History, Mission, and Organization

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# History, Mission, and Organization

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President Baker was a strong advocate of research in pure and applied science, supporting the establishment of research laboratories for metals, coal, chemistry, and physics, and organizing three international conferences on bituminous coal. With a background in university and preparatory school teaching. Baker emphasized the importance of instruction in English throughout the curriculum.

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Robert Doherty, an electrical engineer with a corporate background, also believed in the need for a broader education for engineers. President Doherty developed a new kind of education, which started a revolution at Carnegie Tech and across the nation. It became known as "liberal/professional education" and as "the Carnegie Plan" for its origin at Carnegie Tech. Under the Carnegie Plan, students were taught to think independently and to become problem solvers in their science and engineering courses; one-fourth of their courses were required to be in the humanities and social sciences and these courses also emphasized problem solving.

Research and a commitment to the development of the local region were major emphases of President Doherty. Government-funded research grew out of World War II, including the Nuclear Research Center, which Tech operated until 1969. President Doherty was a driving force in the Pittsburgh Renaissance and joined Richard King Mellon's initiative to form the Allegheny Conference on Community Development in 1943, serving as its first chairman.

William Larimer Mellon, then chairman of Gulf Oil, offered President Doherty an endowment to found a business school to provide interdisciplinary education, which Mr. Mellon believed was needed by managers in local corporations and not available elsewhere. His foundation endowed the Graduate School of Industrial Administration (GSIA), which opened in 1949 and was named the Tepper School of Business in 2004.

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John Warner, a Carnegie Tech chemistry professor and dean of graduate studies, became president in 1950 and led the school during its mid-century "golden period." Hunt Library, the Scaife Hall of Engineering, and the GSIA building were constructed. The industrial administration programs grew rapidid I ruc(of)-13( gr)-6(adu)-apid ate sooloc( gr)-6(adu)-3dibronst]TJ 0.02 431.28 7ned 1iTw 17.422 schorfound b u s i n o ( s ) ] T J 0 T c 0 1 T

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In 1969, the forerunner of the College of Humanities and Social Sciences opened as a coeducational, liberal arts college. Later that year, the decision to phase out the women's college, Margaret Morrison Carnegie College, was made and the last class graduated in 1973. In 1970, the College of Engineering and Science was divided into the Carnegie Institute of Technology (engineering) and the Mellon College of Science.

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President **Richard Cyert**'s vision for Carnegie Mellon would catapult the university to remarkable growth in strategic research areas as well as in national reputation. An economist, behavioral scientist, and former dean of GSIA, President Cyert initiated strategic planning and the concept of focusing on fields in which the university's strengths would give it a comparative advantage among universities. In 1988, the Computer Science Department, in the Mellon College of Science, became the School of Computer Science. With Dr. Cyert's leadership, the Robotics Institute, Software Engineering Institute, and Pittsburgh Supercomputing Center were established.

Cyert believed that another innovation, the "Andrew" computing network, would be "perhaps the most significant development in higher education in the twentieth century." The Andrew network, developed at the university and named after Andrew Carnegie and Andrew Mellon, linked all the thousands of computers on campus to make Carnegie Mellon the first university to have a wired campus network.

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President **Robert Mehrabian**, an internationally recognized materials scientist, led a university-wide strategic planning process and focused Carnegie Mellon on revitalizing undergraduate education. A vice provost for education was named to focus on undergraduate education and student life, curricula were revised, and the Undergraduate Research Initiative was established and is now a hallmark of a Carnegie Mellon education. These initiatives in undergraduate education were later recognized by the Higher Education Research Institute.

During Mehrabian's presidency, the "Wireless Andrew" system was developed in the mid-1990s, building on the university's wired network infrastructure and giving students, faculty, and staff increased freedom to learn and connect anywhere on campus. The University Center was constructed as part of President Mehrabian's major building program and continues to provide fitness, dining, and meeting facilities, a career center, post office, interdenominational chapel, bookstore, and art and computer stores.

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Carnegie Mellon's current president, **Jared Cohon**, a leading authority on environmental and water resource systems analysis, came to Carnegie Mellon in 1997 from Yale University, where he was dean of the School of Forestry and Environmental Studies. He is currently serving his third five-year term as president, receiving a one-year extension in 2010 that will keep Cohon at the helm until June 2013.

During Cohon's administration, the university has soared to a leading role on the world stage. In 2010, Carnegie Mellon ranked 20th in the Times Higher Education World University rankings, including 11th in engineering and technology. Carnegie Mellon has greatly increased its research and educational partnerships throughout the world, currently offering graduate degree programs in many countries. The university also opened an undergraduate campus in Qatar in 2004. A Silicon Valley, California, campus offering graduate degrees was founded in 2002. In 2008, the university completed a successful Middle States reaccreditation and launched a new 10-year strategic plan.

On the Pittsburgh campus, the Gates Center for Computer Science and the Hillman Center for Future-Generation Technologies opened in fall 2009. The nation's first "green" dormitory was constructed in 2003 and the Purnell Center for the Arts opened in 1999 as home to the School of Drama. The Collaborative Innovation Center opened in 2005 to facilitate collaboration between corporate and university researchers. Since that time, Carnegie Mellon has ranked among the top U.S. research

### **Seven Colleges**

Carnegie Institute of Technology (CIT) is one of the foremost engineering schools in the United States. Because of its emphasis on interdisciplinary research and partnerships with industry, the college produces graduates who are able to transfer their fundamental engineering knowledge into industrial practice. Faculty bring their knowledge of real-world problems into the classrooms and laboratories. The college includes seven departments: Biomedical Engineering, Chemical Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering and Public Policy, Materials Science and Engineering, and Mechanical Engineering, as well as two institutes: the Information Networking Institute and the Institute for Complex Engineered Systems.

Dean: Pradeep K. Khosla

www.cit.cmu.edu

College of Fine Arts (CFA)

**Mellon College of Science (MCS)** is a dynamic and collaborative college that is home to four departments: Biological Sciences, Chemistry, Mathematical Sciences, and Physics, and many research centers. MCS researchers are taking leadership roles in the university's biotechnology initiative in the areas of biosensors, proteomics, bioimaging, tissue engineering, and neuroscience. MCS also focuses on several other strategic areas, including cosmology, green chemistry, computational biology, bioinformatics, nanotechnology, mathematical finance, sensor research, and biological physics. MCS undergraduates discover new science as integral parts of faculty research teams. Innovations developed by MCS faculty and alumni, which have formed the basis for numerous patents and spin-off companies, impact fields as diverse as plastics manufacturing, the environment, and human health.

Dean: Frederick J. Gilman www.cmu.edu/mcs

The School of Computer Science (SCS) faculty and graduates have advanced the field of computer science for more than 50 years. The school includes the departments of Computer Science and Machine Learning, as well as the Human-Computer Interaction Institute, the Institute for Software Research, the Language Technologies Institute, and the Robotics Institute. The school offers a range of undergraduate and master's degrees, as well as a large doctoral program. SCS's diverse interdisciplinary research and education extend into areas beyond the traditional boundaries of computer science. An example is the Entertainment Technology Center, a joint initiative of the School of Computer Science and the College of Fine Arts that brings together technologists and artists in close collaboration.

Dean: Randal E. Bryant www.cs.cmu.edu

The Tepper School of Business (Tepper) curriculum has both rigor and breadth. Rigor comes from the strong emphasis placed on the development of quantitative and analytical problem-solving skills. The Tepper School requires among the most extensive and diverse set of quantitative courses among leading undergraduate curriculum models. The Tepper School's approach to decision-making involves students in projects, case competitions, research, and leadership experiences in which they master skills to solve relevant management problems and gain confidence in their abilities to lead within dynamic, complex business situations. The Tepper School of Business has produced seven Nobel Prize winners in Economics; Robert Lucas, Merton Miller, Franco Modigliani, Herbert Simon, Edward Prescott, Finn Kydland and Oliver Williamson.

The breadth of the curriculum is found in the required courses that give context and skill building to business studies. This range of academic options has been recently strengthened with new career tracks—in the form of an academic minor—available to assist students in gaining exposure to industry and functional areas of study. Broadening and strengthening the academic experience provides students with greater opportunities for careers, graduate study, and leadership in the global business environment of the 21st century.

The Qatar Foundation created Education City – a campus of some 2,500 acres – to host the highest caliber of education in Doha, the capital of Qatar. In addition to Carnegie Mellon, Education City includes the Qatar Academy (K-12), Virginia Commonwealth University, Texas A&M University, Weill Cornell Medical College, Georgetown University's School of Foreign Service, Northwestern University, the Al Jazzera children's television station and several other centers. Numerous construction projects have recently been completed or are underway, including a student center, the building for Georgetown's programs, a science and technology park, a major convention facility, housing for students, faculty and staff, and a world-class equestrian center. Other universities will likely be invited to establish campuses in Education City in the years to come. Interim Dean: G. Richard Tucker www.gatar.cmu.edu

### **Carnegie Mellon Silicon Valley**

Carnegie Mellon's Silicon Valley campus (Silicon Valley), established in 2002 at Moffett Field, offers full-time, part-time, and bicoastal master's degree programs in information technology, innovation, software engineering, and software management. In fall 2009 a new bicoastal Ph.D. program affiliated with the CyLab Mobility Research Center in Electrical and Computer Engineering (ECE) was introduced. The initial concentration of the program is on mobility, networking, and security.

Dean: Pradeep K. Khosla www.cmu.edu/silicon-valley

### **Federally Funded Research and Development Center**

The Software Engineering Institute (SEI), founded in 1984, is a college-level unit of Carnegie Mellon University that operates a federally funded research and development center sponsored by the U.S. Department of Defense. The mission of the SEI is to provide technical leadership and innovation through research and development to advance the practice of software engineering and technology. The SEI advances software engineering and cnglted wdncie7(p)lneesby tcretio7(ng, TJ0.0001 Tc -0.0025 Tw 254.856 Td( papplyig, a@nd )ra

# Research Centers and Institutes Fall Semester 2010

In Carnegie Mellon's research centers and institutes, students and faculty work together to solve real-world problems across a broad range of interests and industries.

Pittsburgh Science of Learning Center (PSLC) Robotics Engineering Consortium Sloan Software Industry Center (SWIC) Specification and Verification Center Sustainable Computing Consortium (SCC) Vision and Autonomous System Center (VASC)

### **Software Engineering Institute**

Acquisition Support Program (ASP)

CERT Program

Secure Software and Systems

Enterprise and Workforce Development

Cyber Threat and Vulnerability Analysis

Digital Intelligence and Investigation

Research, Technology, and System Solutions Program (RTSS)

Architecture-Centric Engineering (ACE)

System of Systems Practice (SoSP)

Product Line Practice (PLP)

System of Systems Software Assurance (SoSSA)

Software Engineering Process Management (SEPM)

# Accreditations by College and Department Fall Semester 2010

College/Department	Accreditation Agency	Year of Last Accreditation
Carnegie Mellon University	Middle States Commission on Higher Education (MSCHE)	2008
Carnegie Institute of Technology	Accreditation Board for Engineering Technology (ABET)	2007
College of Fine Arts		
Architecture	National Architectural Accrediting Board (NAAB)	2005
Art	National Association of Schools of Art and Design (NASAD)	2008
Design	National Association of Schools of Art and Design (NASAD)	2007
Music	National Association of Schools of Music (NASM)	2001
H. John Heinz III College		
School of Public Policy and Management	National Association of Schools of Public Affairs and Administration (NASPAA)	2006
Tepper School of Business	The Association to Advance Collegiate Schools of Business International (AACSB)	2010

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