

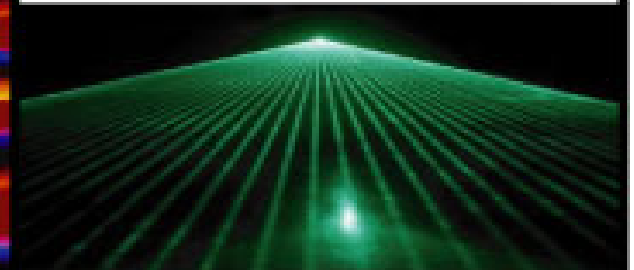
City College of San Francisco



**Computer Networking &
Information Technology (CNIT)**



**Institute for Convergence
of Optical & Network
Systems (ICONS)**



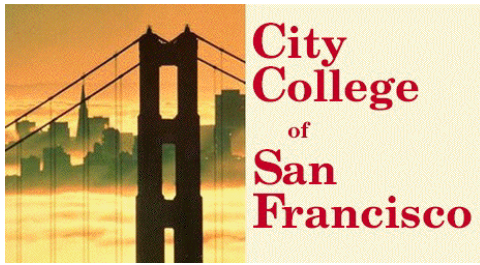
Initial ICONS Advisory Panel Meeting

City College of San Francisco, Main Library, Rosenberg 518

January 20, 2006, 10am to 1pm



This material is funded in part by the National Science Foundation
under Grant Number DUE 0501703



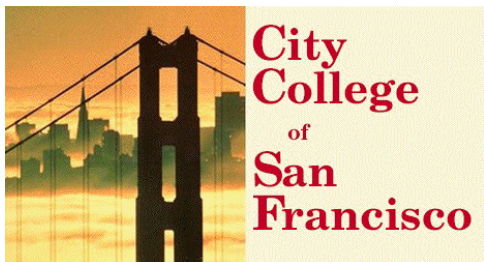
Presentation & Facilitation By

- **Dr. Philip R. Day**, Chancellor, City College of San Francisco
- **Dr. Pierre Thiry**, ICONS Principal Investigator & CNIT Instructor
 - pthiry@ccsf.edu, (415) 239-3594
- **Tim Ryan**, Network Manager & ICONS Co-Principal Investigator
 - tryan@ccsf.edu, (415) 452-5352
- **Carmen Lamha**, Chair CNIT Dept. & ICONS Co-Principal Investigator
 - clamha@ccsf.edu, (415) 239-3396
- **James Jones**, Consultant, Photisis Consulting
 - james@photisis.com, (415) 867-6616



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Tel: (415) 452-5323, Fax: (415) 239-3314,
Email: icons@ccsf.edu, www.ccsf.edu/cnit, www.ccsf.edu/icons

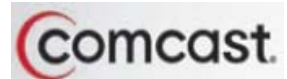


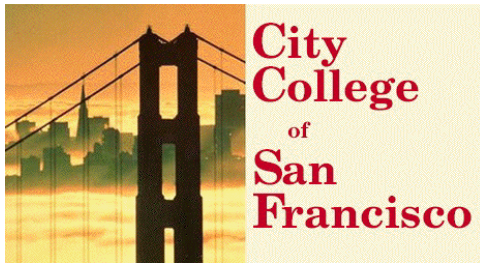


Welcome & Introductions

- CCSF
- Educational Institutions
- Equipment Manufacturers
- Service Providers
- Private Enterprises
- Standards Bodies
- Government
- Community Non-Profits

National Institute for Women in Trades, Technology & Science





One of the World's Largest Colleges

> **106,000 Students Annually** (>3X UCB, >5X Stanford, >35X UCSF, >3.5X SFSU)

> **50 Academic Programs & Over 100 Academic Disciplines**

> **4,700 Courses Offered**

9+ Major Neighborhood Campuses

> **150 Other Instructional Sites Citywide**

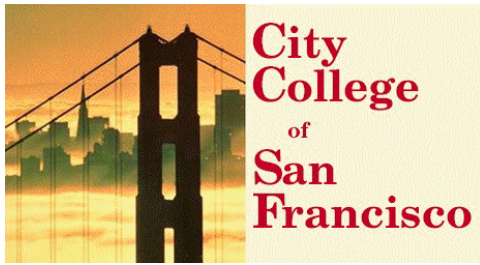
710 Full-time & 1,126 Part-time Faculty

- 95% with Master's Degrees
- Almost 250 Ph.D.s

46 Administrators & 882 Classified Employees

One of California's Largest Schools!



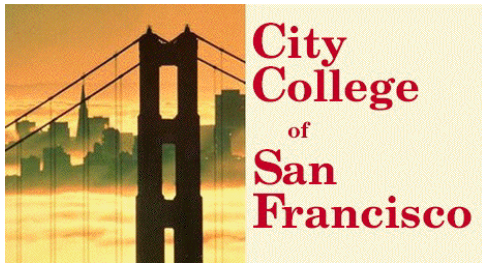


City College of San Francisco

Providing Educational & Cultural Opportunities To A Diverse & Changing Community

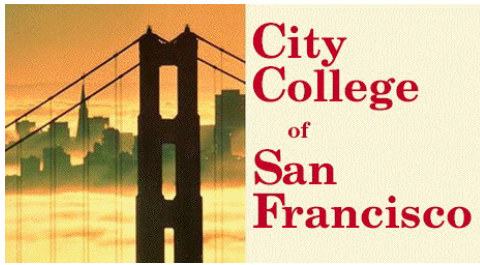
- 2-Year Public College
- Accredited by the
Western Association of
Schools & Colleges (WASC)
- Associate of Arts (AA) &
Associate of Science (AS) Degrees





CCSF Major Neighborhood Campuses





Incredible Value

\$26 Per Unit!

- For Credit Course California Resident Tuition
- Applies to Students with BA/BS & Higher Degrees Also

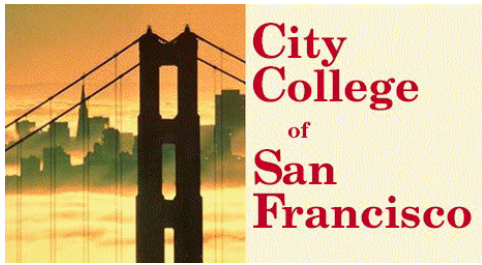
\$678 Per Year

- Full-Time, In-State Tuition & Fees

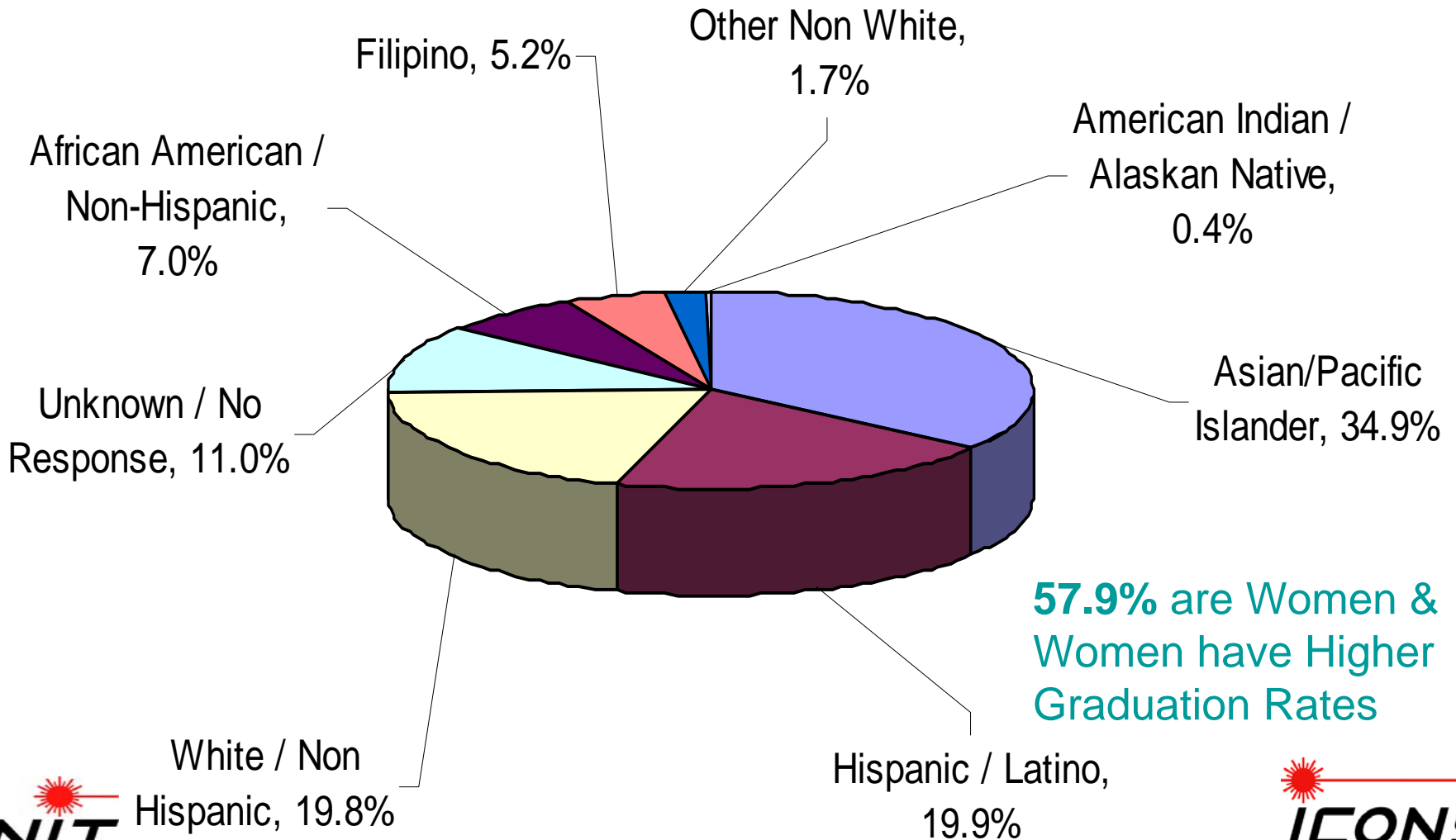
\$0 Per Unit!

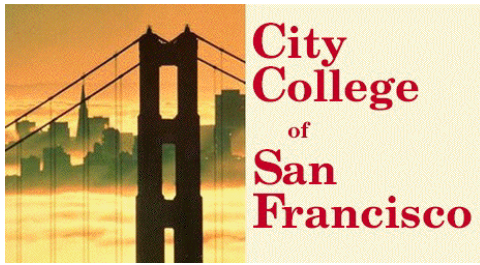
- Non-Credit Courses are Free

CCSF is San Francisco's Best Higher Ed Value!



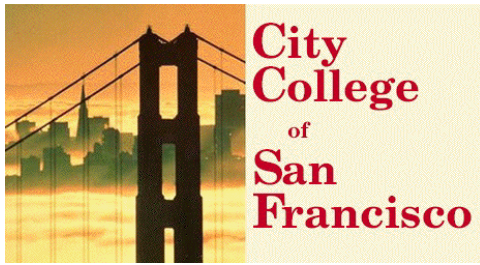
Ethnicity of CCSF Students Summer 2004 - Spring 2005 (Credit and Non-Credit)





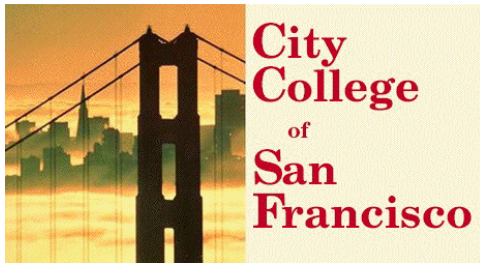
CCSF

CCSF's programmatic breadth & variety, combined with its image & prominence in ethnic neighborhoods & business districts, result in the highest market penetration of any community college in the country, & more than one-third of CCSF students are from under-represented minority populations.



Transfer Articulation Agreements (TAA)

- **CCSF transfers more students to the California State University system than any other community college in California.**



Tremendous Community Support

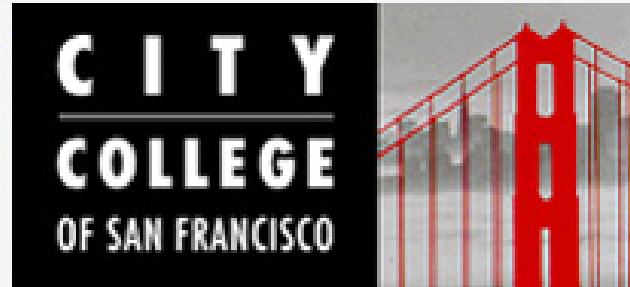
2001 – Proposition A

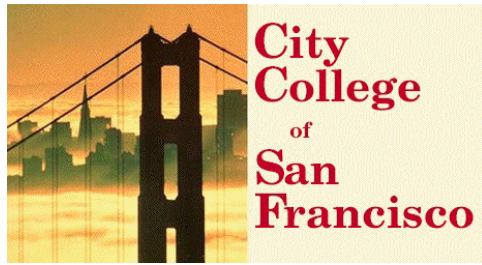
- Overwhelmingly Approved \$195m General Obligation Bond for Facilities Upgrades

2005 – Proposition A Phase II

- Approved \$243.6m Bond for Additional Upgrades
- One of few propositions passed in the last, contentious special election

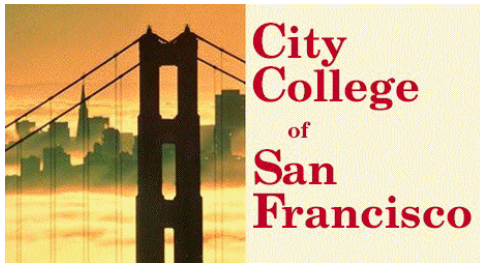
Information Technology Services (ITS)





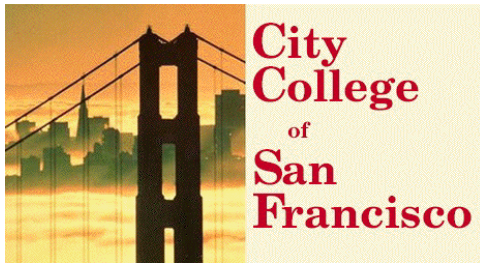
Information Technology Services Overview

- 44 Employees
- Approximately 2,000 Faculty/Staff PCs
- Currently 72 Labs, 2300 Student Lab PCs
- Approximately 300 Standardized Faculty Laptops
- Approximately 160 Ethernet Switches
- Novell GroupWise Email Environment
- Remote Access Capability with SSL VPN
- HP 9000 Back Office Support Systems
- SCT Banner ERP Application
- Class B Public IP Address Block (65,536 Addresses)



Communications Systems Overview

- Yr 1998/1999 Cabling Infrastructure Installation
- 2000 New Ethernet Switching Infrastructure
 - HP ProCurve with Foundry OEM
- 2002 New Firewall System
- 2003/2004 New Telephone System (VoIP + TDM)
 - Alcatel OmniPCX
 - 10 Subsystems with 2,000 Telephones
- 2004/2005 Fiber Optic Metro Network Installation
- 2005 Improved CENIC Network Interconnections
 - 100Mbps Commercial Internet Access
 - 1Gbps Internet2 Access
- 2005 WLAN Deployment, Campus Hotspots



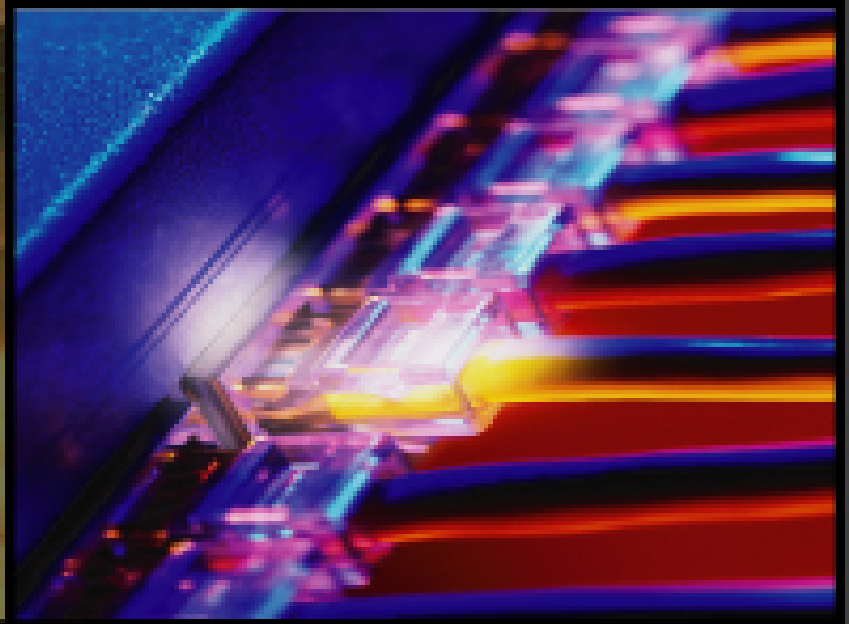
Communications Systems Future

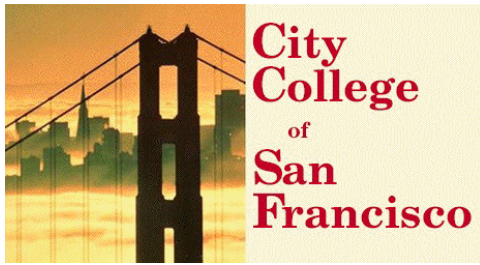
- Expand Campus WLAN Coverage
- IP Trunking Implementation
 - Transport Consolidated Phone Traffic to Provider
 - Reduce Monthly Costs
 - Utilize Session Initiation Protocol (SIP)
- Replace Firewall System
- Replace Ethernet Switch Infrastructure
 - 802.1x Authentication
 - Dynamic VLAN Assignment
- Pilot Video-Based Distance Learning Systems

City College of San Francisco

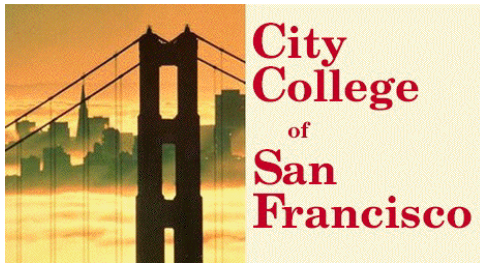


**Computer Networking &
Information Technology
(CNIT)**

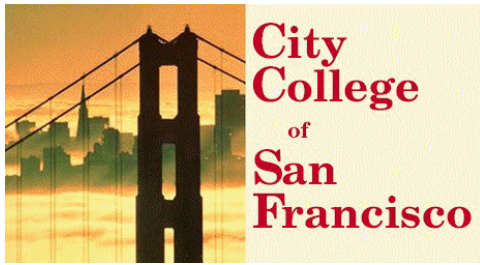




- **CNIT was created in 2002**
- **Students: 1775**
- **Faculty and Staff**
 - 8 Full-time instructors
 - 13 Part-time instructors
 - 1 Part-time secretary
- **Courses: 56**
- **Delivery Methods**
 - Classroom: 49 sections
 - Online: 19 sections



- **CCSF Certificates**
 - *Computer Technical Support*
 - *Routing and Switching*
 - *Computer Technician*
 - *Windows Networking*
 - *Web Site Development Techniques*
 - *Fundamentals of Networking*
 - *Wireless Networking*



- **Industry Certificates**

- **Cisco Systems**

- CCNA, CCNP, PIX, WLAN, VoIP

- **CompTIA**

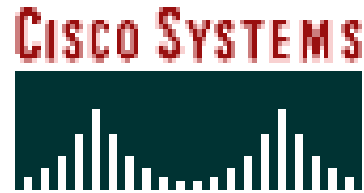
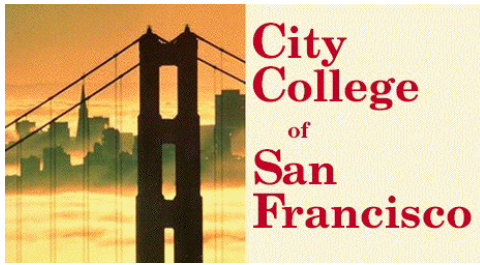
- A+, Network+, Security +

- **Microsoft**

- MCP, MCSA, MCSE, MCDBA,

- **CWNA**

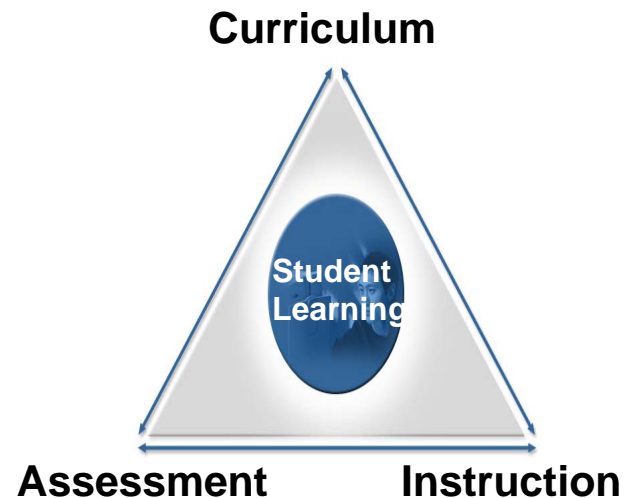
- **Certified Wireless Network Administrator**

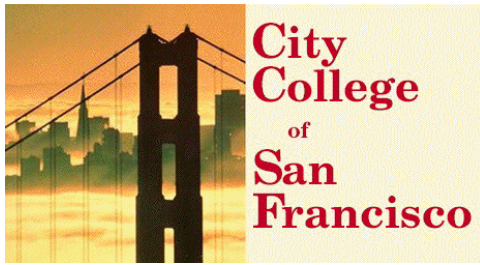


Networking
Academy

- **Cisco Regional Networking Academy**

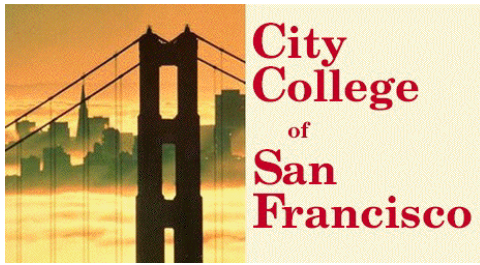
**Preparation for
networking and IT jobs
and higher education in
engineering, computer
science, and other fields**





- **Vision of Grant for CNIT Department**

- Improve Department Offerings
- AS Degree
- Convergence
- Review Courses and Certificates
- Create Marketing Materials
- Develop Internship Programs
- Develop partnerships within the college
- Collaboration with other departments
- Partnerships with Industry
- Strengthen relationships with CBOs



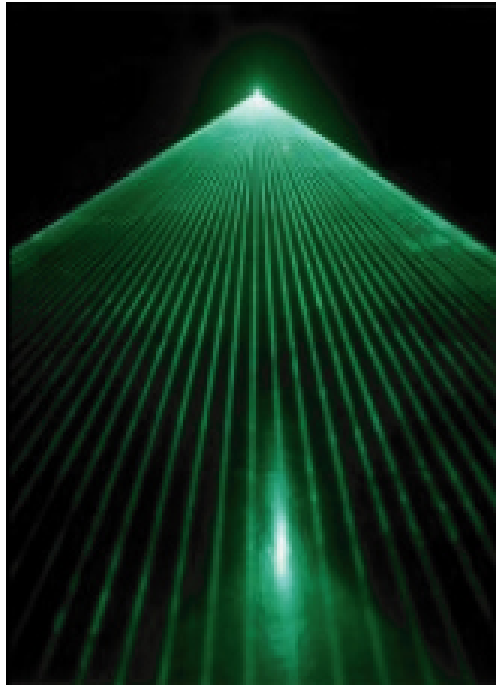
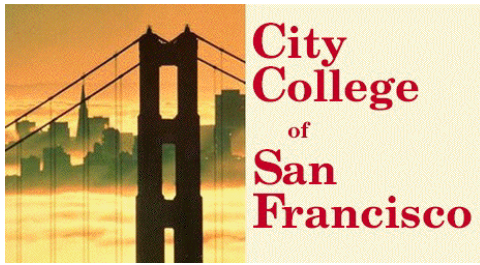
CNIT
Department
www.ccsf.edu/cnit

**Ultimate goal is to offer the
best possible programs to
our students.**



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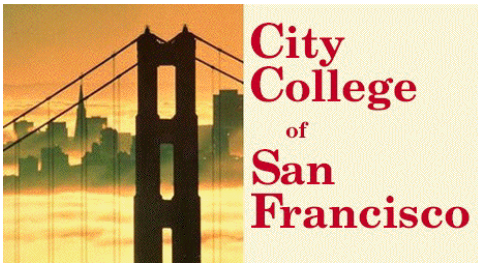
ICONS

**Institute for Convergence of
Optical & Network Systems**



This material is funded in part by the
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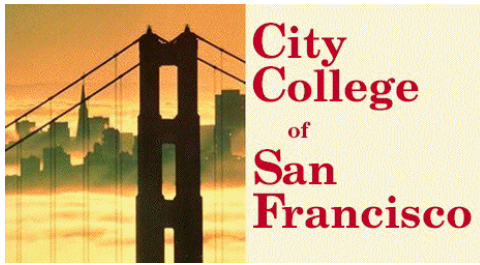




- **NSF Advanced Technology Education (ATE) Programs**

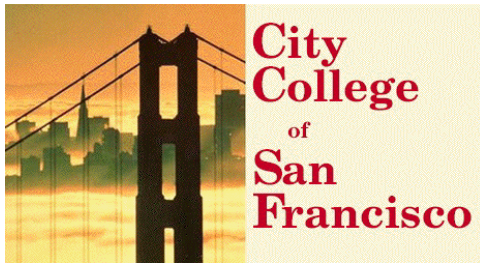
- designed to promote the education & training of technicians in the U.S. to improve the productivity of American workers by improving educator knowledge, skills & support systems, developing educational facilities & programs, & improving technician knowledge, instruction & training





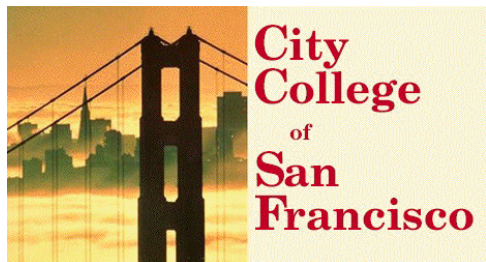
- The structure of the ATE program encourages innovations, information sharing, & collaborations that cross disciplines & geographic boundaries.
 - **ATE Centers of Excellence** have broad, comprehensive missions & utilize multiple strategies to respond to national industry needs.
 - **ATE Regional Centers** work with IT & mfg. industries to increase enrollment & improve employers' satisfaction with graduates.
 - **ATE Resource Centers** serve as clearinghouses for exemplary instructional materials, best practices, & professional development.
 - **ATE Projects** focus on specific aspects of technician education.





- **National Center for Telecommunications Technologies (NCTT)**
 - NSF-ATE Center
 - Springfield Technical Community College (STCC)
 - Springfield, Massachusetts
 - established in 1997
- Director: Gordon Snyder

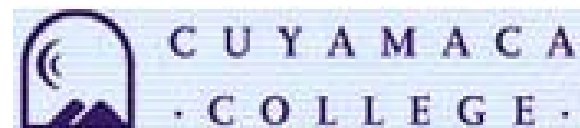


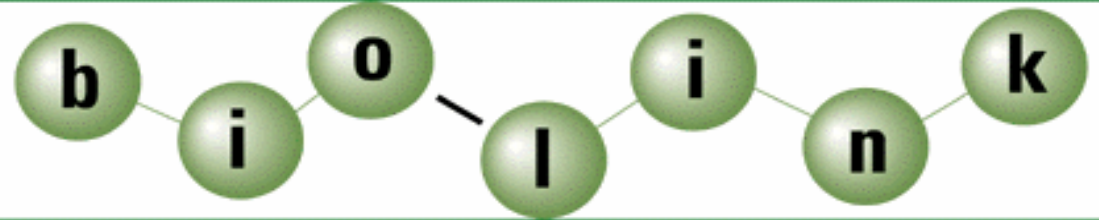
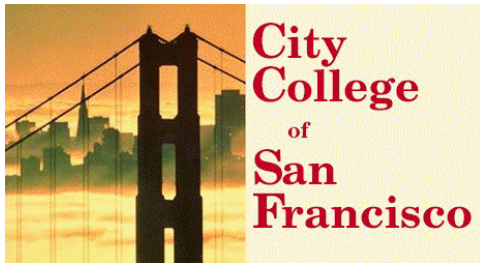


NCTT Regional Partners



THE COUNTY COLLEGE OF MONMOUTH



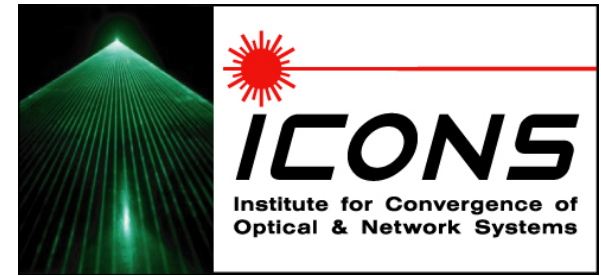
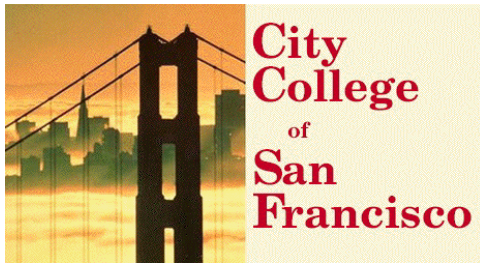


Educating the Biotechnology Workforce

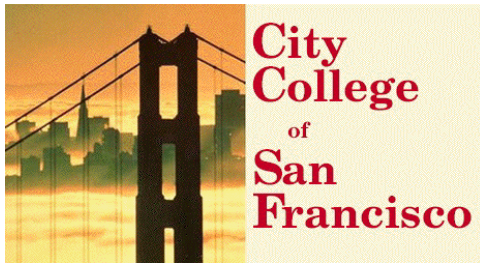
- National ATE-Center since 1998
- 7 Regional partners nationwide
- Assist ICONS by sharing best practices, experiences & resources
- Big Role in Developing SF Biotech Industries



Dr Elaine Johnson

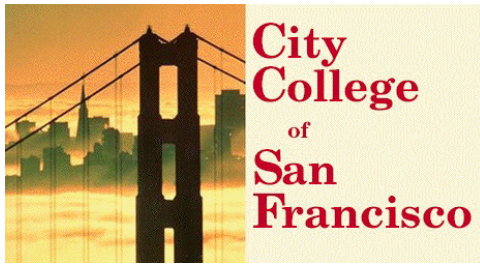


- **Institute for Convergence of Optical & Network Systems (ICONS)**
 - **ATE Project**
 - **\$750,000 over 3 years**
 - **Dr. Pierre Thiry, Principle Investigator**
 - **Carmen Lamha, Chair CNIT Department & Co-Principle Investigator**
 - **Tim Ryan, Network Manager & Co-Principle Investigator**



ICONS GOALS

- **Modernize the CNIT Department**
- **Develop New Courses and Certificates**
- **Develop AS Degree**
- **Expand Articulation & Transfer Opportunities**
- **Expand Marketing Efforts**
- **Recruit Under-Represented Students**
- **Develop & Utilize Technology Infrastructure**
- **Expand Internship & Job Placement Opportunities**
- **Provide Staff Development: Seminars & Workshops**



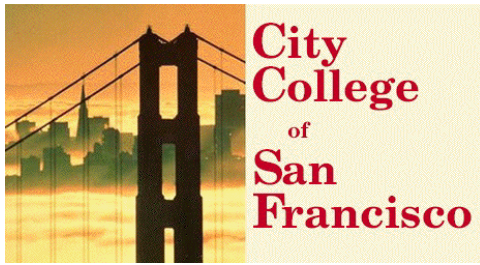
ICONS GOAL

Develop New Courses



- 6 new CNIT courses between 10/2005 & 10/2008
- 2 developed & offered for Spring 2006 already:
 - **Fiber Optics Technology**
 - Providing training to understand & work with fiber
 - **Voice over IP (VoIP) Fundamentals**
 - Providing training in IP telephony
- **Study Demand via Advisory Panel & independent research**
- **Go through curriculum design & development process for other new courses**





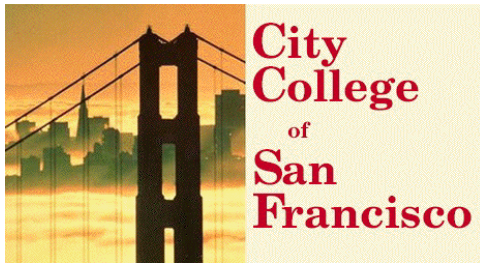
ICONS GOAL

Develop New Certificates



- 1 new CNIT certificate between 10/2005 & 10/2008
- Ideas being currently entertained:
 - Metro Optical Networking
 - Advanced Optical Networking
 - Convergence Technologies
 - Others?
- Study Demand via Advisory Panel & research
- Go through curriculum design & development process for additional new certificates





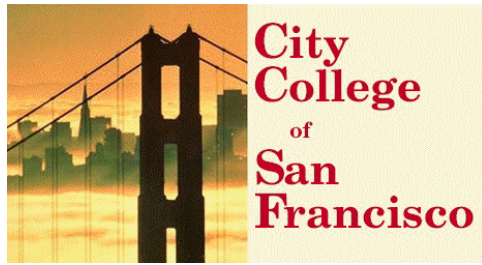
ICONS GOAL

Develop New AS Degree



- **Information & Communication Technology (ICT)?**

- Create a flexible program
- Core courses
- Specialty courses matched to the Certificates

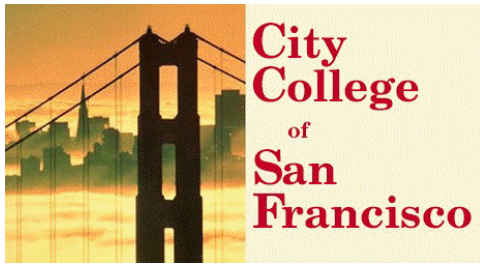


ICONS GOAL

Expand Articulation & Transfer Opportunities



- Expand outreach to High Schools – SFUSD’s School to Career office coordinates IT Academies in several High Schools: Galileo, Lincoln and Balboa. Promote access to an education in ICT starting at CCSF.
- Promote transfer to California State University – Monterey Bay (CSU-MB) in which CNIT students transfer credits & continue study for BS degree
- New Bachelor of Science Degree in Computer Science & Information Technology (Fall 2006) at CSU-MB

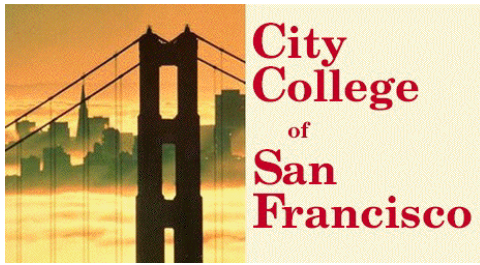


ICONS GOAL

Improved Marketing



- **Develop Program Development & Marketing Plan**
- **Develop ICONS & CNIT website and Brochure**
- **Develop traveling display kit for remote seminars, shows, recruiting events & workshops**
- **Attend Education Industry Events**
- **Participate in Local Job Fairs & Recruitment & IT Industry Events**
- **Work Closer with Local High Schools**

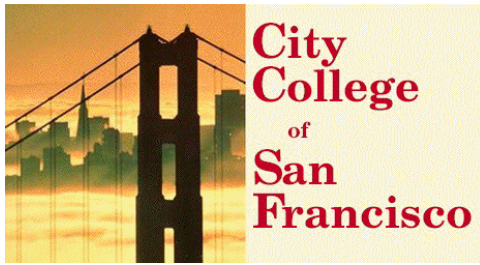


ICONS GOAL

Recruit & Serve More
Under-represented Students



- **Study Statistics**
- **Targeted Marketing**
 - **Other Languages & Cultural Sensitivities**
- **Promote Affordability of CCSF**
- **Via Advisory Panel Network**
- **Attending Specific Events**
- **Others?**

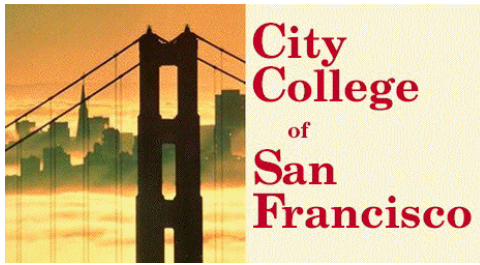


ICONS GOAL

Develop & Use Computer & Network Infrastructure



- Ethernet LANs
- Metro Area Optical Network
- Voice over IP (VoIP) Telephone Systems
- Network With Other Educational Institutions via CENIC
- Network Monitoring & Administration Tools
- **Develop Modern Labs**
- **Develop Remote Classroom Instruction & Lab Access**
- Others?



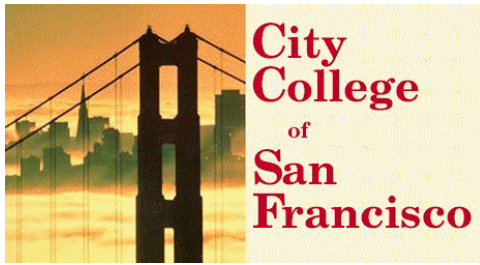
ICONS GOAL

Expand Internship & Job Placement Opportunities



- **Internship & Work for Credit Options**
 - Utilizing Existing Course System
 - Via Advisory Panel Network
 - Via Proactive Efforts to Seek Out & Build New Relationships: e.g. Cal EDD
- A relationship is being developed with SeaKay in which CNIT students will assist in SeaKay Neighborhood Network Centers to Benefit Digital Divide Public Service Goals





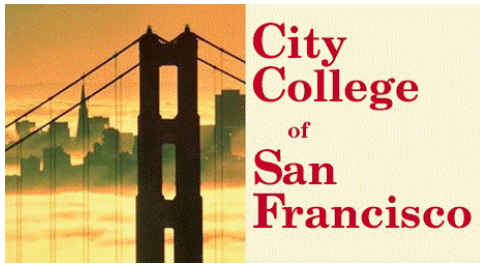
ICONS GOAL

Develop Seminars & Workshops



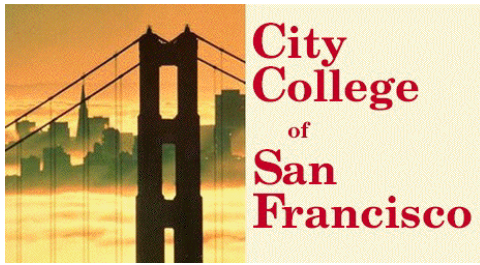
- Convergence Workshop
- Others?





Convergence Workshop Overview

- **Proposed for Summer, 2006**
- **One Credit Course, \$26 + Registration Fees**
- **Lecture and Lab Exercises**
- **Provide Overview of Convergence Technologies:**
 - **Fiber Optics**
 - **Metro Ethernet**
 - **Voice over IP**
 - **Digital Media/Video Networking**
 - **WLANs**
 - **Internet2**



ICONS GOAL Advisory Panel



- The Advisory Panel is to obtain input, perspective & collaborative efforts from diverse viewpoints to make ICONS successful.
 - CCSF Administration, Faculty & Staff
 - Other Educational Institutions
 - IT & Networking Equipment Manufacturers
 - Communications Technology Service Providers
 - Private Enterprises
 - Communications Technology Standards Bodies
 - Government
 - Community Non-Profits
- 1st Advisory Panel meeting is 1/20/06 @ CCSF
- 1 or 2 other meetings in 2006: May? and September
- Ongoing communication & collaboration