecular pathology of many prevailing diseases in Pakistan that are poorly understood at present, eventually paving the way for economically suitable treatment and prevention strategies. Upon successful completion of this course, graduates should be able to apply knowledge of genetics to clinical research using genetic data in an applied context.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

- Islamabad

Master of Science in Microbiology and Immunology

The Microbiology and Immunology program covers range of specialized fields, from more applied disciplines such as medical, public health, industrial and food microbiology, to basic fields of immunology, microbial ecology, physiology, genetics of microbes, antibiotic resistance, microbial forensics and host-pathogen interaction. The training through taught courses helps students to understand the disease-causing potential of various pathogenic bacteria, fungi and viruses, and the responses of the immune system. This program will enable students to apply the knowledge of microbiology and immunology to biotechnology, health and other relevant sectors, and will prepare them for suitable careers in areas as diverse as medicine (disease epidemiology), brewing, food spoilage, control of environmental pollution, biotechnology, diagnostics and therapeutics.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

- Islamabad

Doctor of Philosophy in Microbiology and Immunology

The Doctor of Philosophy in Microbiology and Immunology program offers opportunity to work on research problems as diverse as microbial genetics, microbial physiology and biochemistry, immunology, host-pathogen interactions, functional studies, human susceptibility to infectious diseases, human/livestock, virology, food and water microbiology, medical microbiology, molecular epidemiology to microbial forensics and outbreak investigation, recombinant DNA research and biosensors, drug resistance, vaccine development and targeted drug delivery using phage and nanoencapsulation technologies. The graduating students will be well trained to pursue career in fields of biomedical research, medicine, disease epidemiology, diagnostics and vaccine development, water and food testing for microbes and environmental pollutants, or other health professions, biotechnology and

genetic engineering, industrial microbiology and public health.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

❂ 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 involved in virology. Emergence and re-emergence of infectious diseases, the potential for the introduction of bioterrorism agents like smallpox virus, dengue fever virus etc., resistance acquired by the viruses against antiviral drugs, failure of successful vaccines against lethal viruses like HCV and HIV. Upon successful completion of the degree program, the graduates should be able to apply knowledge

of virology in agriculture, animal health and environment and clinical research in an applied context. The degree will prepare students for engaging with the careers in the fields of clinical and research institutes, pharmaceutical companies and biotechnology industries etc.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

❂ Islamabad

Master of Science in Bioinformatics

Modern developments in the fields of 'omics' and health sciences as well as the generation of an exponentially ever increasing data through the associated high-throughput automated laboratory techniques are evidently transforming life sciences into a quantitative science. Rapid advances in computer science and information technology, however, have made it feasible to interpret and analyse the large volume of generated data. The need is growing for scientists who can speak and understand equally well the languages of computational, mathematical/statistical and biological sciences, and can extract the meaningful information from the raw data. This has necessitated the emergence of new field of study – bioinformatics – where the individuals are simultaneously trained in the integrated areas of computer science, statistics, mathematics and molecular biology.

During the past two decades, bioinformatics has evolved

into a full-fledged scientific discipline. Now, it is not only restricted to computational molecular biology and computational structural biology, rather it has expanded to areas such as comparative, structural and functional genomics, next generation sequence (NGS) analysis transcriptomics, proteomics, cellomics, metabolic pathway engineering, computational drug, peptide and enzyme designing as well as the development of integrated bioinformatics solutions such as biological and chemical databases, data analysis, data mining, biomedical text mining and customized tool development etc. The availability of complete genome sequences for human as well as several human pathogens coupled with bioinformatics has revolutionized the understanding the biological processes underlying the physiology of both host and pathogens. 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. The Bioinformatics degree will enable students to pursue their careers in industries such as health care, biotechnology, biomedical, pharmaceutical, agrochemicals, renewable energy, environmental protection, software warehouses as well as in teaching and research institutes etc.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

• Islamabad

Research Facilities

- Fully equipped research laboratories
- Green house
- DNA sequencer
- Fluorescence microscope
- Ultracentrifuge
- Real Time PCR
- Tissue culture facility
- Computational and software facility

Research Groups
1. Microbiology and Public Health

Group Mentor:

- Dr. Habib Bokhari, PhD, University of Glasgow, UK

Group Members:

- Dr. Ramla Shahid, PhD, Cambridge University, UK
- Dr. Nazish Bostan, PhD, Quaid-i-Azam University, Islamabad, Pakistan
- Dr. Muhammad Imran, PhD, INPL - ENSAIA - LIBio, Nancy, France
- Dr. Aisha Naeem, PhD, University of Illinois at Urbana Champaign (UIUC), USA
- Dr. Syed Ali Mustajab, PhD, Quaid-i-Azam University, Islamabad, Pakistan
- Dr. Fahed Pervaiz, PhD, PhD, NUST, Islamabad, Pakistan
- Dr. Haroon Ahmad, PhD, PMAS Arid Agriculture University, Rawalpindi, Pakistan

Research Activities:

Main areas of research in microbiology and public health are infectious disease (Bacterial and Viral) like cholera, E. coli, Salmonella, Shigella, Helicobacter, HCV, Rota Virus, TTV and Measles virus, nano biotechnology based drug delivery against infectious diseases, vaccine development and delivery, antibiotic resistance, molecular epidemiology, biosensors, environmental health (Toxins, heavy metals and

pesticides) and safety.

02 Research Associates are also part of this group.

2. Genomics

Group Mentor:

- Prof. Dr. Raheel Qamar, PhD, T.I. , Dean, Research, Innovation and Commercialization (RIC), PhD University of North Texas, USA

Group Members:

- Dr. Maleeha Azam, PhD, CIIT, Islamabad, Pakistan
- Dr. Muhammad Ajmal, PhD, CIIT, Islamabad, Pakistan

Research Activities:

Research focus and specialization of activities going on: Genetic Studies of Inherited and Multifactorial Disorders

3. Functional Genomic and Proteomics

Group Mentor:

- Prof. Dr. Raheel Qamar, PhD, T.I., Dean, Research, Innovation and Commercialization (RIC), PhD University of North Texas, USA

Group Members:

- Dr. Saleem Ahmed Bokhari, PhD, Tsinghua University, China
- Dr. Irfan Sadiq, PhD, Pisa University, Italy
- Amira Tariq PhD, University of Vienna, Austria
- Dr. Nazia Bibi, PhD, University College London, UK
- Dr. Saima Feroz, PhD, University of Vienna, Austria
- Dr. Alamdar Hussain, PhD, Karolinsk Institute, Sweden
- Dr. M Jadoon Khan, PhD, Medical University of Graz, Austria
- Dr. Jawad Khan, PhD, University of Illinois at Urbana Champaign, USA
- Dr. Syed Tahir Abbas, PhD, University of Illinois at Urbana Champaign, USA
- Dr. M. Mudassar, PhD, Korea Institute of Science and Technology SEOUL and University of Science and Technology South Korea
- Dr. Naseer Iqbal, PhD, University of Vienna, Austria

Research Activities:

Functional genomic and proteomic research uses 'post-genomic' technologies to unravel the function of related to different identified genes related to different human diseases. The group is also involved the identification of genes which are expressed in response to different biotic and abiotic stress in plants.

4. Computational Biology and Bioinformatics Group (CBBG)

Group Mentor:

◗ Dr. M. Qaiser Fatmi, Dr. Rer. Nat. (PhD), University of Innsbruck, Austria

Group Members:

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

◗ Dr. Waseem Haider, PhD, University of Illinois at Urbana Champaign (UIUC), USA

◗ Dr. Abdullah Bilal Ahmed PhD, University of Montpellier 2, France *

◗ Dr. M. Mudassar, PhD, Korea Institute of Science and Technology SEOUL and University of Science and Technology South Korea *

03 lecturers and one Research Associate are also part of CBBG.

Research Activities:

Computer-Aided Drug Designing, Modeling and Simulations of Biomolecules (Structure, Dynamics and Function), Next Generation Sequence (NGS) Analysis, Tools and Database Development, Structural Bioinformatics, Computational OMICS (COMICS), Chemo informatics, Semi-empirical and Quantum Mechanical Calculations.

5. Cancer Genetics and Epigenetics Lab

Group Mentor:

◗ Prof. Dr. Raheel Qamar, PhD, T.I. , Dean, Research, Innovation and Commercialization (RIC), PhD University of North Texas, USA

Group Members:

◗ Dr. Maleeha Azam, PhD, CIIT, Islamabad, Pakistan

◗ Dr. Muhammad Ajmal, PhD, CIIT, Islamabad, Pakistan

Research Activities:

Cancer Genetics, Epigenetics and Biology (Head and Neck cancer, Thyroid Cancer, Breast Cancer). We focus on screening germ line mutations of several genes in relation to these cancers. We are also exploring expression profiles of different biomarkers in cancer progression to develop an early prognostic tool.

6. Applied Microbiology and Biotechnology

Group Mentor:

- Prof. Dr. Fauzia Yusuf Hafeez, PhD,Quaid-i-Azam University, Islamabad, Pakistan

Group Members:

- Dr. Kiran Munir, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Zahid Ali, PhD, University of Hanover, Germany

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

- Dr. Nadeem Hassan, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Muhammad Jamil, PhD, Wageningen University, Netherlands

- Dr. Muhammad Umer, PhD, Imperial College London, UK

- Dr. Fayyaz-ul-Hassan, University of Wales Aberystwyth (UK)

Research Activities:

Plant Microbe interactions, Plant biotechnology, Plant virology, Plant Physiology, Biofuels, Food biotechnology, Bioremediation, Microbial Culture Collection.

7. Biochemistry and Biotechnology

Group Mentor:

- Prof. Dr. Asrar Muhammad Khan, PhD, University of Glasgow, UK

Group Members:

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

- Dr. Tayyaba Yasmin, PhD, PMAS Arid Agriculture University, Rawalpindi, Pakistan

- Dr. Zeeshan Hyder, PhD, PMAS Arid Agriculture University, Rawalpindi, Pakistan

- Dr. Suamira Farrakh, PhD, Quaid-i-Azam University, Islamabad, Pakistan

Research Activities:

Plant Tissue Culture, Plant Biotechnology, Soil Chemistry, Genome Analysis, Biotic stresses.

Faculty Members
Islamabad Campus

Professors

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

- Dr. Syed Habib Bokhari, PhD, University of Glasgow, UK

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

- Dr. Fayyaz-ul-Hassan, University of Wales, Aberystwyth, UK

Advisors

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

- Dr. Fauzia Yusuf Hafeez, PhD, Quaid-i-Azam University, Islamabad, Pakistan

Associate Professors

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

Assistant Professors

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

- Dr. M. Qaiser Fatmi, Dr. Rer. Nat. (PhD),University of Innsbruck, Austria

- Dr. Tayyaba Yasmin, PhD, PMAS Arid Agriculture University, Rawalpindi, Pakistan

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

- Dr. Muhammad Saeed, PhD, Innsbruck University, Austria

- Dr. Ramla Shahid, PhD, Cambridge University, UK

- Dr. Nazish Bostan, PhD, Quaid-i-Azam University,

Islamabad, Pakistan

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

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

- Dr. Kiran Munir, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Irfan Sadiq, PhD, Pisa University, Italy

- Dr. Aisha Naeem, PhD, University of Illinois at Urbana Champaign, USA

- Dr. Muhammad Nadeem Hassan, PhD, Quaid-i-Azam University, Islamabad, Pakistan

Assistant Professors

- Dr. Zahid Ali, PhD, University of Hanover, Germany

- Dr. Sumaira Farrakh, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Zertashia Akram, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Muhammad Jamil, PhD, Wageningen University, Netherlands

- Dr. Syed Musstjab Akber Shah, PhD, Quaid-i-Azam University, Islamabad, Pakistan

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

- Dr. Faraz Arshad Malik, PhD, CIIT, Islamabad, Pakistan

- Dr. Abid Ali Khan, PhD, University of Basque Country, Spain

- Dr. Amira Tariq, PhD, University of Vienna, Austria

- Dr. Zahid ur Rehman, PhD, Massey University, New Zealand

- Dr. Nazia Bibi, PhD, University College London, UK

- Dr. Saima Feroz, PhD, University of Vienna, Austria

- Dr. Maleeha Azam, PhD, CIIT, Islamabad, Pakistan

- Dr. Alamdar Hussain, PhD, Karolinsk Institute, Sweden

- Dr. Jawad Khan, PhD, University of Illinois at Urbana Champaign, USA

- Dr. Syed Tahir Abbas, PhD, University of Illinois at Urbana Champaign, USA

- Dr. M. Umer, PhD, Imperial College London, UK

- Dr. M Jadoon Khan, PhD, Medical University of Graz, Austria

- Dr. Muhammad Ajmal, PhD, CIIT, Islamabad, Pakistan

- Dr. Ishrat Mahjabeen, PhD, CIIT, Islamabad, Pakistan

- Dr. M. Mudassar, PhD, Korea Advanced Institute of Science and Technology, Korea

- Dr. Asif Gondal, PhD, Karachi University, Pakistan

- Dr. Naseer Iqbal, PhD, University of Vienna, Austria.

- Dr. Waseem Hiader, PhD, University of Illinois at Urbana Champaign, USA

Besides, 09 Lecturers and Research Associates are also part of this department.

Sahiwal Campus
Associate Professors

- Dr. Ahmad Ali, PhD, University of Bristol, UK

Assistant Professors

- Dr. Shazia Mannan, PhD, Quaid-i-Azam University, Islamabad, Pakistan

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

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

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

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

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

- Dr. Muhammad Akram Tariq, PhD, University of the Punjab, Lahore, Pakistan

- Dr. Farukh Jamil PhD, University of the Punjab, Lahore, Pakistan

Assistant Professors

- Dr. Asim Mehmood, PhD, University of Agriculture, Faisalabad, Pakistan

Besides, 05 Lecturers are also associated with the department.

Department of Earth Sciences

The Earth Sciences program was initiated in Fall 2008, followed by the establishment of the Department of Earth Sciences in 2011. CIIT Abbottabad campus being at special geographic location with proximity of the Himalayas, Karakoram, and Hindukush, it provides students an opportunity to learn about the Earth and the geological processes in a real-time mountainous setting. It also provides students the opportunity for outdoor academic learning and research that combines field work and laboratory techniques with a focus on applied Geology and applied Geophysics (Petroleum Geology, Engineering

Geology, Environmental Geology, Hydrogeology, Structural Geology/Tectonics, Economic Geology and Sedimentology).

The unique location of campus provides easy access in close proximity to most diversified set of geological features which include igneous, metamorphic, and sedimentary rocks ranging in age from Precambrian (800 million years) to recent, seismically active faults and their offshoots, a variety of mineral and gemstone deposits, and geomorphologic features.

Graduate Programs

Currently, the following graduate program is being offered and pursued as per latest trends in the professional dynamic market.

Master of Science in Earth Sciences: MS (ERS)

The Master of Science (MS) in Earth Sciences with specialization in Applied Geology and Applied Geophysics 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, education, and abroad mainly in the Middle East. The program accommodates individual career objectives for those with degrees in Geology, Geophysics and allied fields/relevant subjects to pursue advanced research work and placement in the field. The Earth Sciences has seen enormous growth in past few decades with many new

applications in Petroleum Geosciences, Engineering Geology, Economic Geology, Environmental Geology, Earthquake Geology and Geohazard Assessment and computational research. New information is being rapidly transferred from Industry to Academia for practical application.

Detail regarding admission requirements, the program duration, course work and thesis/research project details are given at page 78-79.

Offering Campus

- Abbottabad

Faculty Members

Abbottabad Campus

Professors

- Dr. Ishtiaq Ahmed Khan Jadoon, PhD, Oregon State University, USA
- Dr. Mohammad Arif, PhD, Leicester University, United Kingdom

Advisors

- Professor Mr. Mohammad Hanif, MS, Sul Ross State University, Alpine Tx., USA

Senior Scientific Officer

- Mr. Ayaz Mehmood, M.Sc, University of Peshawar, Pakistan

Associate Professors

- Dr. Muhammad Amjad Sabir , Ph.D, University of Peshawar, Pakistan

Assistant Professors

- Dr. Muhammad Umar, PhD, University of Baluchistan, Pakistan
- Dr. Muhammad Farooq, PhD, Chonbuk National University, Jeonju, South Korea
- Dr. Said Mohammad, PhD, University of Peshawar, Pakistan
- Dr. Mohammad Zahid Khan, PhD, University of Leicester, UK
- Dr. Mohammad Imran, PhD, Utrecht University, Netherlands
- Mr. Aqeel Gohar, MPhil, University of Peshawar, Pakistan

Besides, 11 Lecturers and 05 Research Associates are associated with the department.

Department of Mathematics

Department of Mathematics started offering its BS, MS, PhD, Programs immediately after its establishment at different campuses. It is also providing services to all other departments by offering more than 100 courses at graduate/undergraduate level every semester at each campus.

At present, PhD Mathematics program is being offered at

Islamabad and Lahore Campuses. Department of Mathematics at Islamabad campus took the lead by producing about 50 PhDs. Department is offering its MS Program at all campuses and the number of MS graduates exceeds 300 to-date. By changing the phrase "Mathematics is mother of all subjects", seems rightly explained as the power of Mathematics, felt like never before. This beautiful subject have got recognition in all aspects of human life like basic sciences, engineering, computer sciences, bio-sciences, medicine, environmental sciences, social sciences, management, economics, governance, etc. Mathematicians have an opportunity to make a lasting contribution to society by helping to solve problems in these diverse fields. Mathematics also has a wide variety of important applications which creates continuously increasing demand for well-trained mathematicians in many fields. It has relevance to fields of aerospace, oil exploration, electronics, weather prediction, management positions, teaching and research, accounting and financial analysis and defense related disciplines. Thus, it is a subject that can never lose its academic utility or professional value.

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 and emerging physical, biological and 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 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 and learning of qualitative as well as quantitative skills.

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 Mathematics

Master of Science (MS) in Mathematics program aims to provide suitable career in many research organizations/laboratories, both government and private, who maintain independent research staffs which 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 pages 78-79.

Offering Campuses

- Islamabad, Lahore, Abbottabad, Attock, Wah

Doctor of Philosophy in Mathematics

During PhD program, students are prepared for advance research activities along with many jobs in government,

business, and industry. Many PhD Mathematicians join the faculty of a university or 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.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

- Islamabad, Lahore

Faculty Members
Islamabad Campus

Professors

- Dr. Saleem Asghar, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Tahira Haroon, PhD, Quaid-i-Azam University, Islamabad, Pakistan

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

- Dr. Khalida Inayat Noor, PhD, University of Wales, Swansea, UK

- Dr. Aftab Khan, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Akbar Azam, PhD, Quaid-i-Azam University, Islamabad, Pakistan

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

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

Advisors

- Dr. Akhtar Hussain, PhD, Quaid-i-Azam University, Islamabad, Pakistan

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

Associate Professors

- Dr. Abdullah Shah , 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

Assistant Professors

- Dr. Mahmood ul Hassan, 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, Beijing, China

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

- Dr. Masood Anwar, PhD, NCBA&E, Pakistan

- Dr. Tazeen Athar , PhD, University of Saarland, Saarbruecken, Germany

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

- Dr. Muhammad Zaighum Zia, PhD, University of Goettingen, Germany

- Dr. Muhammad Qasim, PhD, Quaid-i-Azam University, Islamabad, Pakistan

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

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

- Dr. Imran Rashid, PhD, Hradec Kralove University, Czech Republic

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

- Dr. Sohail Iqbal, PhD, Warwick University, UK

- Dr. Tahira Jamil, PhD, Wageningen University, Netherlands

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

- Dr. Shahida Nargis, PhD, Quaid-i-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

- Dr. Muhammad Yousaf, PhD, CIIT, Islamabad, Pakistan

- Dr. Saima Noreen, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Adeel Ahmad, PhD, CIIT, Islamabad, Pakistan

- Dr. Shumaila Javeed, PhD, Max Planck Institute, Germany

- Dr. Rab Nawaz, PhD, Quaid-i-Azam University, Islamabad, Pakistan

Besides, 39 Lecturers and 08 Research Associates are also associated with this department.

Lahore Campus

Advisors

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

Associate Professors

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

Assistant Professors

- Dr. Imran Anwar, PhD, Government College University, Lahore, Pakistan

- Dr. Hani Shaker, PhD, Government College University, Lahore, Pakistan

- Dr. Imran Ahmad, PhD, Government College University, Lahore, Pakistan

- Dr. Muhammad Hussain, PhD, Government College University, Lahore, Pakistan

- Dr. Kashif Ali, PhD, Government College University, Lahore, Pakistan

- Dr. Tariq Javed Zia, PhD, Graduate School of Chinese Academy of Sciences, Beijing, China

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

- Dr. Amir Mahmood, PhD, Government College University, Lahore, Pakistan

- Dr. Samina Mazhar, PhD, Lahore University of Management Sciences, 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. Muhammad Yousaf Bhatti, PhD, Norwegian University of Life sciences, Norway

- Dr. Sadia Ashraf , PhD, Government College University, Lahore, Pakistan

- Dr. Sana Javed, PhD, Government College University, Lahore, Pakistan

- Dr. Sarfraz Nawaz Malik , PhD, CIIT, Islamabad, Pakistan

- Mr. Majid Hasan Khattak, MS, University of Wales, Australia

- Mr. Muhammad Rafiullah, MS, CIIT, Lahore, Pakistan

Besides, 06 lecturers are also associated with this department.

Abbottabad Campus

Advisors

- Dr. Mir Asadullah, PhD, Essex University, UK

- Dr. Dost Muhammad, PhD, Michigan University, USA

Assistant Professors

- Dr. Madad Khan, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Saima Anis, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Muhammad Ayub, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Abdul Sami Awan, PhD, Government College University, Lahore, Pakistan

- Dr. Saqib Hussain, PhD, CIIT, Islamabad, Pakistan

- Dr. Sultan Hussain, PhD, Government College University, Lahore, Pakistan

- Dr. Usman Ashraf, PhD, Government CollegeUniversity Lahore, Pakistan

- Dr. Zahid Ahmad, PhD, University of Punjab, Lahore, Pakistan

- Dr. Naheed Azhar, PhD, ENSTA-BRETAGNE University, France

- Dr. Saima Noor, PhD, CIIT, Islamabad Pakistan

- Dr. Talat Nazir, PhD, LUMS Lahore, Pakistan

- Dr. Zakir Hussain, PhD, Graduate School of Chinese Academy of Sciences, Beijing, China

Besides, 06 non-PhD Assistant Professors, 11 Lecturers are also associated with this department.

Wah Campus

Advisors

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

Assistant Professors

- Dr. Amer Rasheed, PhD, European University of Bretagne, France

- Dr. Muhammad Kamran, PhD, Government College University, Lahore, Pakistan

- Dr. Abdul Wahab, PhD, EcolePolytechnique of Paris, France

- Dr. Shabieh Farwa, PhD, University of Sheffield, UK

- Dr. Muhammad Rafiq, PhD, CIIT Islamabad, Pakistan

- Dr. Shabbir Ahmad, PhD, Zhejiang University, Hangzhou, China

- Ms. Syedah Maedh Kazmi, M.Phil, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Safyan Mukhtar (Assistant Professor), PhD, CIIT Islamabad

- Dr. Yasir Bashir (Assistant Professor), PhD, SMS Lahore

- Dr. Adnan Jahangir (Assistant Professor), PhD, CIIT Islamabad

- Dr. Obaid Ullah Mehmood, PhD, UTM Malaysia

- Mr. Tayyab Mehmood, MS, Punjab University, Lahore, Pakistan

Besides, 09 Lecturers are also associated with this department.

Attock Campus

Advisors

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

Assistant Professor

- Dr. Imran Faisal, PhD, Universiti Kebangsaan Malaysia
- Dr. Farooq Ahmad Shah, PhD, CIIT, Islamabad, Pakistan
- Dr. Abdul Qadir Baig, PhD, Government College University, Lahore, Pakistan
- 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
- Dr. Muhammad Zeb, CIIT, Islamabad, Pakistan
- Dr. Aamir Ali, CIIT, Islamabad, Pakistan
- Dr. Muhammad Sohail, Government College University, Lahore, Pakistan

Besides, 4 Lecturers and 1 Research Associate are also working in this department.

Sahiwal Campus

Assistant Professors

- Dr. Muhammad Asad Meraj, PhD, Karl-Franzens Universitat, Graz Austria
- Dr. Muhammad Naeem, PhD, Government College University, Lahore, 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

Besides, 01 non-PhD Assistant Professor and 05 Lecturers are also associated with the department.

Department of Meteorology

Department of Meteorology was established in 2005 and COMSATS Institute of Information Technology is the only institute in the country offering degree in Meteorology. In 2005 MS Meteorology program was launched with specializations including Meteorology, and Remote Sensing and GIS (RS&GIS). Later on, in 2010, specializations of RS&GIS at Master level were introduced as separate disciplines. PhD in Meteorology with specializations in Meteorology and RS&GIS are intact in our department since 2010. Department of Meteorology COMSATS Institute Information Technology is the sole Institute in County to offer MS and 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 and relevant state-of-the-art technologies. Department of Meteorology was 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 and MET laboratories are well equipped with the state of the art hardware and software. GPS, ArcGIS, ArcView, Map Info, ArcInfo and ERDAS IMAGINE-image processing software have been installed on the latest machines. The Laboratories are fully equipped with state of the art HP plotter and Scanner. In addition, the RS&GIS Laboratory 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 Laboratories 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

Department of Meteorology 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, 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), Institute of Space Technology (IST) and Pakistan Space and Upper Atmo-

sphere 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 Meteorology, Atmospheric Science, Climatology, Remote Sensing and GIS, and many others. The MOUs signed between CIIT and University of Illinois Urbana Champaign (UIUC), Potsdam Institute for Climate Impact Research (PIK), Germany; are of great importance for the research activities carried out in the department. With these MOUs the department sends some of its most suitable MS student every year for a period of four months to conduct 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. MS Meteorology is intended for those seeking to become expert in the field of Ocean-Atmosphere climate systems and undertake research challenges to improve Weather and Climate Forecasts.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

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 MS in Remote Sensing (RS) and Geographic Information System will provide immense opportunities in the field of large-scale mapping, updating of existing geographical maps, project planning, decision-making and natural resource management. Students after completion of MS-RS &GIS will be able to his/her career as Project Manager, Sr. System Executive, System Analyst, GIS Engineer, Image Analyst, GIS Programmer, Scientific Officer, Research Scientist and Research Scholar.
Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campus

- Islamabad

Doctor of Philosophy in Meteorology

Currently Department of Meteorology is offering Doctor of Philosophy in Meteorology, 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. Students have to complete 18 credit hours of course work and then appear in a comprehensive examination. Department of Meteorology, 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 pages 78-79.

Offering Campus

- Islamabad

Faculty Members
Islamabad Campus

Professors

- Dr. Mohsin Jamil, PhD, University of London, UK
- Dr. Athar Hussain, PhD, University of Missouri, USA and Quaid-e-Azam University, Pakistan

Advisors

- Prof. Dr. Gul Muhammad, PhD, University of London, UK
- Dr. Shahid Nadeem Qureshi, PhD, University of Hamburg Germany

Associate Professors

- Dr. Shaina Tariq, PhD, University of Peshawar, Pakistan
- Dr. Abdul Ghaffar, PhD, University of Punjab, Lahore, Pakistan

Principal Scientific Officer

- Dr. Aqeel Ahmed Kidwai, PhD, ITC, University of Ghent, Belgium

Assistant Professors

- Dr. Rashed Mahmood, PhD, Graduate School of Chinese Academy of Sciences, Beijing, China

- Dr. Kalim Ullah, PhD, Graduate School of Chinese Academy of Sciences, Beijing, China

- Dr. Syed Faisal Saeed, PhD, Stockholm University, Sweden

- Dr. Dambaru Ballab Kattel, PhD, Graduate School of Chinese Academy of Sciences, Beijing, China

- Dr. Muhammad Imran Shehzad, PhD, Hong Kong.

Besides, 04 Lecturers and 03 Research Associates are also associated with the department.

Department of Physics

Department of Physics at CIIT is one of the best departments with excellent facilities, state of the art laboratories and internationally recognized faculty. It was established in 2002 at Islamabad and started its programs for the first time in Fall 2003 with a four-year BS degree program in Electronics. The Department is rapidly expanding and aspires to excel in the formal instruction of Physics internationally. The department of Physics at Lahore campus was established in 2007. The Department of Physics offers competitive degrees in rapidly expanding areas of study. Our strong faculty and excellent facilities ensure that students have a solid technical grasp on their subjects to apply this knowledge in practical work settings. Our invaluable linkages with national and international universities and organizations help us keep up-to-date with new policy trends and job market facilitation incentives being unrolled by the government and private sectors.

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.

Research Activities in the Department of Physics

There are a number of groups in the Department of Physics which are actively involved in research activities in a variety of areas of physics. Besides collaborating locally, these groups are actively involved in research globally, e.g., in collaboration with

CERN under the ALICE project, Technische Universität Berlin, University of Delaware and Tsinghua University. A large number of research projects were submitted to higher Education Commission (HEC) of Pakistan for funding by the faculty members working in these research groups to strengthen the research activities. To date, several projects worth around 200 million PKR have been approved by the HEC.

Some prominent research groups in the Department of Physics, CIIT, are as follows:

High Energy Physics Group

The group of High Energy Physics and Cosmology (HEP&C) and Ultra Relativistic Heavy Ion Collisions (URHIC) is working on

problems involving R-parity violation phenomenology in minimal super-symmetric standard model (MSSM), non-standard electroweak interactions and their implications in neutrino physics, CP-violation, CKM-matrix elements, cosmological inflation and recent inflationary models, cosmological constant primordial nucleo-synthesis, finite temperature field theory, relativistic nuclear-nuclear collisions and dark energy.

On the experimental side, the group is working on problems related to Ultra Relativistic Heavy Ion Collisions (URHIC) affiliated with the ALICE project, CERN. The activities of this group involve experimental studies dealing with lead on lead collisions at the Large Hadron Collider (LHC) at CERN with centre of mass energies of 7 TeV. The group deals with computer software developed at the Joint Institute of Nuclear Research (JINR), Dubna for CERN and for physics analysis involved at the ALICE detector. This is a unique research activity in collaboration with ALICE/LHC at CERN and is first of its kind in Pakistan. CIIT has recently joined the LHC as a council member which is a vital window for opportunities of research and training for scientists and engineers at the best and fastest accelerator and detector labs in the world.

Condensed Matter Physics Group

The Department of Physics has a very strong focus on the areas of condensed matter physics with special emphasis on nano-scaled materials and their applications. It has well-equipped laboratories and a very dedicated team which is engaged in working on nanostructures of semiconducting, magnetic and multifunctional materials. Ordered nanostructures are produced both by self-assembly as well as by combining self-assembly with lithographic techniques. The research carried out by the group is fundamental as well as application oriented with the objective of developing micro and nano-sized sensors for use in biomedicine and detection of environmental hazards.

Materials Science Group

Materials play an important role in our daily life from very simple use to hi-tech applications. The research group at CIIT is engaged in synthesis and characterization of a wide range of advanced materials. Synthesis approaches include both solid state reaction methods and preparation by wet chemistry. Materials under investigation include but are not limited to metals, semiconductors, superconductors, ceramics and composites. These are synthesized in bulk, thin films, nanoparticles and nanostructures. Thermo physical properties include structural analysis, thermoelectricity, thermal diffusivity, heat capacity, thermal conductivity, dielectric spectroscopy, electrical resistivity, magnetic polarizability and susceptibility, magneto electrical conductivity and optical spectroscopy.

Nuclear and Radiation Physics Group

The Radiation Physics Laboratory was established in 2007 in the Department of Physics, CIIT, Islamabad under the funding of Ministry of Science and Technology (MoST). The main objective of the RPL is to pursue the research and development work first at the CIIT level and then strengthening of research infrastructure for science and technological development by making collaborations with different research institutes/universities of the country. Therefore, a well-equipped and standard research laboratory was established for taking research and development work in the field of Radiation Physics and its related subjects.

Lasers and Quantum Optics Group

Currently, research effort in experimental laser physics is focused on three areas, i.e., collisions in laser created sparks in gas mixtures, synthesis of nanoparticles through laser ablation in gas phase as well as liquid environment, and preparation of thin films through pulsed laser deposition.

On the theoretical side, the group is working in the field of quantum optics and its main area of research includes sub-wavelength atom localization, quantum state measurement of the radiation field, spontaneous emission spectra, coherent control of the GH-shift, propagation effects experienced by light pulses in atomic media, electromagnetically induced transparency, slow fast and backward propagating light, non-adiabatic optical transitions, wave shaping, control of optical response, decay rate of exited atoms in dielectric media, engineering entanglements in cavity QED systems, entanglement dynamics, quantum teleportation and quantum entanglement.

Plasma Physics Group

The Plasma Physics Group is working on non-thermal plasmas by developing and responding to major contemporary issues within low temperature plasma physics and atomic and molecular physics. Low-temperature plasmas have a huge range of technological and medical applications. These include plasma etching for semiconductor chip manufacture, plasma deposition (e.g. for solar cells or protective coatings), plasma TVs and new medical applications (e.g. sterilization, biocompatible materials). The research interest is in conventional, low pressure plasma systems, and the relatively recent discovery of atmospheric pressure plasmas. Research focuses on experiments and modeling to improve understanding of the plasma processes and thereby optimize applications and develop new ones.

Currently, the group is conducting research in the areas like atmospheric pressure plasmas and jets, low pressure plasmas and plasmas in liquids.

Research Facilities

State of the art research facilities are provided at the Department along with advanced tools and equipment like;

- Design and Fabrication of Micro- and Nanoelectronic Devices for Applications
- Design Tool: TCAD Simulation and Modeling Package
- Environment: Class (1000) Clean room
- RF and DC Magnetron Sputtering
- Plasma Enhanced Chemical Vapor Deposition (PECVD)
- Evaporators (Electron Beam, Resistive Heating)
- Photolithography
- Furnaces
- Spin Coaters
- Wet Etching Benches, Reactive Ion Etching
- Optical Microscopes
- Spectroscopic Ellipsometer
- Raman Spectroscopy
- Scanning Probe Microscopy (SPM)
- Dynamic Temperature X-Ray Diffraction (DTXD)
- I-V/C-V/G-V Characterization and CVBT Analysis
- Hall Effect System (0.37 T, 0.55 T and 1T)
- Semiconductor Characterization System (fully integrated)
- Differential Hall Measurement Setup with Transient Ion Drift Measurement (TIDM)
- Microwave Annealing System Connected with in-situ Metrology Unit
- Cryogenic Probe System

- Thermoelectric Measurement System
- X-ray Diffractometer
- Scanning Electron Microscope
- FTIR Spectrometer
- Vibrating Sample Magnetometer (3 Tesla, 50 – 400 K)
- Spectrometers (HP (Ge) Gamma Ray, NaI (Tl) Gamma Ray, Alpha Particle)
- Automatic Scanning System to Measure Radiation Tracks in Solids
- Radiation Sources and Survey Monitors
- G.M. BF-3 Neutron Detector and Surface Barrier Detectors.
- Measurements of DC Electrical Resistivity
- Thermal Transport Properties
- Nanoparticle Synthesis via Wet Chemistry
- Planetary Ball Mills
- Uniaxial Press
- UV-VIS-NIRSpectroscopy
- UHV growth system, room temperature and low temperature growth.
- Photon Counting/Detection System
- Dual Channel 8 GHz Data Acquisition; Lock-in-amplifier; Oscilloscope 40 GHz
- Close Spaced Sublimation System
- Laser Coating Vacuum System
- Ultrafast Optics
- Complete Laser Systems (Tunable Lasers)

International Research Collaborations

- University of Albany, NY,USA.
- University of Lancaster, UK.
- ALICE experiment in LHC (CERN), Geneva, Switzerland.
- A and MTexas, Austin, TX,USA.
- University of Illinois atUrbana 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 UniversityofBerlin, Germany.
- University of Geneva, Switzerland.
- University of Calgary, Canada.

Areas of Research at CIIT Lahore Campus

Physics Department COMSATS Lahore was established in 2007 and is actively involved in teaching BS, MS and PhD classes. The department is having the highest number of PhD faculty in Punjab and they are fully engaged in research mainly focusing on the following research areas;

RF, Microwave and Opto-electronics

The last century has been the century of communication revolution. The majestic increase in the number of communication devices and standards has carried itself into the current century. The communication systems though not limited includes a variety of devices, from tablet PC to mobile phones, from blue-tooth to WiFi and from radars to satellite navigation systems through back-boned with RF, Microwaves and Optical Communication Systems. RF, Microwave and Opto-electronics research group is focusing on the study of the cutting edge technologies in the communication field, developing a facility to fabricate and characterize devices, developing GUI based simulation software and produce quality research publications.

Nanotechnology / Nano-materials

Nanotechnology revolutionized the nanomaterials importance to use in versatile applications. Organic/Inorganic nanostructures have attracted much attention due to novel properties such as large surface area, polar semiconducting, catalytic behavior and piezoelectric. Nanotechnology / Nano-materials research group focuses on synthesizing advanced nanomaterials, measuring structural, electric, magnetic, electrochemical, biosensing and optical properties of synthesized and fabricated nanostructures. To use the as prepared materials for antenna, medical (drug delivery, cancer treatment, biosensor etc), energy storage devices, gas sensors, memister, MEMS, NEMS,LED and thermal wall papers. Collaborate with R&D organizations and indigenous industry.

Clean Energy Technology

Clean energy technology is a unique umbrella project which covers / promotes the application of renewable technologies extending to the future sustainable energy. All applications where there is a need for energy and power includes portable electronics devices, transportation, overcome current energy crisis of Pakistan, design high efficient and more stable materials through DFT approach, develop functional nanocomposite materials for Fuel cells and Li- ion batteries, boost the solar cell efficiency by Quantum Dots, study and development of cost effective energy storage devices, develop prototype of energy conversion devices, find investments from industries for commercialization of the technology and investigation and feasibility of quantum-dot-based materials in new-generation fuel cells.

Theoretical Physics

Plasma Physics, High Energy Physics, modeling and simulational research is being carried out in this research group. The researchers are focusing on the study of the Fundamental Building blocks, understand the disparity between matter and anti-matter, understand how the current universe evolved from the big bang, understand the source of mysterious Dark Matter, work on the cutting edge technologies in detectors and accelerators, promote scientific interactions between theoretical and experimental scientists at the International laboratories on fusion plasma physics and provide high quality data to the Fusion community to help validate large scale computer codes.

Research Collaborations

- Lancaster University, UK,
- Uppsala University, Sweden,
- Linkoping University, Korea,
- Univesity of Iowa, USA,
- University Technology Petronas, Malaysia,
- University of Canterbury, Newzealand,
- University of Strathclyde Engineering, Glasgow, UK,
- PIEAS Pakistan.

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 is a thesis based program and offered in a variety of experimental and theoretical research areas which include; materials science, high energy physics, laser and photonics, condensed matter physics, plasma physics, radiation physics, quantum optics, etc. The Department has 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 Materials Science/Metallurgical Engineering; 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 Campuses

- 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 nanosciences and nanotechnology. The Department of Physics feels that this new two-year Master of Science program in nanotechnology will equip scholars with the necessary skills that 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; 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 research activities in the field of materials science, condensed matter physics, 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 pages 78-79.

Offering Campus

- Islamabad, Lahore

Faculty Members
Islamabad Campus

Professors

- Dr. Arshad Saleem Bhatti, T.I., PhD, Cambridge University, UK

- Dr. Sajid Qamar, PhD, Quaid-i-AzamUniversity, Islamabad, Pakistan

- Dr. Mahnaz Qader Haseeb, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Khalid Jamil, PhD, Florida University, USA

- Dr. Ishaq Ahmad, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Izharul Haq, PhD, Quaid-i-Azam University, Islamabad, Pakistan

Chief Scientific Officer

- Dr. Shahid Manzoor, PhD, University of Bologna, Italy

Advisors

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

- Dr. Mais Suleymanov, PhD, Joint Institute for Nuclear Research, Dubna, Moscow, Russia

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

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

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

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

- Dr. Javaid Anwar, PhD, Quaid-i-Azam University, Islamabad, Pakistan

Associate Professors

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

- Dr. Sadia Manzoor, PhD, Quaid-i-Azam University, Islamabad, Pakistan

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

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

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

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

- Dr. Waqas Masood, PhD, University of London, UK

- Dr. Siraj-ul-Islam Ahmad, PhD, PIEAS, Islamabad, Pakistan

- Dr. Altaf Karim, PhD, Kansas State University, Manhattan, USA

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

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

- Dr. Fazal Ghafoor, PhD, Quaid-i-Azam University, Islamabad, Pakistan

Assistant Professors

- Dr. Farmanullah Jan, PhD, CIIT, Islamabad, Pakistan

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

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

- Dr. Javeed Akhtar, PhD, Manchester University, UK

- Dr. Sana Sabahat, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Muhammad Kamran, PhD, Innsbruck University, Austria

- Dr. Sameena Shah Zaman, PhD, Vienna University, Austria

- Dr. Waqas Khalid, PhD, Philipps Universitat, Marburg, Germany

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

- Dr. Ahsan Illahi, PhD, Quaid-i-Azam University, Islamabad, Pakistan

- Dr. Salman Khan Safi, PhD, Quaid-i-Azam University,

Islamabad, Pakistan

- Dr. Lubna Tabassum, PhD, University of Camerino, Italy

- Dr. Uzma Tabassum, PhD, University of Camerino, Italy

- Dr. Tassawar Abbas, PhD, CIIT, Islamabad, Pakistan

- Dr. Rana Liaquat Ali, PhD, CIIT, Islamabad, Pakistan

- Dr. Muhammad Umair Hassan, PhD, Cambridge University, UK

- Dr. Farrakh Shahzad, PhD, Karl-Franzen University, Graz, Austria

- Dr. Qaiser Waheed, PhD, KTH Royal Institute of Technology, Sweden

- Dr. Muhammad Saeed, PhD, Hokkaido University, Japan

- Dr. Saira Arif, PhD, University of Vienna, Austria

- Dr. Muhammad Waseem, PhD, University of Peshawar, Pakistan

- Dr. Ghazanfar Abbas, PhD, Bahauddin Zakariya University, Multan, Pakistan

- Dr. Muhammad HannanYounis, PhD, Politecnico di Torino, Italy
- Dr. Hira Siddiqui, PhD, Institute for Theoretische Physics, Germany
- Dr. Azeem Mir, PhD, CIIT Islamabad, Pakistan
- Dr. Muhammad Bashir, PhD, University of Sheffield, UK
- Dr. Waqqar Ahmed, PhD, University of Twente, Netherlands
- Dr. Asghari Gul, PhD, Quaid-i-Azam University, Islamabad, Pakistan
- Dr. Faheel Hashmi, PhD, University of Paul Sabatier, Toulouse, France
- Dr. Mushtaq Ahmed, PhD, PIEAS, Islamabad, Pakistan
- Dr. Anwar Hussain, PhD, PIEAS, Islamabad, Pakistan
- Dr. Zia-ud-Din, PhD, CIIT, Islamabad, Pakistan
- Dr. Saif Ullah, PhD, Quaid-i-Azam University, Islamabad, Pakistan
- Dr. Jamila Bashir Butt, PhD, Syracuse University, New York, USA

- Dr. Muhammad Rashid, PhD, Islamia University Bahawalpur, Pakistan
- Dr. Mukhtar Ahmed PhD, Bahauddin Zakariya University, Multan, Pakistan
- Dr. Jaweria Ambreen, PhD, Quaid-i-Azam University, Islamabad, Pakistan
- Dr. Kamran Rasool, PhD, PIEAS, Islamabad, Pakistan
- Dr. Muhammad Irfan Memon, PhD, Bristol University, UK
- Dr. Ijaz Ahmed, PhD, Quaid-i-Azam University, Islamabad, Pakistan
- Dr. Umair Manzoor, PhD, Korea Advanced Institute of Science and Technology, Korea
- Dr. Khurram Mehboob, PhD, Harbin Engineering University China

Besides, 13 Lecturers, 17 Research Associates and 6 Lab Engineers are also working in this department.

Lahore Campus

Professors

- Dr. Saleem Farooq Shaukat, PhD, Brunel University, London, UK
- Dr. Ashfaq Ahmad, PhD, University of the Punjab, Lahore

Associate Professors

- Dr. Muhammad Asif, PhD, Graduate School of Chinese Academy of Sciences, Beijing, China
- Dr. Hafiz M. Ashfaq Ahmad, PhD, Harbin Institute of Technology, China

Assistant Professors

- Dr. Salman Naeem Khan, PhD, ZJU, China
- Dr. Naveed Aslam, PhD, GCU, Pakistan
- Dr. Shabana Nisar, PhD, Syracuse University, USA
- Dr. Muhammad Asif, PhD, Linkoping University, Sweden
- Dr. Muhammad Aamir Razaq, PhD, Uppsala University, Sweden
- Dr. Muhammad Idrees, PhD, PIEAS, Islamabad, Pakistan
- Dr. Rizwan Raza, PhD, KTH, Stockholm, Sweden

- 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, Universiti Teknologi PETRONAS, Malaysia
- Dr. Farah Alvi, PhD, University South Florida, United State
- Dr. Nadeem Akram, PhD, Stockholm University, Sweden
- Dr. Zahida Ehsan, PhD, University of Leuven- Katholieke Universiteit Leuven, Belgium
- Dr. Muhammad Jamil, PhD, Government College University, Lahore, Pakistan
- Dr. Ayesha Jamil, PhD, Cambridge University, United Kingdom
- Dr. Ishrat Sultana, PhD, Sungkyunkwan University, South Korea

- Dr. M. Saleem, PhD, China
- Dr. Muhammad Hammad Aziz, PhD, Islamia University Bahawalpur, Pakistan
- Dr. Naima Amin, PhD, Islamia University Bahawalpur, Pakistan
- Dr. Muhammad Junaid Amjad, PhD, University Technology, Malaysia
- Dr. Azmat Iqbal, PhD, University of the Punjab, Lahore, Pakistan
- Dr. Saif ur Rehman, PhD, University Mohammed V-Agdal, Rabat, Morocco
- Dr. Ayesha Anjum, PhD, University Paul sabatier, Toulouse, France.
- Dr. Muhammad Yaseen, PhD, Xi'an Jiaotong University, China
- Dr. M. Yasir Rafique, PhD, University of Science and Technology, Beijing, China

Department of Pharmacy

Department of Pharmacy at CIIT is dedicated to educate future pharmacists and scientists and provide professional development opportunities to local and national practicing pharmacists. All of our programs are driven by our mission to enhance the quality of life for the local people and the global community through improved health. According to WHO, there is a dire need of Pharmacy professional worldwide, particularly in the third world countries and as per their recommendations for the current population of Pakistan, there is need of 90,000 Pharmacists against the existing about 7000 pharmacists serving the nation.

Resultantly, a huge demand for more professional pharmacists, not only for the country, but also in the world exists. The Department of Pharmacy at CIIT Abbottabad Campus is playing an active role to cater the national health care needs through a broad-based higher and professional education of pharmacy. In order to deliver quality education in the field of pharmaceutical sciences, the department has services of internationally qualified faculty and has established state of the art laboratories.

Graduate Programs

The mission of the graduate program is to provide exemplary educational, research, and growth opportunities during a student's tenure. We have researchers working actively in the areas of basic and applied pharmacology, bioactive natural products, cardiovascular pharmacology, drug delivery and formulation development, drug development based on enzyme inhibition, pharmacy practice, pharmacy practice and clinical research. The students graduate with a MS or Ph.D. in pharmaceutical sciences with a specialization in one of five areas: pharmacology, pharmaceutical chemistry, pharmaceutics, Pharmacy practice and pharmacognosy.

The research activities of researchers can be viewed at http://ciit-atd.edu.pk/researchgroups

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

Master of Science in Pharmacy

The Master of Science in Pharmacy program currently focuses on research training in Pharmaceutics, Pharmacy Practice, Pharmacology, Pharmaceutical chemistry and Pharmacognosy. This program includes two semesters of coursework and a further two semesters of 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 and academia.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

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, immune pharmacology, neuro pharmacology and cardiovascular diseases. The activities of department researchers have long been supported by a wide range of funding sources.

The program offers two semesters of coursework prior to the commencement of research activities by the research scholar. Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campus

- Abbottabad

Faculty Members
Abbottabad Campus

Professors

- Dr. Nisar ur Rehman, PhD, University of Science, Malaysia, Malaysia
- Dr. Izhar Hussain, T.I., PhD, Imperial College of Science,

Tech. and Medicine, London, UK
- Dr. Jamshed Iqbal, T.I., PhD, University of Bonn, Germany

Advisors

- Dr. Qazi Najam us Saqib, PhD, University of Karachi, Pakistan

Associate Professors

- Dr. Taous Khan, PhD, Kyungpook National University, South Korea
- Dr. Abdul Jabbar Shah, PhD, Agha Khan University,

Pakistan
- Dr. Abdul Mannan, PhD, Quaid-i-Azam University, Pakistan

Assistant Professors

- Dr. Ghulam Murtaza, PhD, Islamia University Bahawalpur, Pakistan
- Dr. Shujat Ali Khan, PhD, Islamia University Bahawalpur, Pakistan
- Dr. ArfatYameen, 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. Saira Azhar, PhD, University Sains, Malaysia, Malaysia
- Dr. Nighat Fatima, PhD, Quaid-e-Azam University, Pakistan
- Dr. Nabi Shah, PhD, University of Karachi, Pakistan

Besides, 07 Lecturers and 10 Research Associates are also part of this department.

Department of Statistics

Department of Statistics has been recently established at CIIT Lahore Campus. The department intends to achieve excellence in teaching and research in statistics by hiring world class faculty, providing state-of-the-art 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, hiring talented faculty members, and providing conducive environment for teaching, research and learning activities.

Graduate Programs

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

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 pages 78-79.

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 provides basic training opportunities and then more specialized courses advances the frontiers of research. The course of Applied Statistics in various application areas is offered to acquire experience in modeling the real world, and to learn how statistics can help in problem solving. This program will also help the 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 pages 78-79.

Offering Campus

❯ Lahore

Faculty Members
Lahore Campus

Professors

○ Dr. M. Qaiser Shahbaz, PhD, National College of Business Administration and Economics, Pakistan

Principal Scientific Officer

○ Dr. Mohammad Mohsin, PhD, Alpen-Adria University,   Klagenfurt, Austria

Assistant Professors

○ Dr. Faisal Tahseen Shah, PhD, University of the Punjab, Pakistan

○ Dr. Saman Shahbaz, PhD, National College of Business Administration and Economics (NCBA&E), Pakistan

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

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

○ Dr. Muhammad Ismail, PhD, National College of

Business Administration and Economics, Pakistan

○ Dr. Farrukh Shehzad, PhD, PhD, National College of Business Administration and Economics (NCBA&E), Pakistan

○ Dr. Muhammad Noor-ul-Amin, PhD, National College of Business Administration and Economics (NCBA&E), Pakistan

Besides, 01 Lecturer is also associated with the department.

Department of Chemistry

The Department of Chemistry at CIIT Abbottabad is endeavoring to attain a position among world leading centers through excellence in education and cutting edge research and innovation. The mission of this department is to produce world class contributors in chemical science for the betterment of humanity.

This department is committed to equip the students with updated knowledge by inculcating research expertise that are necessary for understanding advancements in chemical sciences of the modern world. Students are provided opportunities to work in different research areas such as:

○ Natural Product Chemistry
○ Material Chemistry

- Organic and Biological Chemistry
- Physical and Theoretical Chemistry
- Applied and Analytical Chemistry

Further details of the research and research groups can be found by accessing the department webpage or through the link;

http://ciit-atd.edu.pk/departments/chemistry.aspx

Chemistry students get hands on experience through formal and informal interactions with the faculty in research laboratory, seminars, workshops and conferences. Faculty, on average, mentors two to three graduates every year. Since inception of the department in 2008, a considerable number of graduates have been produced, who are serving in national and international prestigious institutions including academia, industry, research, public and private sector organizations.

The department currently consists of 28 full time faculty holding doctoral degree from distinguished universities of the globe. The faculty is dedicated to impart training to students in their respective areas of expertise and make them capable team members in the relevant research group. In addition to imparting knowledge to students, the faculty is also actively publishing their research work in high impact international journals including Nature Materials, Advanced Materials, Angewandte Chemie - Int. Ed., Journal of the American Chemical Society, Chemical Science, Chemistry A- European Journal, Journal of Chromatography A, Journal of Power Sources, Journal of Membrane Science, Journal of Organic Chemistry, Tetrahedron, Organic and Biomolecular Chemistry, European Journal of Medicinal Chemistry, etc. Moreover, number of books, book chapters, posters and presentations are also on their credit.

Faculty of this department have a large number of research projects sponsored by different funding agencies like; Higher Education Commission of Pakistan (HEC), Pakistan Science Foundation (PSF), Third World Academy of Science (TWAS), Commission on Science and Technology (COMSTECH), International Foundation for Science Sweden (IFS), UNICEF and CIIT research grants. All these grants involve students to conduct novel and cutting edge research. A large number of students are getting benefit from these projects in the form of financial support. Current projects involve synthesis of new anti-cancer agents; construction of biologically fascinating natural and synthetic molecules; establishing new bioassays for biomolecules, encapsulated drug delivery systems; advanced food preservation methods; green chemistry methodologies; synthesis and characterization of nano-materials, advanced polymers, composite materials, sensors and liquid crystal; Ligand-metal chemistry for energy sources and C-H activation catalysis; drinking water and waste water sustainable treatment; isolation of natural products; computational studies of challenging molecules etc.

The graduates can get access to the following major expertise from their research:

- Modern and comprehensive knowledge in the specialized field.
- In depth knowledge to interpret sophisticated analytical data from instruments such as NMR, MS, FT-IR, UV/Vis., GC-MS, HPLC, XRD, AAS, SEM, TEM, etc.
- Ability to understand and optimize the new research methodologies.
- Understanding of ethical and professional responsibilities as a scientist as well as awareness of contemporary global issues.

Graduate Programs

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

Master of Science in Chemistry

Master of Science (MS) in Chemistry is designed to prepare graduates for higher studies, professional trainings, or immediate employment in academia, Govt. and non-Govt. organizations, industry etc.

The program accommodates individuals with background of chemistry and allied sciences to pursue advanced research work. Chemistry has seen enormous growth in past few decades with many new applications in medicine,

biotechnology, nanotechnology, advanced materials, environmental health, alternative energy sources, forensic sciences, molecular modeling and many more. New developments in chemistry are rapidly transforming from laboratory research to practical applications.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campus

○ Abbottabad

Doctor of Philosophy in Chemistry

Doctor of Philosophy in Chemistry will equip students with in depth understanding of specialized research areas along with appropriate qualification required for job hunting in the relevant field. Chemistry has a wide range of significant applications that it creates constant demand for well-trained chemists in many fields. There is large number of job opportunities for chemistry graduates in various international and national organizations e.g., NIBGE, PCSIR, PAEC, KRL, NDC, AWC, POF, academic institutes, health departments, mineralogy departments,

ministry of environment, agriculture, textile and pharmaceutical industry etc. In order to fulfill the enormous demands of chemists, the PhD program enables an individual to compete and secure a respectable position among scientific community in the relevant field.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campus

○ Abbottabad

Faculty Members
Abbottabad Campus

Professors

○ Dr. Abdur Rahman Khan, PhD, University of Birmingham, UK

Advisors

○ Prof. Dr. Rehana Rashid, PhD, Martin-Luther University, Halle, Germany

Associate Professors

○ Dr. Umar Farooq, PhD, HEJ Research Institute of Chemistry, University of Karachi, Pakistan

Assistant Professors

- Dr. Abida Kalsoom Khan, PhD, Quaid-e-Azam University, Islamabad, Pakistan
- Dr. Afsar Khan, PhD, HEJ Research Institute of Chemistry, University of Karachi, Pakistan
- Dr. Syed Tauqir Ali Sherazi, PhD, Government College University, Lahore, Pakistan
- Dr. Muhammad Arfan, PhD, Quaid-e-Azam University, Islamabad, Pakistan
- Dr. Khurshid Ayub, PhD, University of Victoria, Canada
- Dr. Amara Mumtaz, PhD, Quaid-e-Azam University, Islamabad, Pakistan
- Dr. Muhammad Hanif, PhD, University of Vienna, Austria
- Dr. Tariq Mahmood, PhD, HEJ Research Institute of Chemistry, University of Karachi, Pakistan
- Dr. Usman Latif, PhD, University of Vienna, Austria
- Dr. Guhlam Abbas, PhD, HEJ Research Institute of Chemistry, University of Karachi, Pakistan
- Dr. Khizar Hayat, PhD, Jiangnan University, China
- Dr. Muhammad Arshad, PhD, University of Bristol, UK
- Dr. Sohail Anjum Shahzad, PhD, Cardiff University, UK
- Dr. Adeem Mahmood, PhD, University of Bristol, UK
- Dr. Sadullah Mir, PhD, Quaid-e-Azam University, Islamabad, Pakistan
- Dr. Farhan Ahmed Khan, PhD, Technical University of Vienna, Austria
- Dr. Imran Malik, PhD, University of Rostock, Germany
- Dr. Aneela Maalik, PhD, University of Rostock, Germany
- Dr. Zafar Iqbal, PhD, Eberhard-Karls University, Tuebingen, Germany
- Dr. Bushra Ismail, PhD, Quaid-e-Azam University, Islamabad, Pakistan
- Dr. Muhammad Sharif, PhD, University of Rostock, Germany
- Dr. Ahson Jabbar Shaikh, PhD, University of Groningen, Netherlands
- Dr. Asad Muhammad Khan, PhD, Quaid-e-Azam University, Islamabad, Pakistan
- Dr. Rafaqat Ali Khan, PhD, Quaid-e-Azam University, Islamabad, Pakistan

Department of Environmental Sciences

Department of Environmental Sciences at CIIT was established in 2004 and has now become a hub for interdisciplinary undergraduate studies, innovative research development, graduate studies and advocacy on environmental issues. The Department has highly qualified faculty with major focus areas of research and development including environmental technologies, climate change and ecosystem, renewable energy, sustainable agriculture and natural resources, sanitation and public health.

The Department of Environmental Sciences at CIIT is playing an important role to inspire a lifelong commitment to the earth for environmental responsibilities through research and education that is essential to understand and improve the environment at local, regional and global level.

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 opportunities. The research oriented program is designed to prepare the graduates for career in environ-mental consultancy, regulatory agencies, manufacturing and service industry, wildlife management organizations, environment related national and international organiza-tions and academic institutions.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campus

❍ Abbottabad, Vehari

Doctor of Philosophy in Environmental Sciences

The PhD program in environmental sciences acquaint the scholars with critical analysis of the present and future development 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 pages 78-79.

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 pages 78-79.

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 pages 78-79.

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 Institute of Information Technology, 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 communi-cate 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 pages 78-79.

Offering Campus

❱ Abbottabad

Faculty Members
Abbottabad Campus

Professors

❱ Dr. Mohammad Maroof Shah, PhD, University of Nebraska-Lincoln, USA

❱ Dr. Arshid Pervez, PhD, Bradford University, UK
❱ Dr. Mohammad Irshad, PhD Tottori University, Japan

Advisors

- Dr. Kiramat Khan, PhD, University of Nebraska, Lincoln, USA
- Dr. Iftikhar A. Raja, PhD, University of Strathclyde, Glasgow, UK

Associate Professors

- Dr. Qaisar Mahmood, PhD, Zhejiang University, China
- Dr. Amjad Hassan, PhD, Niigata University, Japan
- Dr. Faridullah, PhD, Tottori University, Japan
- Dr. Raza Ahmad, PhD, KAIST, Dajon, South Korea

Assistant Professors

- Dr. Romana Khan, PhD, Kyungpook National University, Taegu, South Korea
- Dr. Jamshaid Hussain, PhD, University of Verona, Italy
- 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. 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, Netherlands
- 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
- Dr. Rashid Nazir, PhD, University of Groningen, Netherlands
- Dr. Irum Shahzadi, PhD, CIIT, Abbottabad, Pakistan
- Dr. Nosheen Mirzam PhD,CIIT, Abbottabad, Pakistan
- Dr. Arshad Mahmood Abbasi, PhD, Quid-e-Azam University, Islamabad, Pakistan
- Dr. Naim Rashid, PhD, KAIST, Korea
- Dr. Javaid Iqbal, PhD, University of Agriculture Faisalabad Pakistan
- Dr. Tahir Hayat, PhD, Zhejiang university P.R China
- Dr. Fazli Wahid, PhD, Kyungpook National University, South Korea
- Dr. Wajiha Khan, PhD, Quaid-e-Azam University, Islamabad, Pakistan
- Dr. Akhtar Iqbal, PhD, University of Reims, France
- Dr. Abdul Nazeer, PhD, Quaid-e-Azam University, Islamabad, Pakistan
- Dr. Muhammad Nadeem Khan, PhD Netherlands
- Dr. Mazhar Iqbal, PhD, Vrije University Amsterdam, Netherlands
- Dr. Ismat Nawaz, PhD, Vrije University Amsterdam, Netherlands
- Dr. Naseer Ahmad, PhD, Quaid-e-Azam University, Islamabad, Pakistan

- Dr. Shahid Masood Shah, PhD, PIEAS, Pakistan

- Dr. Khalid Ahmad, Quaid-e-Azam University, Islamabad, Pakistan

- Dr. Yasar Sajjad, PhD, University of Agriculture,

Faisalabad, Pakistan

Besides, 11 Lecturers and 07 Research Associates are also associated with this department.

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

- Dr. Ghulam Mustafa Shah, PhD, Wageningen University, Wageningen, Netherlands

- Dr. Hafiz Faiq Siddique, PhD, Justus Liebig University Giessen, Germany

- Dr. Muhammad Imtiaz Rashid, PhD, Wageningen University, Wageningen, Netherlands

Faculty of Business Administration

Dean's Message

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 is currently ranked at 6th by the Higher Education Commission of Pakistan, amongst 132 higher education institutions of the country. Also, as per 2014 QS ranking, CIIT ranks amongst the top 300 universities in Asia.

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. I wish you all best of luck for your future endeavors.

Prof. Dr. Qaisar Abbas

Department of Management Sciences

Department of Management Sciences started its journey at CIIT about 12 years ago and with its phenomenal ascent is presently one of the top departments in this country's higher educational landscape. This department endeavors to contribute to the broader social role in providing high quality education, distinguished by cutting edge technologies and modern managerial practices. It is committed to prepare 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.

Together with enjoying a good reputation among employers, our programs provide students a thorough insight into latest trends in management and business practices. In addition to grooming the personality of our students and sharpening their communication skills, greater emphasis is laid upon the intellectual augmentation and perpetual development of students with both curricular and extracurricular efforts.

Graduate Programs

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

Master of Science in Management Sciences

The Master of Science 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. Considering the market demand, the specialized courses offered relate to General Management, Finance, Marketing, Information Technology Management, Human Resource Management and Business Economics. Further, the students have the opportunity to test the theories learned during the course work to the real world problem through writing dissertation. On successful completion of the program, the graduates will have an excellent opportunity of finding employment in areas with a broad, critical and practical understanding of Management Sciences disciplines. This knowledge makes them ready for a variety of leadership positions not only in contemporary changing business and corporate world but also in academics.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

◐ Islamabad, Abbottabad, Wah, Lahore, Attock, Sahiwal, Vehari

Master of Science in Project Management

The Masters of Science in Project Management Program is exclusively designed for those who desire to enter into project management either in their current technical or business fields, or into a new field of expertise as a career change.

The MS program is prepared to help the scholars in improving their knowledge and skills in the discipline to better manage human resource, risk and change as well as the financial aspects of projects and programs through project management methodologies, tools, principles and philosophies of effective project management in multiple sectors including public, non-governmental and corporate sectors. An integral part of the program is dedicated to the dissertation writing by applying the tools and techniques of project management learned during the course work. The graduates will have job 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 pages 78-79.

Offering Campuses

◐ Islamabad, Abbottabad, Lahore, Attock, Virtual Campus

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 by undertaking research activities 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 pages 78-79.

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 pages 78-79.

Offering Campuses

- Islamabad, Abbottabad, Wah, Virtual Campus

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 understating of all aspects of business. The one and 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.

Entry Requirements

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

Credit Hours requirement

- Minimum 36 Cr Hr.

Duration

- 3 Semesters, 1.5 years

Offering Campuses

⊙ Islamabad, Abbottabad, Wah, Lahore, Attock, Sahiwal, 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 also 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 the 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, Mathematics and other equivalent qualification from an accredited institution with minimum 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.

Duration

⊙ 5 Semesters, 2.5 years

Offering Campuses

⊙ Islamabad, Lahore

Master of Science in Economics

As the economy continues to expand and diversify, there is growing need for economic expertise for understanding various facts amid increasingly complex economic system. Therefore, the demand for well-educated economics graduates comes from all sectors in an economy i.e. business, industry, academia, government and international development institutions. Considering vast expertise in this field, CIIT is well placed to play an important role in

catering to these national and global needs by producing high quality economics graduates. The Graduate Program in Economics would aims to produce graduates who could take up careers in governmental and nongovernmental organization. Besides offering core courses of advanced macro & micro economics, econometrics and mathematics, the program also offers various specialized courses

relevant to the real economic world including International Economics, Development economics, Public finance and Agricultural economics.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

- Islamabad, Abbottabad, Lahore

Master of Science in Strategic Marketing

The program allows students to develop skills in dealing with strategic marketing problems found in both profit and nonprofit settings. The focus is on a developing a framework for strategic marketing plans with emphasis on consumer and environmental analysis. Market segmentation, product positioning, marketing responsiveness, and competitive reaction will be explored. Furthermore, the program will offer insights into modern strategic marketing, combining topical and practical knowledge with an emphasis on the ability to

sense, shape and prepare to meet the needs of the future. Taking a strategic approach, it brings marketing into the 21st century, modernizing it and putting it on a more scientific footing, while reflecting upon major new and escalating challenges that confront business and marketing professionals.

Admission requirements, program duration, course work and thesis details are given at page 78-79.

Offering Campus

- Lahore

Doctor of Philosophy in Management Sciences

The doctoral program in management sciences 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 the literature and theory in 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 public sector. Besides the core courses, specializations are offered broadly in the field of Management and Finance in general and in Human resource, Marketing, Organizational behavior, Islamic finance and Business economics in particular.

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campuses

- Islamabad, Lahore

Faculty Members
Islamabad Campus

Professors

- Dr. Qaisar Abbas, PhD, Nankai University Tianjin, China
- Dr. Khalid Riaz, PhD, Iowa State University, USA
- Dr. Syed Zulfiqar Ali Shah, PhD, University of Manchester, UK

Advisors

- Dr. Muzaffar Ali Qureshi, PhD, Rensslare Polytechnic Institute, Troy, NY/University of Southern California, USA

Associate Professors

- Dr. Muhammad Arshad Khan, PhD, PIDE, Islamabad, Pakistan
- Dr. Muhammad Zahid Iqbal, PhD, NUML, Islamabad, Pakistan

Assistant Professors

- Dr. AmnaYousaf, PhD, University of TWENTE, Netherlands
- 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. Muhammad Azhar Khan, PhD, Hokkaido University Sapporo, Japan
- Dr. Muhammad Majid Khan, PhD, University of Massachusetts, USA
- Dr. Muhammad Zakaria, PhD, Quaid-e-Azam University, 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. Faisal Abbas, PhD, Research University of Bonn, Germany
- Dr. M. Iftikharul Hasnain, PhD, Federal Urdu University, Pakistan
- Dr. Mumtaz Ahmed, PhD, International Islamic University, Pakistan
- Dr. Noureen Adnan, PhD, University of Surrey, UK
- Dr. Usman Ayub, PhD, CIIT Islamabad, Pakistan
- Dr. Azad Haider, PhD, FAST, Islamabad, Pakistan
- Dr. Mansoor Ahmed, PhD, University of Manchester, UK

Besides, 34 Lecturers and 10 Research Associates are also part of this department.

Lahore Campus

Professors

- Dr. Talat Afza, PhD, Wyane State University, USA
- Dr. Ahmad Kaleem, PhD, Malaya University, Kaula Laum pur, Malaysia
- Dr. Abdus Sattar Abbasi, PhD, NUML, Islamabad, Pakistan

Assistant Professors

- Dr. Abdul Haque, PhD, Hauzhong University of Science and Technology, Wuhan, China
- Dr. Hafiz Zahid Mahmood, PhD, Humbdolt University of Berlin, Germany
- Dr. Muhammad Khan, PhD, Federal Urdu University, Islamabad, Pakistan
- Dr. Waheed Akhtar, PhD, National University of Modern Languages, 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 Gottingen, Germany
- Dr Imran Haider Naqvi, PhD, National University of Modern Languages, Islamabad, Pakistan
- Dr. Muhammad Shahbaz Shabbir, PhD, University of Malaya, Malaysia
- Dr. M. Ali Jibran Qamar, PhD, University of Gloucestershire, UK
- Dr. Muhammad Amir Rashid, PhD, University Technology Malaysia, Malaysia

Besides, 21 Lecturers and 5 Research Associates are also part of this department.

Abbottabad Campus

Professors

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

Associate Professors

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

Assistant Professors

- Dr. Amjad Ali, PhD, Foundation University, Islamabad
- Dr. Muhammad Saeed Lodhi, PhD, Hradec

Kralove University, Czech

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

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

- Dr. Mansoor Shahab, PhD, Graduate School of Chinese

- Academy of Sciences, Beijing, China

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

- Besides, 53 Lecturers and 01 Research Associate are also part of this department.

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, NUML, Islamabad, Pakistan

- Dr. Babur Wasim Arif, PhD, National Graduate Institute for Policy Studies. Tokyo, Japan

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

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

   Besides, 23 Lecturers and 02 Research Associates are also part of this department.

Attock Campus

Assistant Professors

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

- Dr. Shabir Hyder, PhD, Federal Urdu University, 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

Besides, 18 Lecturers and 2 Research Associates are also part of this department.

Sahiwal Campus

Assistant Professors

- Dr. Rashid Saeed, PhD, University of Agronomic and Veterinary Sciences, Burchares, Romania
- Dr. Raja Irfan Sabir, PhD, Wuhan University of Technology, Wuhan, China
- Dr. Iram Batool, PhD, Pakistan Institute of Development Economics, Islamabad, Pakistan
- Dr. Hafiz Muhammad Arshad, PhD, Islamia University, Bahawalpur, Pakistan
- Dr. Muhammad Tahir Yaqoob, PhD, Bahauddin Zakariya University, Multan, Pakistan

Besides, 23 Lecturers and 01 Research Associates are also part of this department.

Vehari Campus

Assistant Professors

- Dr. Munir Ahmed, PhD, Bahauddin Zakariya University, Multan, Pakistan
- Dr. Asad Afzal Humayon, PhD, Foundation University, Islamabad, Pakistan

Beside, 18 Lecturers and 04 Research Associates are also part of this department

Department of Development Studies

As a premier institution of the region and on the basis of a prioritized need assessment, CIIT expanded its role to encompass Development Studies as a separate department in 2004. Development Studies is an interdisciplinary field focusing on the study of societies, economies and institutions of the developing countries, their inter-connectedness with the developed world and processes through which the international institutions and mechanisms impact upon the overall goals of development within a global context. After completing MS Development Studies, many job opportunities can be availed in both national and international market.

Graduate Programs

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

Master of Science in Development Studies

The MS in Development Studies core curriculum integrates substantive knowledge, spanning the disciplines of social, environment and administrative 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 pages 78-79.

Offering Campus

- Abbottabad

Master of Science in Conflict, Peace and Development

The program is designed to address the issue of conflict which leads to unfold possibilities of peace and development. This Inter-multidisciplinary program provides key insights and strengths from several disciplines in social sciences, humanities and environmental sciences to provide a comprehensive understanding of the multi-faceted phenomena. The program is started in collaboration with partner Universities (Tribhuvan University (TU), Nepal Ruhana University and Norwegian University of Life Sciences (UMB) Norway).

Through a rigorous set of lectures, seminars, research and fieldwork the graduates strives to impart theoretical, methodological, and practical knowledge to operate in a variety of roles at regional, national and international level.

Entry Requirements

- A 16 years degree in social sciences, humanities, management/administrative sciences or relevant field from an accredited educational institution, with minimum 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

Doctor of Philosophy in Development Studies

The Department of Development Studies offers doctoral research program leading to a PhD in the topics related to important development challenges. The department aims to develop close working relationships between students, their supervisors and practitioners' working in the same area, to enhance the quality of doctoral education. The objective is to encourage research that makes a difference to the lives of the poorest and most vulnerable people in developing countries specifically and world at large. The research program is organized in multidisciplinary areas including vulnerability and poverty reduction; the dynamics of the global environment; the politics of state engagement and public action; social change; social justice; conflict and peace; gender issues; and understanding scientific, socio-economic, technological, institutional and ethical dimensions of development.

Entry Requirements

- MS/M.Phil degree in the field of social/natural sciences with thesis or its equivalent degree with thesis, from an accredited educational institution with minimum CGPA of 3.0/4.0 (semester system) or 70% marks (annual system)
- No third division (annual system) or D grade (semester system) throughout the academic career
- GAT (Subject) with 60%marks minimum

Offering Campus

- **Abbottabad**

Faculty Members

Professors

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

Associate Professors

- Dr. Amir Hamid Jafri, PhD, Oklahoma State University Stillwater, USA
- Dr. Samina Nadeem, Masters, University of Warwick, UK, PhD, Quaid-e-Azam University, Islamabad

Assistant Professors

- Dr. Tanveer Zara, PhD, University of Indiana, Bloomington, USA
- Dr. Azeema Voleger, PhD, University of Hawai Monoa, USA
- Dr. Mobeen Akhtar, PhD, University of Gottingen, Germany
- Dr. Farhat Nisar, PhD, National University of Modern Languages, Islamabad, Pakistan
- Dr. Najia Asrar Zaidi, PhD, University of Baluchistan, Quetta, Pakistan
- Dr. Fayyaz Ahmed Faize, PhD, International Islamic University (IIU), Islamabad, Pakistan
- Dr. Tehseena Usman, PhD, University of Peshawar, Pakistan

  Besides, 18 Lecturers and 02 Research Associates are also part of this department.

Department of Humanities

Department of Humanities at CIIT has the highly qualified faculty members of many different fields including English Language, English Literature, Applied Linguistics, Psychology, French, Islamic Studies, International Relations, and Pakistan Studies.

The Department offers world-class teaching and research, backed by the superb resources of the library, e-library and language laboratories. Such historic resources are linked to cutting-edge agendas in research and teaching, with an increasing emphasis on interdisciplinary study addressing practical, educational and personality building issues

significant to learners, educators, policy makers, communication professionals, and human resources managers. The Department of Humanities is continually pioneering new ways to teach and assess language, to research written discourse, and to teach writing for specific purposes.

Along with facilitating students to enhance effective English-usage at its best, the department plays a pivotal role in making students aware of their religious and moral values by teaching Islamic Studies, keeping track of the current political and social issues through courses of Pakistan Studies and International Relations, and making our youth aware of the humanitarian standards catering to their emotional well-being through Sociology and Psychology.

Graduate Programs

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

Master of Science in English (Linguistics and Literature)

The program is designed to provide students an in-depth knowledge of language, linguistics and literature with added areas of interest for research. The program inculcates a thorough understanding of theoretical as well as practical applications of various modern and contemporary developments in the fields of linguistics and literature. The program will help students to explore the interdisciplinary aspect of language, linguistics, and literature and how these three dimensions interrelate and exist as integral parts of the whole, and yet have an independent existence as well. On the whole, the program is oriented to the study of and impact of literature in the evolution and development of cultural consciousnesses, and its role as an invaluable record of the significant advancements in human civilization. The program also emphasizes the enrichment of knowledge and understanding of concepts, present issues and concerns and up-to-date research in the core areas of linguistics and language.

Entry Requirements

- A 16 years degree, in the relevant field, from an accredited educational institution with Second 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

- Islamabad and Lahore

Master of Science in International Relations

The program is aimed at providing the leaders-in-making with the right set of skills and conceptual frameworks to take challenges head-on in the international arena. The program shall draw its foundations on three significant methodologies: leadership, analysis, and administration. The program seeks to provide its students with knowledge, skills and abilities to solve problems through an in-depth analysis of the international relations (IR) issues and challenges which formulate the dimensions of a problem. The goal of the program is to bring about demonstrable improvement in performance of politics, government, non-profit organizations, international organizations, international business organizations and foreign services by preparing future leaders to have the analytical tools,

leadership capabilities, managerial skills and an in-depth understanding of IR issues

Admission requirements, program duration, course work and thesis details are given at pages 78-79.

Offering Campus

- Islamabad

Faculty Members
Islamabad Campus

Principal Research Officer

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

Advisors

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

- Dr. Samina Nadeem, Masters, University of Warwick, UK, PhD, Quaid-e-Azam University, Islamabad

Assistant Professors

- Dr. Tanveer Zara, PhD, University of Indiana, Bloomington, USA

- Dr. Azeema Voleger, PhD, University of Hawai Monoa, USA

- Dr. Mobeen Akhtar, PhD, University of Gottingen, Germany

- Dr. Farhat Nisar, PhD, National University of Modern Languages, Islamabad, Pakistan

- Dr. Najia Asrar Zaidi, PhD, University of Baluchistan, Quetta, Pakistan

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

- Dr. Tehseena Usman, PhD, University of Peshawar, Pakistan

Besides, 18 Lecturers and 02 Research Associates are also part of this department.

Lahore campus

Advisors

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

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, University of Karachi, Pakistan
- Dr. Tahira Jabeen, PhD, University of Punjab, Lahore, Pakistan
- Dr. Khawar Bilal, PhD, University of Karachi, Pakistan

- Dr. Muhammad Zuabir, PhD, University of Punjab, Lahore, Pakistan
- Dr. Shameem Fatima, PhD, University of Punjab, Lahore. Pakistan

Besides, 13 Lecturers are also part of this department.

Abbottabad Campus

Professors

- 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

- Dr. Sardar Muhammad, PhD, International Islamic University (IIU), Islamabad, Pakistan

Besides, 15 Lecturers are also part of this department.

Vehari Campus

Assistant Professors

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

Besides, 05 Lecturers are also part of this department.

Faculty of Engineering

Dean's Message

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 fourteen years, Engineering has grown beyond expectations having 07 Engineering disciplines offering 32 programs at undergraduate and graduate levels in different campuses of CIIT. It has been consistently ranked among top 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 Power Engineering Computer Engineering, Chemical Engineering, Mechanical Engineering and Civil Engineering. We have launched 4 Engineering programs in collaboration with Lancaster University UK, which is among top ten Universities of UK, and we are also in process of launching few more 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 and development in this area of technology. 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 Laboratories, 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. Shahid A Khan

Department of Electrical Engineering

Department of Electrical Engineering at CIIT Islamabad, Abbottabad and Wah Campuses was established in 2001 and at CIIT Lahore, Attock and Sahiwal Campuses in 2002, 2007 and 2012 respectively. During this short span it has made big strides by offering conducive environment for studying various disciplines of Electrical Engineering. The curriculum ensures that the students to learn not only the theoretical knowledge required solving complex engineering problems and at the same time acquaints them with state of the art tools and technique used in practice.

One of the main goals of the department is to actively achieve gender mainstreaming in its programs. Women are doing remarkable work in the engineering field today. Fields such as Computer Engineering, Telecommunication Engineering, Power Engineering and Electronics Engineering are offering congenial work environments for females. As such there is an increased demand from the female students to enroll in the Engineering Department programs. The primary research areas focused in the proposed program are as follows:

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

COMSATS Electrical Engineering program provides its student with the best updated laboratories. The Department of Electrical Engineering at CIIT has the following Laboratories for research and development:

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

These Labs are equipped with sophisticated software and hardware technology. These well-equipped Laboratories are maintained and kept up-to-date so that the students can take up research projects in any of the areas mentioned above.

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.

The group aims:

- To develop new algorithms based on advanced filtering techniques.
- To apply 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 Communications research group undertakes research on a range of topics applicable to cutting edge optical communications technology. Optical communication systems 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. Optical Communication is a promising source to accomplish the up-coming high bandwidth demands.

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 process in g techniques, target recognition, Antennas Propagation, Microwave Filters, Mm-wave and Submm-wave (THz) antennas.

The major objectives 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 develop Computer Aided Design models/simulations for optical communication systems.

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, crosstalk and high noise content in the channel. Application of multi rate 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 essential for the technological advancement of a country with an increasing number of applications in civil, defense and industrial sector. Some of the key application areas of computer vision are in public security, e.g. surveillance, biometric authentication, forensic record analysis such as face, finger prints etc., to assist in crime control.

The group primarily focuses on 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 sense 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 MSc. in Power and Energy System, Industrial Projects and Collaboration, Seminars/Workshops on MATLAB, ANSYS, MEMS, AutoCAD, etc. The goal is to design and implement Micro Grid Station at CIIT using Renewable Technologies. Involvement of Undergraduate/graduate students in implementation of these projects (Photovoltaic System, Micro-Wind Turbine, Biomass, etc.), empower them in design methodology of Power Distribution System

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.

The group is currently involved in various antenna focused research projects that involve multiple research students working towards their PhDs. Apart from PhD students we have a number of master students working in the Laboratory. The group also works on RF front-end design involving both active and passive components, electronically tunable band-pass filter and band-stop filter for various wireless communication standards. The present research targets application development in broader microwave, 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 targets R & D 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 Commu-nication 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 devel-

opment 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 interests are within the domain of design and developmentand 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 within 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, health care, 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 R&D 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 include:

- 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 pages 78-79.

Offering Campuses

- Islamabad, Abbottabad, Wah, Lahore, Attock

Doctor of Philosophy in Electrical Engineering

The Department of Electrical Engineering offers Doctor of Philosophy in Electrical Engineering 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 enrolled in the program, complete the required number of courses and then proceed to do research in their area of specialization. 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 pages 78-79.

Offering Campuses

- Islamabad, Abbottabad, Lahore, Wah

Master of Science in Mechatronics Engineering

The Master of Science in Mechatronics Engineering is designed to address the requirements of technology-based-industries. It will give in-depth familiarity in the fundamentals, design, analysis and operation of mechatronic systems. The objective of the program is to provide a course of study which enables the student to work efficiently.

The objective of the curriculum being taught is to provide an in depth understanding of mechatronic systems to engineers having multidisciplinary background. Curriculum which is recommended, not only addresses the requirement of the industries involved in this field, but also meets the requirements of the students from different disciplines.

Specializations in Mechatronics Engineering include:

1. Robotics Engineering
2. Industrial automation Engineering
3. Control and Automation Engineering
4. Intelligent Machine Engineering
5. Embedded System Engineering

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campus

- Islamabad

Master of Science in Renewable Energy Engineering

The Master of Science (MS) in Renewable Energy Engineering (REE) program will accommodate both full-time students and working professionals. The MS (REE) program is designed to prepare graduates to be energy engineering professionals who have advanced knowledge and skills that enable them to assume a broad range of technical leadership roles.

The MS (REE) curriculum is built upon core tracks in research methods, innovation and advanced energy engineering. These courses provide the foundation for three required specialized course sequences in renewable energy technologies and six credits of thesis.

Specializations in Renewable Energy Engineering include:

1. Wind Power Systems
2. Hydro Power Systems
3. Biofuels and Biomass
4. Photovoltaic and solar systems
5. Electrochemical and Fuel Cell Systems
6. Geothermal and Marine Energy
7. Energy Efficient Building Systems and Global Energy Issues

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

Offering Campus

❂ Islamabad

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 include:

1. Communication Systems
2. Embedded Systems
3. Image and Signal Processing
4. Machine Learning and Artificial Intelligence
5. Computer and Wireless Networks
6. Software Engineering
7. Control Systems

Admission requirements, program duration, course work and thesis/research project details are given at pages 78-79.

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 pages 78-79.

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
- Dr. Junaid Mughal, PhD, University of Birmingham, UK

Associate Professors

- Dr. Shafayat Abrar, PhD, Liverpool 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 Uddin 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, Orange Laboratories (France Telecom) in collaboration with Institute National de Telecommunication, Evry, France
- Dr. Ahmed Bilal Awan, PhD, Institute National Polytechnique de Lorraine, France
- Dr. Junaid Nawaz, PhD, Muhammad Ali Jinnah University, Pakistan

- Dr. Guftar Ahmed, PhD, Jacobs University, Germany
- Dr. Hammad Umer, PhD, Imperial College, London, UK
- Dr. Aamir M. Khan, PhD, University of Nice-Sophia

Anitpolis, France

Besides, 36 Lecturers, 19 Lab Engineers and 14 Research Associates are also part of this department.

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,University of Lorraine, Metz, 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

Besides, 82 Lecturers and 01 Research Associates are also associated with this department.

Lahore Campus

Associate Professors

- Dr. Saleem Akhtar, PhD, Ecole National Superieur Des Telecommunication, France
- Dr. Sobia Baig, PhD, Ghulam Ishaq Khan Institute of
- Engineering, Science and Technology, Topi, Swabi, Pakistan

Assistant Professors

- Dr. Ali Nawaz Khan, PhD, Harbin Institute of Technology, China
- Dr. Ejaz Ahmad Ansari, PhD, Asian Institution of

Technology, Thailand
- Dr. Muhammad Saqib Sarfraz, PhD, Technical University Berlin, Germany

- ● Dr. UmerFarooq, PhD,Universite Pierre et Marie Curie, France
- ● Dr. Junaid Zafar, PhD, Manchester University, UK
- ● 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. Irfan Ahmad, PhD, University of Grenoble, France
- ● Dr. Muhammad Nadeem, PhD, Auckland University, New Zealand
- ● Dr. Muhammad Naeem Awais, PhD, Jeju National University, Republic of Korea
- ● Dr. Muhammad Naeem Shehzad, PhD, Ecole Polytech de Nantes, France

Besides, 33 Lecturers, 06 Research Associates and 13 Lab Engineers are also part of this department.

Wah Campus

Advisors

- ● Dr. Muhammad Amin, PhD, UET, Taxila, Pakistan

Associate Professors

- ● Dr. Rahim Dad Khan, PhD, ECUST, Shanghai, China
- ● Dr. Sheraz Anjum, PhD, Graduate School of Chinese Academy of Sciences, Beijing, China

- ● Dr. Nadia Nawaz, PhD, Essex University, UK
- ● Dr. Muhammad Altaf, PhD, Essex University, UK

Assistant Professors

- ● Dr. Mubashir Hussain Rehmani, PhD, Universite Pierre et Marie CURIE, France
- ● Dr. Ayaz Ahmad, PhD, Paris Sud 11 University, France
- ● Dr. SajidSiraj, 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, PhD, KTH-Royal Institute of Technology, Sweden
- ● Dr. Muhammad Naeem, Ph.D. Simon Fraser University, Burnaby, Canada

Besides, 14 Lecturers, 05 Research Associates and 01 Lab Engineer is also associated with this department.

Attock Campus

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

- Dr. Shahab Ahmad Niazi, PhD, Beijing University of Posts and Telecommunications, China

Besides, 07 Lecturers are also associated with this department.

Department of Chemical Engineering

Chemical Engineering is one of the popular engineering disciplines that bear a promising market, both at home and abroad. The Department of Chemical Engineering at COMSATS Institute of Information Technology (CIIT) Lahore launched its academic programs in Fall-2005 with a vision to produce outstanding chemical engineers equipped with extensive up-to-date technical knowledge and skilful hand-on-training to meet the changing demands of the society. The Department offers enabling academic as well as social environment to its students to nourish their mental faculties. It strives for producing chemical engineers who are distinguished by their innovative approach, professional competence and managerial skills.

The Department has a rich tradition of providing quality education with an emphasis on applied research and all possible international linkages to uplift the standards of engineering education in Pakistan.

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 cater the needs of society. The program is designed to 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, and serve the society through research, education and outreach activities.

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, on successful completion of the this program. 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 pages 78-79.

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 developmental changes in program are continuously incorporated 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 pages 78-79.

Offering Campus

- Lahore

Faculty Members
Lahore Campus

Associate Professors

- Dr. Asad Ullah Khan, PhD Imperial College London, UK
- Dr. Robina Farooq, PhD, East China University of Science

and Technology, Shanghai, China

Advisors

- Dr. Javaid Ahmad, PhD, Brunel University, London, 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. Aqeel Ahmad Bazmi, PhD, University Technology Malaysia, Malaysia
- Dr. Mazhar Amjad Gilani, PhD, Clausthal University of Technology, Germany
- Dr. Javed Iqbal, PhD, Martin Luther University Halle-Wittenberg, Germany
- Dr. Zulfiqar Ali, PhD, Martin Luther University of Halle-Wittenberg, Germany
- Dr. Asim Laeeq Khan, PhD, Katholic University of Leuven, Belgium
- Dr. Murid Hussain Malik, PhD, Korea Advanced Institute of Science and Technology, Korea
- Dr. M. Umar Manzoor, PhD, University of Ulster, UK

- Dr. Sikander Rafiq, PhD, University Technology Petronas, Malaysia
- Dr. Faizan Ahmad, PhD, University Technology Petronas, Malaysia
- Dr. Zakir Khan, PhD, University Technology Petronas, Malaysia
- Dr. Muhammad Rizwan, PhD. Hanyang University, Korea
- Dr. Aqeel Ahmad Khan, PhD, University of Manchester, UK

Besides, 30 Lecturers and 04 Research Associates are also associated with the department.

Department of Civil Engineering

The Department of Civil Engineering was established at CIIT Wah and Abbottabad Campuses in Fall 2012. The department offers a competitive four years degree program at the undergraduate level based on a comprehensive curriculum designed in accordance with the HEC and PEC guidelines and in line with international standards. The department has diverse and experienced faculty of international repute. The department aims at the diversion of all natural resources to the well-being of mankind.

Graduate Programs

Currently, the following graduate programs are being offered and pursued as per latest trends in the 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 degree 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 build 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 program 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 Environment 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 engineering relevant field 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 minimum of 50% marks

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, Korea

- Dr. Khalid Mehmood, PhD, Busan National University, Busan, South Korea

Besides, 04 Lecturers are also associated with this department.

Wah Campus

Assistant Professors

- Dr. Hasan Abbas, PhD, Michigan State University, USA
- Dr. Qadir Bux alias Imran Lateef, PhD, Universiti Tun Hussein Onn Malaysia, Malaysia
- Dr. Zafar Mehmood, PhD, Saitama University, Japan

- Dr. Khalil Ahmad, PhD, Iowa State University, USA
- Dr. Qazi Samiullah, PhD, INSA Lyon, France

Besides, 01 Lecturer is also associated with this department.

Faculty of Information Sciences and Technology

Dean's Message

Welcome to the Faculty of Information Sciences and Technology. With our positive and dynamic approach we dare to say that our Faculty of Information Sciences and Technology has all the capabilities to compete today's world requirements. Our enthusiasm to adapt 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 or being entrepreneur 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 and also cater their non-academic needs such as admissions, career counseling, job hunting and above.

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, conferences of international repute, funded projects worth millions rupees and many others are in the queue.

Our mission of the multidisciplinary distributing computing program is to "develop Grid and cloud computing environments." We also established a Grid site which is an active site of ALICE-CERN project. In this regard, we signed the MoU with the CERN and exchange our workforce for betterment of the Institution and for the country.
I wish you best of luck.

Prof. Dr. Sajjad Mohsin

Department of Computer Science

The Department of Computer Science was established in 1999 at Islamabad and enrolled the pioneer batch of students in Fall 1999. The department made a modest beginning and is now proud of its excellent facilities and internationally qualified faculty members along with its presence at all Campuses of CIIT.

The department aims to impart competitive skills in effective development and application of modern technology to groom its students as excellent programmers, outstanding researchers, extra ordinary analysts and innovative designers. It is aware of everyday breakthroughs in modern technology and thus committed to equipping and imparting our students with advanced competencies required for managing the growing needs of science and technology, especially computer sciences,

in almost every professional field today.

Research activities have been given high priority within the department. This has resulted in national and international recognition for faculty and students alike. A number of research papers of national and international repute have been published in leading journals and presented at conferences all over the world. The department has dedicated research groups working in the areas of Databases, Algorithms, Artificial Intelligence, Computer Vision and Security Systems.

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 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, Master of Science in Information Security, 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 Laboratories 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 Laboratory, 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 Laboratory - An Investment into Future: CIIT is proud to be the first academic institution in Pakistan who has built Sun Laboratory 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 (4 0 - 5 0 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 Laboratory, Microprocessor Laboratory, VLSI Laboratory, DSP Laboratory and library facilities are also accessible to pursue research work.

CERN Collaboration: The European Organization for Nuclear Research (CERN), 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.

Research Groups

#	Group Name	Group Leader
1	Algorithmics	Dr. Aimal Tariq Rextin
2	Artificial Intelligence and High Performance Computing	Dr. Sajjad Mohsin
3	Data Mining and Business Intelligence	Dr. Manzoor Illahi Tamimy
4	Graphical Imagery Therapy for Healing Brain Tumor in Childern	Dr. Sajjad Mohsin
5	Grid Computing Group	Dr. Sajjad Mohsin
6	Human Computer Interaction	Dr. Muzafar Khan
7	Information Security (ISec)	Dr. Abid Khan
8	Intelligent Databases and Information Systems (IDIS)	Dr. Malik Ahmad Kamran
9	Mobile Application Development Group	Dr. Naveed Ahmad
10	Natural Language Processing	Dr. Ahmad Raza Shahid
11	Network Research Group (NRG)	Dr. Majid Iqbal Khan
12	Real-time and Embedded Systems	Dr. Nasro Min-Allah
13	Robotic Sensing and Ambient Intelligence	Mr. Muhammad Tariq
14	Software Engineering (SE)	Dr. Muhammad Asim Noor
15	Vision and Security Group (VSG)	Dr. Sheikh Ziauddin
16	Applied Security Engineering Research Group	Dr. Amir Hayat
17	Complex Systems Modeling Simulation & Engineering (COSMOSE)	Dr. Muaz A. Niazi

Research Projects

#	Project Tittle	Funding Agency	Principle Investigator
1	Cross Domain Access Control And Delegation In Enterprise Application	National ICT R&D	Dr. Amir Hayat

#		
2	3D Graphical Imagery Therapy for Healing Brain Tumors in Children	National ICT R&D Dr. Sajjad Mohsin

Abbottabad Campus
Research Groups

#	Group Name	Group Leader
1	Cloud and Grid Computing(CGC)	Dr. Babar Nazir
2	Communication Systems and Innovative Technologies	Dr. Rafi us Shan
3	COMSATS Network Research Group (CNRG)	Dr. Sajjad A. Madani
4	Information Security and Image Processing (ISIP)	Dr. Usama Ijaz Bajwa
5	Intelligent Systems and Environments	Dr. Kashif Zia
6	Mining Language Processing and Pattern Analysis (MLPA)	Dr. Muhammad Waqas Anwar

Research Projects

#	Project Tittle	Funding Agency	Principle Investigator
1	Cloud Computing Infrastructure For Clinical Decision Support System	DOST (Directorate of Science and Technology KPK)	Dr. Babar Nazir
2	Dynamic Connectivity Restoration Protocol For Wireless Sensor And Actuator Networks	Pakistan Higher Education Commission (HEC)	Dr. Babar Nazir
3	Recognition And Verification System For Paper Currency	CIIT Research Grant	Mr. Allah Bux Sargano

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 academia and 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. At 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, coursework and thesis/research project details are given at pages 78-79.

Offering Campuses

◯ Islamabad, Abbottabad, Lahore, Wah, Attock, Sahiwal

Master of Science in Information Security

The Master of Science in Information Security (MSIS) is ideally suited for students who want to assume leadership positions in the information security arena. In 24 months, the program enhances a technical education with additional courses in management, information security policy, privacy and other topics essential for the effective development and management of secure information systems. Graduates of the MSIS program become security experts equipped to manage the growing complexities associated with securing data, networks and systems. Through this program, the students will gain a detailed understanding of the interdisciplinary aspects (technical, business, management, policy) of information security,

assess the information security risks faced by an organization, design and implement networked, software and distributed systems with information security in mind, acquire a detailed understanding of information security challenges in networks and software systems, gain expertise in both theory and practice of information security, manage the development, acquisition and evolution of a secure information infrastructure, and gain expertise to manage the growing complexities associated with securing data and networks.

Admission requirements, program duration coursework and thesis/research project details are given at pages 78-79.

Offering Campuses

◯ Islamabad

Master of Science in Cyber Security

The Master of Science in Cyber Security program adopts interdisciplinary skill based approach and it has been designed to deliver the skills and knowledge necessary for the current and next generation of security specialists to deal with the increasing challenges regarding Cyber Security. Courses about digital forensics prepare students to examine, identify and investigate computer crimes. After successful completion of the program, the students can employ state of the art techniques in Cyber Security to ensure the safety and well being of data as well as networks. The graduates of this program have careers in police, military, intelligence agencies, e-businesses, e-government, banking, and information security solution provider organizations. This program will expose the students to the recent most advanced technologies in attacking computer and communication systems as well as preventing attacks. Students will have a solid foundation to conduct research and development in new security technologies which will give them a competitive advantage in the industry.

Entry Requirements

- 16 years of education in Computer Science / Information Technology, Telecommunication, Software Engineering or any other related discipline from an accredited education 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

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, which 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 scientific approach. In our Doctor of Philosophy in Computer Science program, we provide a strong foundation to our students 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, coursework and thesis/research project details are given at pages 78-79.

Offering Campuses

○ 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 health care 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 work flow 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 (WHO)
- 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.

Master of Science in Health Informatics

The Master of Science in Health Informatics program at CIIT is designed to deliver advanced training in informatics to the 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 health care 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 minimum of 50% marks

Offering Campus

- Islamabad

Faculty Members
Islamabad Campus

Professors

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

Associate Professors

- Dr. Nasro Min-Allah, PhD, Graduate School of Chinese Academy of Sciences, Beijing, China
- Dr. M. Manzoor Ilahi Tamimy , PhD, Graduate School of

Chinese Academy of Sciences, Beijing, China
- Dr. Masoom Alam, PhD,University of Innsbruck, Austria

Assistant Professors

- Dr. Abid Khan, PhD, Harbin Institute of Technology, China
- Dr. Muhammad Asim Noor, PhD, Johannes Kepler University, Linz, Austria
- Dr. Malik Najmus Saqib, PhD, Vienna University of Technology, Austria
- Dr. Majid Iqbal Khan, PhD, University of Vienna, Austria
- Dr. Mansoor Ahmed Awan, PhD, Vienna University of Technology, Austria
- Dr. Sadaf Tanvir, PhD, University of Grenoble, France
- Dr. Naveed Ahmed, PhD, Cambridge University, UK
- Dr. Farhana Jabeen, PhD, Manchester University,
- Dr. Iftikhar Azim Niaz, PhD, University of Tsukuba, Japan
- Dr. Muzafar Khan, PhD, Universiti Teknologi Petronas, Malaysia
- Dr. Amir Hayat, PhD, Graz University of Technology, Austria

- Dr. Sheikh Zia ud din, PhD, Asian Institute of Technology, Pathum Thani, Thailand
- Dr. Amir Hanif Dar, PhD, Beijing Institute of Technology, China
- Dr. Fatima Ashraf, PhD, Universiti Utara Malaysia, Malaysia
- Dr. Rafi Ullah, PhD, PIEAS, Nilore, Islamabad, Pakistan
- Dr. Ahmad Raza Shahid, PhD, University of York, UK
- Dr. Yasir Faheem, PhD, University of Paris, France
- Dr. Asad Ali Safi, PhD, Technical University of Munich, Germany
- Dr. Ghufran Ahmed, PhD, Muhammad Ali Jinnah university, Islamabad
- Dr. Munam Ali Shah, PhD, University of Bedfordshire, UK
- Dr. Malik Ahmad Kamran, PhD, Vienna University of Technology, Austria
- Dr. Aimal Tariq Rextin, PhD, University of limerick, Republic of Ireland

- Dr. Adeel Anjum, PhD, Ecole Polytechnique, University of Nantes ,France
- Dr. Zafar Iqbal, PhD, University of Linköping, Sweden
- Dr. Sajid Farooq, PhD, University of Glasgow, UK
- Dr. Zara Hamid, PhD, National University of Science and Technology, Pakistan
- Dr. Basit Raza, PhD, International Islamic University, Pakistan

Beside 02 advisors, 50 Lecturers and 17 Research Associates/Teaching Associates are also associated with the department.

Health Informatics Unit

Advisors

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

Assistant Professors

- Dr. Abid Hussain, MBBS, MS, CIIT Islamabad, Pakistan
- Dr. Seema Rizvi, MBBS, MS, CIIT Islamabad, Pakistan

Beside 02 Lecturers are also associated with the department.

Lahore Campus

Professors

- Dr. Syed Asad Hussain, PhD, Queen's University Belfast, UK
- Dr. Zulfiqar Habib, , PhD , Kagoshima University, Japan

Associate Professors

- Dr. Ghulam Rasool, PhD, TU Ilmenau, Germany
- Dr. Muhammad Umair, PhD, Vrije Universiteit Amsterdam, Netherlands

Assistant Professors

- Dr. Mudasser Naseer, PhD, Beihang Universty, Beijing, China
- Dr. M. Salman Ahmad Khan, PhD , Graz university of Technology Austria
- Dr. RaoAdeel Nawab, PhD, University of Sheffield, UK
- Dr. Syed Asim Ali, PhD, University of Paris, France
- Dr. Hamid Turab Mirza, PhD, Zhejiang University, China
- Dr. Ijaz Ahmed, PhD, University of Madeira, Portugal
- Dr. Muhammad Hasanain Ch, PhD, Asian Institute of

Technology, Thailand

- Dr. Adnan Ahmad, PhD, Massey University, New Zealand
- Dr. Ghulam Mahdi, PhD, University of Mantpelliea, Farance
- Dr. Umera Imtinan. PhD, Curtin University, Australia

- Dr. Qurrat Ul Ain Malik, PhD, Manchester Metropolitan University, UK
- Dr. Farukh Zeeshan, PhD, University Teknologi Malaysia (UTM)

Besides, 17 Lecturers and 02 Research Associates are also associated with this department.

Abbottabad Campus

Associate Professors

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

Assistant Professors

- Dr. Danish Irfan, PhD, Harbin Institute of Technology, China
- Dr. Babar Nazir, PhD, University Technology Petronas Malaysia
- Dr. Tasswar Iqbal, PhD, Vienna University of Technology, Austria
- Dr. Abbas Khalid, PhD, Lancaster University, UK
- Dr. Eraj Khan, PhD, Lancaster University, UK
- Dr. Rafi us Shan, PhD, Lancaster University, UK
- Dr. Ahmed Din, PhD, Politecnico di Torino, Italy
- Dr. Usama IjazBajwa, PhD, CASE, UET Taxila, Pakistan
- Dr. FiazGul Khan, PhD, Politecnico di Torino, Italy
- Dr. Zia Ur Rehman, PhD, PIEAS, Pakistan
- Dr. Kashif Zia, PhD, University of Linz, Austria
- Dr. Shahid Raza, PhD, Mälardalen University, Sweden
- Dr. Abdul Nasir Khan, PhD, University of Malaya, Kuala Lumpur, Malaysia

- Dr. Safdar Zaman, PhD, Graz University of Technology, Austria
- Dr. Masood ur Rehman, University Technology Petronas(UTP), Malaysia
- Dr. Syed Sajid Hussain, PhD, University of Malaya, Kuala Lumpur, Malaysia
- Dr. Attiqa Rehman, PhD,University of Malaya, Kuala Lumpur, Malaysia
- Dr. Iftikhar Ahmad, PhD,Brunel University, West London, UK
- Dr. Atta ur Rehman, PhD, University of Malaya, Kuala Lumpur, Malaysia
- Dr. Kashif Bilal, PhD, North Dakota State University, USA
- Dr. Usman Khalid, PhD, North Dakota State University, USA
- Dr. Waqas Jadoon, PhD, Sichuan University, China

Besides, 26 Lecturers are also associated with this department.

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, Beijing, China

Assistant Professors

- 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
- Dr. Shafqat Ali Shad, PhD, University of Science and Technology of China
- Dr. Muhammad Sharif, PhD, CIIT, Islamabad , Pakistan

Besides, 10 Lecturers and 02 Research Associates are also associated with this department.

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

Besides, 09 Lecturers are also associated with this department.

Sahiwal Campus

Associate Professors

- Dr. Amjad Farooq, PhD, University of Engineering and Technology, Lahore, Pakistan

Assistant Professors

- Dr. Javed Ferzand, PhD, Graz University of Technology, Austria

- Dr. Sadia Aziz, PhD, Wuhan University of Technology, China

- Dr. Qaisar Abbas, PhD, Huazhong University of Science and Technology, China

- Dr. Syed Khuram Shahzad, PhD, Graz University of Technology, Graz, Austria

Besides, 09 Assistant Professors, 15 Lecturers and 02 Research Associates are also associated with the department.

Vehari Campus

Assistant Professors

- Dr. Muhammad Imran Qureshi, PhD, Government College University Lahore, Pakistan

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

- Dr. Muhammad Ishaq, PhD, Bahauddin Zakariya University Multan, Pakistan

- Dr. Aqeel Ur Rehman, PhD, Chongqing University Chongqing, PR China

Scheme of Studies

Note

a) The approved Scheme of Studies of all undergraduate programs is available in the Registrar Office of the respective campus and also on the link http://cuonline.comsats.edu.pk/publicaccess

b) The approved rules and regulations governing undergraduate programs can be obtained from Registrar office of respective campus.

c) All other regulations approved and issued from time to time, regarding undergraduate degree programs, shall also be applicable.

65th Abbottabad Convocation

3 Vice Chancellors' Forum, February 2015

4 Pak China Business Forum, March 2015

CIIT
Campuses
Map Guide

CIIT Islamabad

CIIT Islamabad campus is accessible via Rawalpindi and Islamabad. From Rawalpindi take the Murree road crossing Faizabad chowk and heading straight towards 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. 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 in front of POF barrier No. 5 and move back towards Taxila. Drive furtherfor 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.

Contacts

Admission Offices

Following admission offices may be contacted for any admission inquiry:

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Lahore
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Islamabad Campus

Administration

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Abbottabad Campus

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Wah Campus

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Administration

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Lahore Campus

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Administration

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Hostel

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Sahiwal Campus

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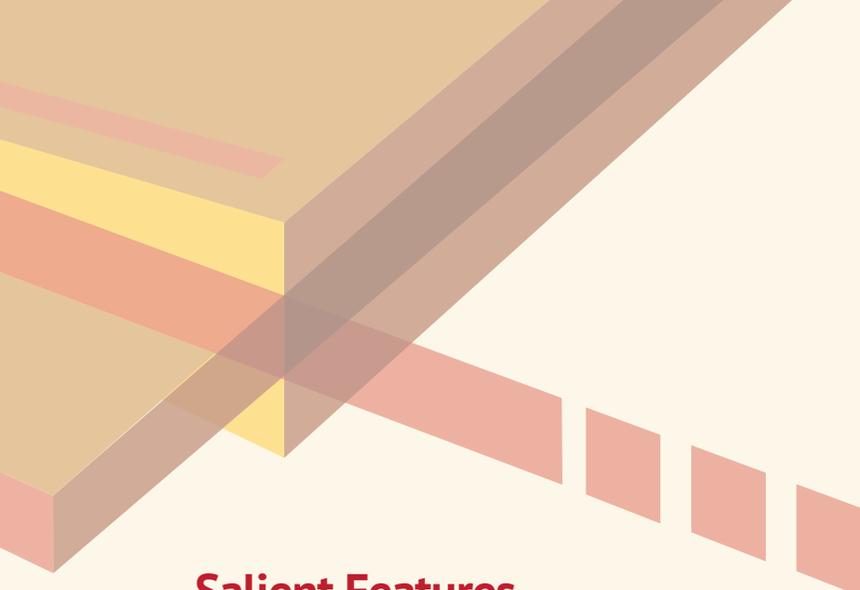E-mail: shuaibghauri@ciitvehari.edu.pk

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