## **MINUTES**

## JOINT COMMITTEE ON STATE BUILDING CONSTRUCTION

September 16-17, 2009 Hutchinson and Wichita

## **Members Present**

Representative Jo Ann Pottorff, Chairperson Senator Jay Emler Senator Marci Francisco Senator Laura Kelly Representative Steve Brunk Representative Bill Feuerborn Representative Bob Grant

### Members Absent

Senator Dwayne Umbarger, Vice-Chairperson Senator Pat Apple Representative Jason Watkins

### Staff

Audrey Dunkel, Kansas Legislative Research Department Jonathan Tang, Kansas Legislative Research Department Heather O'Hara, Kansas Legislative Research Department Jarod Waltner, Kansas Legislative Research Department Mike Corrigan, Office of the Revisor of Statutes Matt Sterling, Office of the Revisor of Statutes Gary Deeter, Committee Secretary

## Conferees

Michael Gaito, Director, Capital Improvements and Facilities Management, Kansas Department of Corrections
Sam Kline, Warden, Hutchinson Correctional Facility
Denny Stoecklein, Fair Manager, Kansas State Fair
Tom Tunnel, President, Kansas State Fair Board
Brad Rayl, Member, Kansas State Fair Board
Dr. Ed Berger, President, Hutchinson Community College and Area Vocational School



Ed Pavey, Director, Kansas Law Enforcement Training Center
Andrew Schlapp, Executive Director of Government Relations, Wichita State University
John Tomblin, Executive Director, National Institute for Aviation Research
Alan Stoecklein, Kansas Highway Patrol
Peter Gustaf, President, National Center for Aviation Training
Diane Wright, Curriculum Coordinator, National Center for Aviation Training

# Wednesday, September 16 Morning Session

The Chairperson called the meeting to order at 10:00 a.m. at the Hutchinson Correctional Facility.

Michael Gaito, Director, Capital Improvements and Facilities Management, Kansas Department of Corrections, reviewed the agency's five-year capital improvements plan (<u>Attachment 1</u>). He highlighted certain planned improvements and maintenance projects, noting the expansion of the visitation room at Hutchinson. He commented that, of the \$5 million received annually from the Correctional Institutions Building Fund, \$1.8 million is allocated to debt service, leaving only \$3.2 million available for capital improvements.

Mr. Gaito replied to a question that the fiber loop is a vast improvement over copper wire, since it is impervious to lightning strikes. He said variation in prices for generators at different facilities is attributed to ancillary equipment required for specific generators. Sam Kline, Warden, replied to a question that, although he knew of no specific statistics regarding recidivism for inmates working on the cabin-building project requested by Kansas Department of Wildlife and Parks, he knew the project prepared them well for a position in construction upon leaving prison. He commented that building cabins for sale would require paying inmates minimum wage, which would add to the cost for each cabin.

Mr. Kline served as tour guide for the Committee as they viewed single and multiple cell blocks, surveillance equipment, and on-site industry partnerships, which provide paying jobs for inmates. Members then traveled to the Kansas State Fair, where the Fair Board provided lunch.

## Afternoon Session

Denny Stoecklein, Fair Manager, Kansas State Fair, welcomed members. He distributed a history of an agreement begun in 1989 whereby the State will match (up to \$300,000) whatever amount the State Fair contributes to a capital improvements fund (<u>Attachment 2</u>). He commented that four different years the State did not provide matching funds, which, over the course of ten years, has left the State Fair with a \$1.043 million deficit, a lack which the Legislature dealt with by authorizing \$29 million in bonds; however, now the Fair must deal with bond payments. Members suggested that if the Fair Board cannot make the bond payments (\$700,000 annually), the State, as guarantor, must make them. Mr. Stoecklein also reviewed the capital improvements fund, noting the deficits for FY 2010 even if the State makes its payment to the fund (<u>Attachment 3</u>).

Tom Tunnel, President, Kansas State Fair Board, commented on the high cost of electricity during fair week. Members discussed possible energy-saving measures. Mr. Stoecklein said that a Westar audit showed that the Fair has established best practices for energy savings, which included using two 1,500-kilowatt generators to lower peak demand. Members discussed wind generators, diesel-powered generators, and geothermal power; Mr. Stoecklein replied that initial costs are a deterrent. Brad Rayl, Member, Kansas State Fair Board, said prison inmates have regular on-site duties throughout the year and especially during fair week.

Mr. Stoecklein and Mr. Tunnel served as tour guides as members visited the Bluestem Building, the Kansas Wine Gardens, and the Bison Building. Members commended the Board for the improved facilities.

Members traveled to the Hutchinson Community College and Area Vocational School, where Dr. Ed Berger, President, commented briefly on college capital improvement projects. Members toured several buildings on campus, including the welding shop, the library, and the expanded science hall under construction. Dr. Berger noted that the school is the fourth-largest community college in the state, has excellent partnership agreements with the Kansas Department of Commerce, and is developing a partnership with the Siemens Corporation, which is building a manufacturing plant in Hutchinson.

Members then traveled south of Hutchinson to the Kansas Law Enforcement Training Center, where Ed Pavey, Director, welcomed the Committee and provided a brief history of the Center, saying that the Center was created by the Kansas Legislature in 1968, to date has graduated 12,200 students, and presently serves 431 state and local law-enforcement agencies as well as some out-of-state individuals. He stated that basic training for a student involves 560 hours over 14 weeks. He noted that the \$6 million cost of the Center is funded entirely from court docket fees.

Mr. Pavey conducted a tour of the facilities, where members saw training videos used to sharpen the judgment of students, experienced a simulated driving situation, and were informed about various other aspects of training. Mr. Pavey said that currently 70 percent of law enforcement officers in the state have been trained at the Hutchinson facility.

# Thursday, September 17 Morning Session

The Chairperson called the meeting to order at 8:30 a.m. at the National Institute for Aviation Research (NIAR) Building on the Wichita State University campus. Andrew Schlapp, Executive Director of Government Relations, Wichita State University (WSU), welcomed the Committee and introduced John Gist, WSU Architect, who outlined the University's long-term infrastructure maintenance program (Attachment 4). Mr. Gist highlighted the completed projects (replacement or upgrade of elevators, replacement of heating/air conditioning/ventilation (HVAC) systems, upgrade of electrical service, and other infrastructure projects) and three ongoing HVAC projects; the current project costs are estimated to be \$9.5 million. Answering questions, Mr. Gist replied that the deferred maintenance program is not quite current; he responded that the first two upgrade phases at the Duerksen Building will utilize multiple funding sources; he anticipates that enough savings will accrue to cover the cost of Phase Three.

John Tomblin, Executive Director, NIAR, summarized the work of NIAR, stating that, with an operating budget of \$39 million, 369 employees, and six facility locations, the agency has conducted

research for Lear Jet, unmanned aircraft, the B2 bomber, the F-18 fighter, and the KC135 tanker; further, he said that the National Center for Military Performance is granting the facility self-regulating authority in relation to advanced material research. He concluded by saying that the return-on-investment for the facility is 9:1 (<u>Attachment 5</u>). Mr. Schlapp distributed <u>Attachment 6</u> to document how the NIAR funds have been spent from 2004-2009. Dr. Tomblin led the Committee on a tour of the facility, where members saw how new materials are developed and the manner in which aeronautics products and materials are tested.

The Committee traveled north to Kansas Highway Patrol Troop F Headquarters, where Alan Stoecklein showed members how the crowded conditions of the headquarters hampered Troop F staff from effectively carrying out their assigned work. He reiterated the need for a new 25,000-square-foot building to accommodate the troopers and staff.

The Committee completed the morning by visiting the 70-acre National Center for Aviation Training (NCAT), one division of the Wichita Area Technical College (WATC); the site is located at the Jabara Airport in northeast Wichita. Peter Gustaf, President of NCAT, pointed out the various buildings under construction and outlined the vision of NCAT as an aeronautics training facility, which will open in one year (Attachment 7). He commented on the high-quality curriculum, the industry-supplied faculty, and the uniquely flexible and adaptable program offerings. Following a tour of the main building, Mr. Gustaf provided a further overview of NCAT, its curriculum development, and facts regarding WATC (Attachment 8).

Diane Wright, Curriculum Coordinator, NCAT, elaborated on the unique qualities of the curriculum and the specialized training for avionics students through the partnership of industry, the city and county, and NCAT.

Responding to questions, Mr. Gustaf said the only sources of revenue for NCAT are state support and tuition. Industry partners contribute faculty expertise and equipment, but not operating funds. A member requested more detailed information regarding industry contributions. Mr. Gustaf replied to another question that the Center is working on articulation with WSU. Another member requested more detailed information to identify how the \$4.7 million in state funds were allocated and spent.

The meeting was adjourned at 12:10 p.m. The next meeting is scheduled for October 21 in Topeka.

Prepared by Gary Deeter Edited by Audrey Dunkel

Approved by Committee on:

October 21, 2009 (Date)



Mark Parkinson, Governor Roger Werholtz, Secretary

www.doc.ks.gov

May 5, 2009

Duane Goossen, Director Division of the Budget LSOB 5<sup>th</sup> Floor Topeka, Kansas 66612

Clastal bldg ford Correction

Dear Mr. Goossen:

Submitted herein is the Capital Improvements Five Year Plan prepared by the Department of Corrections. This Plan includes those projects proposed for funding in Fiscal Years 2011 – 2015

If you have any questions or require additional information please contact me.

Sincerely,

Roger Werholtz Secretary of Corrections

Enclosure RW:MEG:pb

DEPARTMENT OF CORRECTIONS

Affachused 1

900 S.W. Jackson Street, 4th Floor • Topeka, Kansas 66612-1284 • Tel: (785) 296-3317 • Fax: (785) 296-0014

TCSBC 9-16-09

DA - 418A Five - Year Capital Improvements Plan

AGENCY:

Department of Corrections (System wide) July 1, 2009

•		
	Subsequent Years	
FY2015	, 54.5	Ų

	Estimated	d												Subsequent
Project Title	Project Co	st	Prior Years		FY 2010		T) (0.5.4.4		m 100 10	Plan Period		F) (004 (	E)(0045	Years
Debabilitation Demandalian Demandian and							FY2011		FY2012	FY2013		FY2014	FY2015	
Rehabilitation, Remodeling, Renovation and Repair Projects Including Additions to Existing Bu	ildinge-													4
Inmate labor will be used on all projects to the gr		t possib	ole consistent w	ith sk	dill levels, avai	lable	supervision a	and e	quipment, an	d allowable timelir	ies.			
		- <b> -</b>			,		•							
Kansas Department of Corrections-Central C														
On Call Architectural Contract	\$ 150,0			\$	50,000			\$	50,000		\$	50,000		
On Call Engineering Contract	250,0				50,000		50,000		50,000	50,000			50,000	
Unforeseen Repairs and Storm Damage	1,200,0				200,000		200,000		200,000	200,000		200,000	200,000	
Security Upgrades - System wide	1,200,0				200,000		200,000		200,000	200,000 50,000		200,000 50,000	200,000 50,000	
Unspecific ADA Compliance Projects Roof Replacement - System wide	310,0				60,000 1,000,000		50,000 1,250,000		50,000 1,000,000	1,000,000		1,480,000	1,650,000	
Rooi Replacement - System wide	7,380,0	J00			1,000,000		1,250,000		1,000,000	1,000,000		1,480,000	1,000,000	
Subtotal - KDOC	\$ 10,490,0	000	\$ -	\$	1,560,000	\$	1,750,000	\$	1,550,000	\$ 1,500,000	\$	1,980,000	\$ 2,150,000	-
El Dorado Correctional Facility							•							
Construct Heartbeat Detector Building	28,1	196			28,196									
Install Super Changer Heat Exchange Unit	29,1	150			29,150									
Reseal the exterior Precast Panels and Caulk J	•				45,000		30,000		30,000	30,000		30,000	30,000	
Replace Dock Levelers	19,7						19,771		•					
Replace Warehouse Freezer & Cooler Doors	24,4						24,468		40.455					
Expand Sidewalk from Food Service	12,1								12,155					
Scheduled Lock Replacement at Central Unit	21,5								21,513	13,262				
Upgrade Locks and Keying System North Unit Replace Emergency Generator at North unit	13,2 36,2									36,293				
Remodel Clinic	29,8									00,200		29,812		
Security Enhancements at North Unit	42,3											42,318		
Relocate Gas Meter at North Unit	15,5											15,532		
Study for Touchscreens at Central Cellhouses	10,0	000											10,000	
Install Cameras in East A and F Cellhouses	132,1	185											132,185	
Subtotal - EDCF	\$ 609,6	355	\$ -	\$	102,346	\$	74,239	\$	63,668	\$ 79,555	\$	117,662	\$ 172,185	\$ -
Ellsworth Correctional Facility														
Replace Unit Ventilators on Building 14	125,0	าดล			125,098									
Replace all sliding doors in Building 2	130,0				120,000		130,000							
Replace Rooftop Condensing Unit on Bldg 1	30,7						,		30,715					
Replace Intercom & Paging System in Building	85,6						•		,	85,630				
Replace East HVAC Unit in Building 14	51,1											51,146		
Replace Permiter Road Phase II	73,9	947											73,947	
Subtotal - ECF	\$ 496,5	536	\$ -	\$	125,098	\$	130,000	\$	30,715	\$ 85,630	\$	51,146	\$ 73,947	\$ -

DA - 418A Five - Year Capital Improvements Plan

AGENCY:

Department of Corrections (System wide) July 1, 2009

	Project Title	Estimated Project Cost	Prior Years	FY 2010	FY2011	FY2012	Plan Period FY2013	FY2014	FY2015	Subsequent Years	$\sim$
H	lutchinson Correctional Facility										1
	Replace Water Valves in A - 1 Cellhouse	24,768		24,768							
	Install Cameras at East Unit	68,902		68,902							
	Provide Concrete Paving at East	69,000		69,000							
	Replace Perimeter Lighting at East Unit	22,014		22,014							
	Install Razor Wire at Central and East Units	30,532		30,532							
	Renovate Auditorium	152,400		20,000	60,000	72,400					
	Install Cameras at South Unit .	51,711			51,711						
	Replace Emergency Generator at East Unit	390,000			390,000						
	Replace Hot Water System In Dorms-East Unit	208,215			208,215						
	Renovate old Print shop to Disciplinary, Pastora	234,040				234,040			•		
	Renovate Bathrooms & Showers - East Unit	349,587				349,587					
	Replace Controllers for Boiler	87,296				87,296					
	Renovate Maintenace Shops at East Unit	69,692				69,692					
	Install Metal Siding on Power Plant	52,699				52,699	•				
	Renovate East Unit Administration Area	149,258				149,258					
	Expand Library at Central Unit	117,744					117,744				
	Reseal Limestone Walls at Central Unit	122,239					122,239				
	Construct Transformer House	42,864						42,864			
	Provide Concrete Paving at Central Unit	133,061						133,061			
	Install Fiber Loop at Central Unit	350,000						350,000			
	Install ADA Ramp at Freedom Challenge	18,155							18,155		
	Reroof Inmate Services Building at East Unit	316,182							316,182		
	Install Fiber Loop at East Unit	328,891							328,891		
	Install Fiber Loop at South Unit	178,998							178,998		
	Rebuild Stone Wall on South Side of E Dorm										
	Subtotal - HCF	3,568,248		235,216	709,926	1,014,972	239,983	525,925	842,226		-
L	ansing Correctional Facility										
	Replace Air Cooled Condensing Units in Mediu	14,543	14,543								
	Repair walls at Q Dorm	237,864		237,864							
	Study Lime Sludge Containment Lagoon	5,000		5,000							
	Replace Roofs on Towers 2, 3, 4, 5, & 6	23,786		23,786							
	Clean & Treat Water Well Number 6	20,000		20,000							
	Renovate Toilets in Q Dormitory	64,890		64,890							
	Replace Electrical Power Poles to Maint Area	17,342		17,342							
	Replace Boiler Controls at Power Plant	31,416		31,416							
	Replace concrete & Strom Water at Max Street	350,000		50,000	75,000	75,000	75,000	75,000			
	Replace Heating Coils and HVAC Sys.At SOTP	53,978			53,978						
	Replace Sally Port Gate at Dock 3 & Indus. Yar	197,000			152,000	45,000					
	Renovate Showers Facility Wide	50,266			50,266						
	Replace Locks in Medium Admin. & Recreation	41,381			41,381						
	Repair walls at K, L, M & Recreation Bldg	150,000			75,000	75,000					
	Window Replacement in Old Admin. Building	39,468				39,468					
	Replace Boiler Controls at East Unit	21,363		•		21,363					
	Replace HVAC Units on Medium Kitchen	33,380				33,380	80.000				
	Reroof Part of AVTS Building	86,836					86,836				

Division of Budget Department of Administration

DA - 418A Five - Year Capital Improvements Plan AGENCY:

Department of Corrections (System wide) July 1, 2009

Project Title	Estimated Project Cost		Prior Years	FY 2010	FY2011	FY2012	Pla	n Period FY2013	FY2014	FY2015	Subseque Years	te €
Lansing Correctional Facility - Cont. Replace A Cellhouse Roof Place Concrete in Medium Visiting Parking Study for Replacement Of HVAC Controls in Mi Replace Roof on Dock Three Reseal Exterior Stone & Brick Walls Replace Locking System in A Cellhouse Replace Roofs on Towers 7, 8, 9, 10, & 11 Replace Doors and Windows at Max. Laundry Renovate Max Dining Room Upgrade Firing Range	361,91; 58,24; 6,396; 17,570; 131,950; 73,819; 30,070; 494,336; 291,590; 21,438	3 5 0 9 0 5 3			1 12011	1 12012		361,912 58,243 6,396 17,570	131,950 73,819 30,070	494,336 291,593 21,439		,
Subtotal - LCF	\$ 2,925,84	1 \$	14,543	\$ 450,298	\$ 447,625	\$ 289,211	\$	605,957	\$ 310,839	\$ 807,368	\$	-
Larned Correctional Mental Health Facility West Unit Renovation Replace Turbine Pump Replace Variable Speed Drives Replace Hot Water Heaters In Building D Replace generator Switchgear Replace Hot Water Heaters In Building A & Foc Replace Sallyport Gate Operators Modification to Cell Doors on F-3 Replace 150 BHP Boiler Modification to Cell Doors on F-4 Replace 200 BHP Boiler Install Sound Panels on F-2 Construct Sallyport Shakedown Building Subtotal - LCMHF	450,000 7,876 10,568 82,000 100,813 37,258 70,90 25,344 91,813 27,118 123,076 11,393 49,564	3 3 3 3 3 1 5 3 3 9 7 7	350,000 350,000	\$ 100,000 7,876 10,568 41,000	\$ 41,000 100,813 37,258	\$ 70,901 25,345 96,246	\$	91,813 27,119 118,932	\$ 123,070	\$ 11,397 49,564 60,961	\$	-
Norton Correctional Facility Install Insulation & Siding on Cottages 3, 5, 6 & Replace Living Unit Bathroom Stalls Replace Locks in C Cellhouse Concrete Roads, Parking and Sidewalks Tuckpoint and Brick Repair on B Dorm & Chape Replace Walk in Freezer in Kitchen Reroof the West Barn Replace Fire Alarm System in A Dorm Tuckpoint and Brick Repair on Powerhouse & E Replacement of Kitchen Hood Suppression Sys Upgrade Firing Range Area	30,30° 25,000 42,042 175,000 268,93° 19,083 12,10° 136,06° 269,706 19,098 52,39°	) 2 ) 7 3 3 7 7	40,000	30,301 25,000 42,042	45,000 268,937 19,083 12,107	45,000 136,067 269,706		45,000 19,095 52,391				

Division of Budget Department of Administration

DA - 418A Five - Year Capital Improvements Plan

AGENCY:

Department of Corrections (Systemwide) July 1, 2009

Project Title  Norton Correctional Facility - Cont.	Estimated roject Cost	Pi	rior Years	ı	FY 2010	FY2011	FY2012	n Period FY2013	FY2014	F	FY2015	equent ears	1-1
Construct Pole Barn For Equipment Tuckpoint and Brick Repair on A Dorm & Cante Expand Cottage 6 for Minimum Activies Expand Warehouse Replace Ceiling Tiles at Various Locations Replace Flooring in Admin. Offices at Central	31,413 285,571 130,853 159,727 74,408 53,306							31,413 285,571	130,853 159,727 74,408		53,306		
Subtotal - NCF	\$ 1,785,007	\$	40,000	\$	97,343	\$ 345,127	\$ 450,773	\$ 433,470	\$ 364,988	\$	53,306	\$ -	
Topeka Correctional Facility Renovate Central Unit Dorms Replace Over Head Doors in Service Building Waterproofing of J Dorm Foundation Replace Sidewalks at CU Replace Roads And Parking Replace Locking System -CU	1,373,959 37,174 6,536 56,150 300,000 134,097		740,414 100,000		307,545 37,174 6,536 32,500	326,000 23,650 50,000 134,097	50,000	50,000	50,000				
Expand Building Control System Replace Boiler for Domestic Hot Water Replace Central Unit Dorm Windows & Storefrc Study To Replace Electronic Locks in I Cellhous Replace I Cellhouse Generator & Switchgear Install Central Unit Generator & Switchgear Renovate Staff Dining & Wellness Center Install Central Unit Intercom System	65,692 79,561 233,475 10,000 269,215 99,198 303,941 90,820					65,692	79,561 51,920 10,000	55,555 269,215 99,198	60,000 303,941 90,820		66,000		
Subtotal - TCF	\$ 3,059,818	\$	840,414	\$	383,755	\$ 599,439	\$ 191,481	\$ 473,968	\$ 504,761	\$	66,000	\$ -	
Winfield Correctional Facility Renovate B Dorm Showers Replace Windows in Fern Building Expand WWRF Building Controls Replace Freight Elevator Pump at WWRF Tuckpoint B Dorm Replace Windows in Pinecrest Building Replace Lower Roof at WWRF Upgrade Water Tower Upgrade Facility Tunnels Replace fan coils & Air Handlers Replace Ceiling in Laundry Tuckpoint Various Buildings Replace Heating System in Fern Building Replace Pumps in Powerhouse	15,000 84,535 19,822 13,270 250,000 113,850 45,650 60,000 210,000 165,000 45,000 250,000 67,650 18,656		15,000		84,535 19,822 13,270	250,000 113,850 45,650 60,000 210,000 90,000	75,000 45,000 250,000 67,650 18,656						

**Grand Total** 

\$ 222,896,279

\$135,993,496

\$ 7,884,588

\$ 10,570,836

\$ 14,140,804

\$ 8,186,066

\$ 8,608,871

\$ 8,507,618

\$ 29,004,000

DA - 418A Five - Year Capital Improvements Plan AGENCY:

Department of Corrections

(System wide) July 1, 2009

Project Title		timated ect Cost	Pr	rior Years		FY 2010		FY2011		FY2012	Pla	n Period FY2013		FY2014		FY2015	5	Subsequent Years	<u>`</u>
Winfield Correctional Facility - Cont.								F12011		P12012		F12013		F12014		F12015			_ {
Replace Carpet in Administration Areas WWRF		10,593								10.593									
Upgrade Facility Tunnels		405,000								405,000									
Replace Streets & Parking Lots		61,600								61,600									
Replace Fire Alarm System		344,500								344,500									
Replace Overhead Doors in Maintenance		18,539								18,539									
Energy Controls - WCF		20,000								20,000									
Construct Segregation Housing Unit		492,052								25,555		492,052							
Replace Dock and Approach at Warehouse		97,128										97,128							
Tuckpoint Various Buildings		260,000										260,000							
Replace Streets & Parking Lots		61,600										61,600							
Upgrade Facility Tunnels		450.000										450,000							
Install Heating/AC in Warehouse		16,207										16,207							
Replace Larger 1957 Boiler		85,800										85,800							
Tuckpoint Various Buildings		300,000										•		300,000					
Replace Streets & Parking Lots		61.600												61,600					
Upgrade Facility Tunnels		660,200												660,200					
Replace Streets & Parking Lots		61,600														61,600			
Upgrade Facility Tunnels		650,000														650,000			
Subtotal - WCF	\$ :	5,414,852	\$	15,000	\$	117,627	\$	769,500	\$	1,316,538	\$	1,462,787	\$	1,021,800	\$	711,600	\$	-	
Total-Repair, Remodel and Additions Chiller/Compressor Replacement	\$ 29	9,437,681	\$	1,259,957	\$ \$	3,231,127 3,231,303	\$	5,004,927	\$	5,003,604	\$	5,000,282	\$	5,000,191	\$	4,937,593	\$	-	
New Construction - 2011 - 2015 Capacity expansion projects will be submitted at for such expansion.  Last Year Projects S2 Construct addition to South Unit Visiting HC S3 Construct new Medium Visiting LCF S4 Construct Mental Health Unit For Females - S5 Expand Minimum Visiting NCF S6 Construct Staff Development Building - NCF S7 Construct Actives Building at D Dorm - NCF S8 Construct Addition to Warehouse - NCF	\$	223,909 695,976 1,923,224 115,784 543,680 246,408 244,617 3,993,598	opula	ition projectic	ns fr	om the Kansa	as Se \$	entencing Cor 223,909 223,909	mmis	695,976 1,923,224 2,619,200	ed to	115,784	an late	e August indic 543,680 543,680	ate a	246,408 244,617 491,025			
Debt Service - SGF/Other Funds																			
Plan and Construct Labette Correctional				0.074.000		4.000													
Conservation Camp (DOC)	;	3,278,000		3,274,000		4,000													
Plan and Construct El Dorado and Larned						0.004.000		0.007.000		0.400.000									
Correctional Facilities - (DOC)	12	4,306,000	11	16,336,000		2,264,000		2,267,000		3,439,000									
Plan and Construct Reception and Diagnostic	-	0 700 000		10.040.000		4 050 000		4 400 000		4 400 000		1 101 000		1 200 000		4 404 000		0 426 000	
Unit at El Dorado Correctional Facility (DOC)		9,739,000	1	12,943,000		1,358,000		1,402,000		1,403,000		1,404,000		1,399,000		1,404,000		8,426,000	
Correctional Facilities Infrastructure Projects (D		0,838,000		2,163,000		897,000		1,544,000		1,545,000		1,539,000		1,537,000		1,544,000		20,069,000	
Plan for Capacity Expansion Projects		1,304,000		17,539		130,461		129,000		131,000		127,000		129,000		131,000		509,000	
Total - Debt Service	\$ 18	9,465,000	\$13	34,733,539	\$	4,653,461	\$	5,342,000	\$	6,518,000	\$	3,070,000	\$	3,065,000	\$	3,079,000	\$	29,004,000	

# FY 2011

	JEST EXPLANATION A-418B		j
AGENCY: Kansas Department of Corrections	FISCAL YEAR:	2011 - 2015	
	DATE:	July 1, 2009	!
Project Title: Rehabilitation, Remodeling,     Renovation and Repair of Correctional Institutions	2. Project Priority:	S1	

### **Project Description and Justification:**

The Department of Corrections is requesting continuation of the Rehabilitation, Remodeling, Renovation and Repair Program that began in 1989. This program provides for repairs and upkeep of the Department's existing facilities system-wide and prevents further deterioration of these facilities. The state has a significant investment in the Department of Corrections' physical facilities and without funding to keep these facilities repaired and in good condition, the state would experience the decline of that investment. The medium and smaller facilities within DOC rely upon this fund to do most of their renovation, repair and major maintenance work.

These funds are also used to meet the requirements of the State Fire Marshal concerning any Building Code deficiencies and to comply with the requirements of the Americans with Disabilities Act; to upgrade fire alarm detection and protection systems; and provide necessary remedial action to health and sanitation deficiencies within the facilities as outlined by the Department of Health and Environment. These funds have also been used to renovate existing buildings to expand inmate housing capacity, as necessary and appropriate.

A list of projects in the summary is representative of the type of capital improvements and maintenance work for which this fund is utilized.

Due to the importance the Department of Corrections places on the continuation of the Rehabilitation, Remodeling, Renovation and Repair Fund, we are requesting that all of its funding come from the Correctional Institutions Building Fund (CIBF).

The Department of Corrections feels that \$5,000,000 will be the required annual funding level for FY 2011 - FY 2015. This funding level is due to the age of facilities, particularly at Lansing, Hutchinson, Norton and Winfield, and the number of renovation, maintenance and other projects pending completion.

NOTE: Inmate labor will be used on all projects to the greatest extent possible, consistent with skill levels, available supervision, equipment and allowable time lines.

4.	Estimated Project Cost:	5	. Project Phasing:	
1) 2)	Construction, including fixed equipment and sitework Architect's Fee	1 2	Preliminary Planning (incl. misc. costs) Final Planning (incl. misc. costs)	
3)	Moveable Equipment	3	Construction (incl. misc. & other costs)	
4)	Project Contingency		(,	
5)	Miscellaneous Costs			
	TOTAL	\$0	TOTAL	\$0

#### AMOUNT BY SOURCE OF FINANCING

Fiscal Years	1. SGF	2. C	BF	3.		4.	5.	TOTAL
Prior Yrs.								 
FY 2010		\$	3,231,303					\$ 3,231,303
FY 2011		\$	5,000,000					\$ 5,000,000
FY 2012		\$	5,000,000					\$ 5,000,000
FY 2013		\$	5,000,000					\$ 5,000,000
FY 2014		\$	5,000,000					\$ 5,000,000
FY 2015		\$	5,000,000	<u></u>				\$ 5,000,000
TOTAL		\$0 \$	28,231,303		\$0	\$0	\$0	\$ 28,231,303

## PROJECT REQUEST EXPLANATION DA-418B

AG	ENCY: Kansas Department of Corrections	FISCAL YEAR:	2011	
	Hutchinson Correctional Facility	DATE:	July 1, 2009	
1.	Project Title: Construct Addition to South Unit Visiting	2. Project Priority:	\$2	

## 3. Project Description and Justification:

Over the last 12 years the south unit at Hutchinson Correctional Facility has had several expansions to accommodate the increasing inmate population. The visiting room was designed to accommodate 96 inmates when it was constructed. However, the south unit now houses up to 288 inmates. There has been no increase in visiting space to accommodate the increased population. This project would expand the visiting room by 2,425 SF, which would allow sufficient space for visiting.

This project would be constructed by facility staff and inmate work crews.

4.	Estimated Project Cost:		5.	Project Phasing:	 
1)	Construction, including fixed equipment and sitework	\$ 171,045	1)	Preliminary Planning (incl. misc. costs)	\$ 
2)	Architect's Fee	18,000	2)	Final Planning (incl. misc. costs)	
3)	Moveable Equipment	20,000	3)	Construction (incl. misc. & other costs)	223,909
4)	Project Contingency	10,452		,	
5)	Miscellaneous Costs	4,412			
	TOTAL	\$ 223,909		TOTAL	\$ 223,909

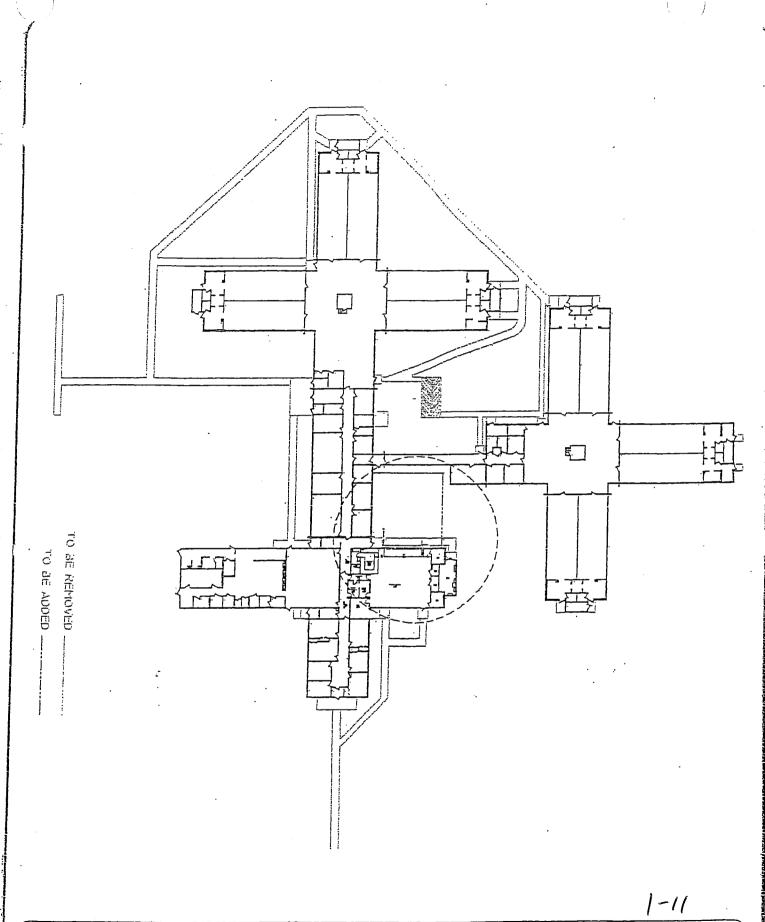
## . Recommended Financing:

### AMOUNT BY SOURCE OF FINANCING

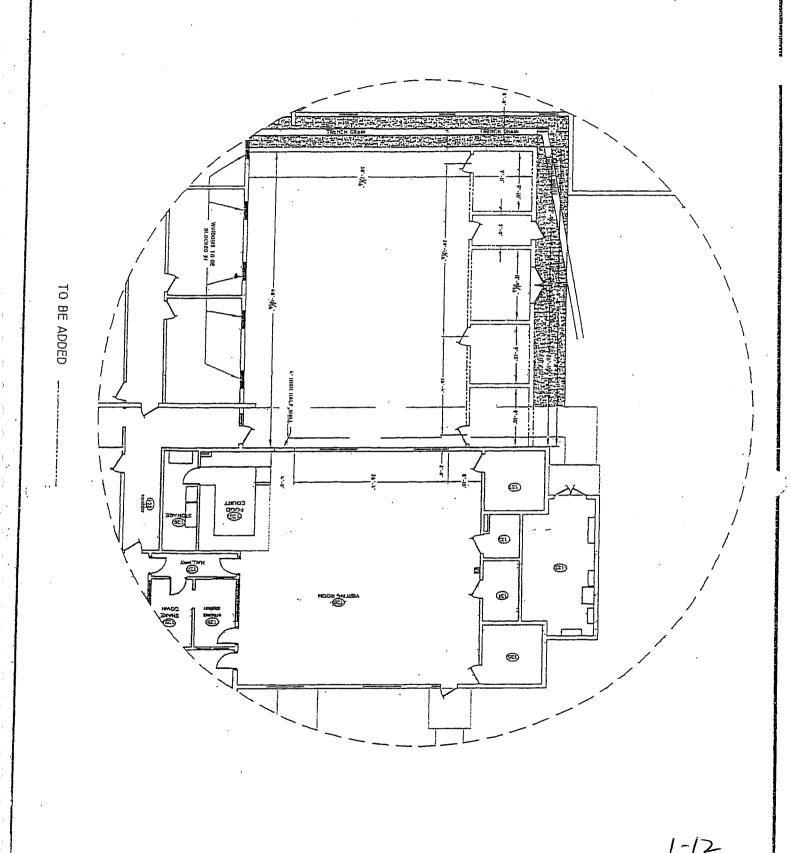
Fiscal Years	1. SGF	2. CIBF	3. Bonds	4.		5.	TOTAL
Prior Yrs.					<del></del>		\$0
FY 2010							\$0
FY 2011	\$223,909						\$223,909
FY 2012							\$C
FY 2013							\$C
FY 2014						·	\$0
FY 2015							\$C
TOTAL	\$223,909	\$0		0	\$0	\$0	\$223,909

## KANSAS DEPARTMENT OF CORRECTIONS **DA-418B DOC SUPPLEMENTAL SHEET**

**Project Title: South Unit Visiting Expansion** 2. Project No: S2 3. Date: 07/01/09 **Detailed Cost Estimate:** ltem Quantity **Unit Cost** No Cost Site Utilities (water, gas, electric, san. & storm sewer, etc.) \$ 1.500 Other Site Work (sidewalks, pavements, earthwork, landscaping) 5,250 Basic Building Construction (demolition, repair, remodel, new 3. 2.425 \$34.00 82.450 construction, etc.) Building Plumbing (water supply, DWV) 30,000 Building Heating, Ventilating, Air Conditioning Systems 15,900 Building Electrical (service equipment, power supply, lighting) 20,000 Communication Systems 2,800 Security Cameras 5.000 9. Total Items 1 - 9 10. 162,900 Escalation to Future Years 5.00% 8,145 11. Total Items 10 & 11 (Enter on Line 4-1 DA 418B) \$ 12. 171,045 Design Fees (architectural, engineering, consultant) 13.. 18,000 14. Total Items 13 & 14 (Enter on Line 4-2 DA 418B) 18,000 SUBTOTAL \$ 16. 189,045 17. Moveable Equipment - Visiting Tables 20,000 18. Special Equipment - Cell Furniture 19. Total Items 17 - 19 (Enter on Line 4-3 DA 418B) 20. \$ 20,000 21. SUBTOTAL: 209,045 Project Contingency (Enter on Line 4-4 DA 418B) 22. 5.00% 10,452 SUBTOTAL: 23. 219,497 Other Costs (site survey, soils invest., bid documents, etc.) 1.00% 2,195 (Enter on Line 4-5 DA 418B) SUBTOTAL: \$ 25. 221,692 Architectural Services Management Fee (1% of Line 25) 2,217 Grand Total (Enter on Total Line, Sec. 4, DA 418B) \$ 223,909 Remarks:



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FORMAL-FILE-LEGEND-SERIES: HUTCHINSON CORRECTIONAL FACILITY F.D. BOX 1568 HUTCHINSON, KANSAS 67504-1568. WORK ORDER HUMBER SHOP: DA550-A2.0-1104 DWG.-TITLE/SET: VISITATION EXTENSION APPROVED BY: DRAWN BY: ZET-CONTENT-LEGEND: JACK KARRIKER, PPS 1/16" = 1" M. STOUT DATE THIS PAGE DRAWING DISCRIPTION: A2.0 04/10/04 PLOT PLAN

# FY 2012

## PROJECT REQUEST EXPLANATION **DA-418B** AGENCY: Kansas Department of Corrections **FISCAL YEAR:** 2012 DATE: **Lansing Correctional Facility** July 1, 2009 **Project Title: Expand Medium Visiting Project Priority:** S3 3. **Project Description and Justification:** In 1997 K, L and M units in the medium compound at Lansing Correctional Facility were doubled bunked. This added 280 inmates resulting in a shortage of visiting space. This project would construct a 5,000 SF block building near the existing visiting room. Once the new building is constructed the existing visiting room would be demolished for a playground so children would have a place to play during visitation periods.

4.	Estimated Project Cost:	······································	5.	Project Phasing:	
1)	Construction, including fixed equipment and sitework	\$ 613,800	1)	Preliminary Planning (incl. misc. costs)	 -
2)	Architect's Fee	37,285	2)	•	_
				(incl. misc. costs)	
3)	Moveable Equipment	-	3)	Construction	\$ 695,976
				(incl. misc. & other costs)	
4)	Project Contingency	32,554			
5)	Miscellaneous Costs	12,336			
	TOTAL	\$ 695,976		TOTAL	\$ 695,976
6.	Recommended Financing:				

## AMOUNT BY SOURCE OF FINANCING

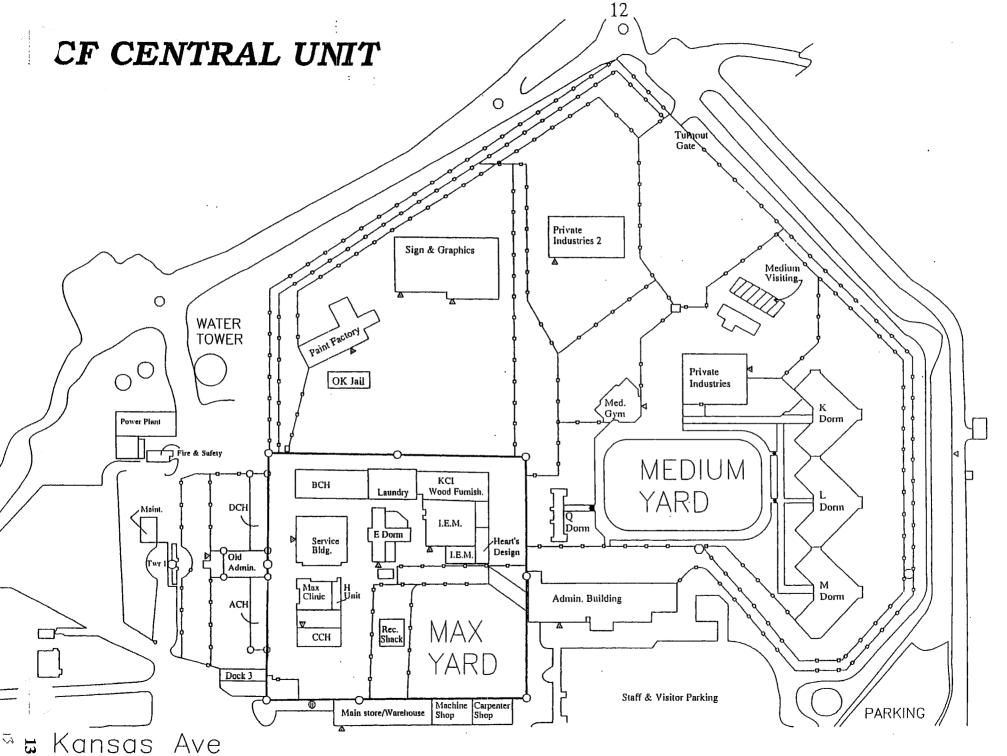
Fiscal Years	1. SGF	2. CIBF	3	3.	4.	5.	· TOTAL
Prior Yrs.			$\neg \dagger$				\$0
FY 2010							\$0
FY 2011							\$0
FY 2012	\$695,976	6					\$695,976
FY 2013							\$0
FY 2014							\$0
FY 2015							\$0
TOTAL	\$695,976	3	\$0	\$0	\$(	\$0	\$695,976

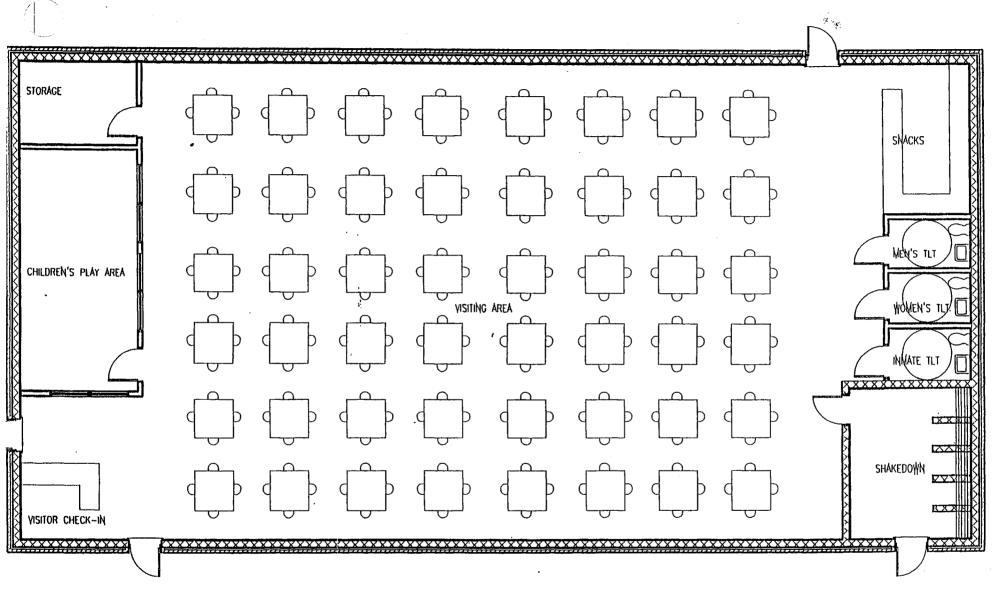
## KANSAS DEPARTMENT OF CORRECTIONS DA-418B DOC SUPPLEMENTAL SHEET

1. Project Title: Expand Medium Visiting 2. Project No: S3 3. Date: 07/01/09

## 4. Detailed Cost Estimate:

4.	Detailed Cost Estimate:	
No	Item Quantity Unit Cost	Cost
1.	Site Utilities (water, gas, electric, san. & storm sewer, etc.)	15,000
2.	Other Site Work (sidewalks, pavements, earthwork, landscaping)	12,500
3.	Basic Building Construction (demolition, repair, remodel, new 5,000 SF \$63.00	\$ 315,000
4.	Building Plumbing (water supply, DWV) 5,000 SF \$11.00	55,000
5.	Building Heating, Ventilating, Air Conditioning Systems 5,000 SF \$16.50	82,500
6.	Building Electrical (service equipment, power supply, lighting) 5,000 SF \$12.00	60,000
7.	Communications systems	8,000
8.	Security systems	10,000
9.		
10.	Total Items 1 - 9	\$ 558,000
11.	Escalation to Future Years 10.00%	55,800
12.	Total Items 10 & 11 (Enter on Line 4-1 DA 418B)	\$ 613,800
13.	Design Fees (architectural, engineering, consultant) 0.00%	67,500
14.	Arcitectural Fees	
15.	Total Items 13 & 14 (Enter on Line 4-2 DA 418B)	37,285
16.	SUBTOTAL	\$ 651,085
17.	Moveable Equipment	15,000
18.	Special Equipment	
19.		
20.	Total Items 17 - 19 (Enter on Line 4-3 DA 418B)	
21.	SUBTOTAL:	\$ 651,085
22.	Project Contingency (Enter on Line 4-4 DA 418B) 5.00%	32,554
23.	SUBTOTAL:	\$ 683,639
24.	Other Costs (site survey, soils invest., bid documents, etc.) 1.00% (Enter on Line 4-5 DA 418B)	6,836
25.	SUBTOTAL:	\$ 690,476
26.	Architectural Services Management Fee (1% of Line 25)	5,500
27.	Grand Total (Enter on Total Line, Sec. 4, DA 418B)	\$ 695,976
5.	Remarks:	





MEDIUM VISITING ROOM PLAN

14

## PROJECT REQUEST EXPLANATION DA-418B

AGENCY: Kansas Department of Corrections	FISCAL YEAR:	2012		
Topeka Correctional Facility	DATE:	July 1, 2009		
Project Title: Mental Health Tratment Unit	2. Project Priority:	S4		

### 3. Project Description and Justification:

The Topeka Correctional Facility (TCF) is the only facility Kansas Department of Corrections facility for women. As such, TCF must provide a complete range of correctional services and programs to ensure parity between male and female inmates and to meet the gender specific needs of female inmates.

In comparison with the KDOC male inmate population the number of female inmates in need of mental health services is disproportionately higher. Like other KDOC facilities, TCF delivers mental health services via a contract with Correct Care Solutions. Unlike the other KDOC facilities that house male inmates, TCF does not have the option of transferring Seriously and Persistently Mentally III (SPMI) women to the Larned Correctional Mental Health Facility for intermediate treatment. Because there is no other intermediate treatment option, TCF must provide this level of treatment "in house."

When the TCF maximum security unit (I-Cellhouse) was constructed in 1995, one 15-bed living pod was set aside for the housing of the women most in need of mental health treatment. In very short order, it became apparent that 15 beds were not enough. With the opening of the Isaac Ray Unit at the Larned State Hospital in 2006 a housing option became available for those women requiring mental health hospitalization. This option has been very helpful in relieving some of the mental health housing pressure at TCF. However, while TCF seems to now have sufficient bed space in which to house the SPMI women, the ancillary space necessary to create an effective therapeutic milieu within I-Cellhouse is virtually nonexistent. Housing and attempting to treat SPMI women in an area within and adjacent to a maximum custody general population cellhouse with no ancillary program space is counter productive. In order to establish and maintain a effective treatment milieu and approach parity with what is available for the male inmates at LCMHF, we are proposing the construction of an addition to the former Reception and Diagnostic Center Administration Building.

4.	Estimated Project Cost:			5.	Project Phasing:	
1)	Construction, including fixed equipment and sitework	\$	1,659,625	1)	Preliminary Planning (incl. misc. costs)	\$ 30,000
2)	Architect's Fee		109,650	2)	Final Planning (incl. misc. costs)	109,650
3)	Moveable Equipment	-	-	3)	Construction (incl. misc. & other costs)	1,783,574
4)	Project Contingency		88,464		,	
5)	Miscellaneous Costs		65,485		,	
	TOTAL	\$	1,923,224		TOTAL	\$ 1,923,224

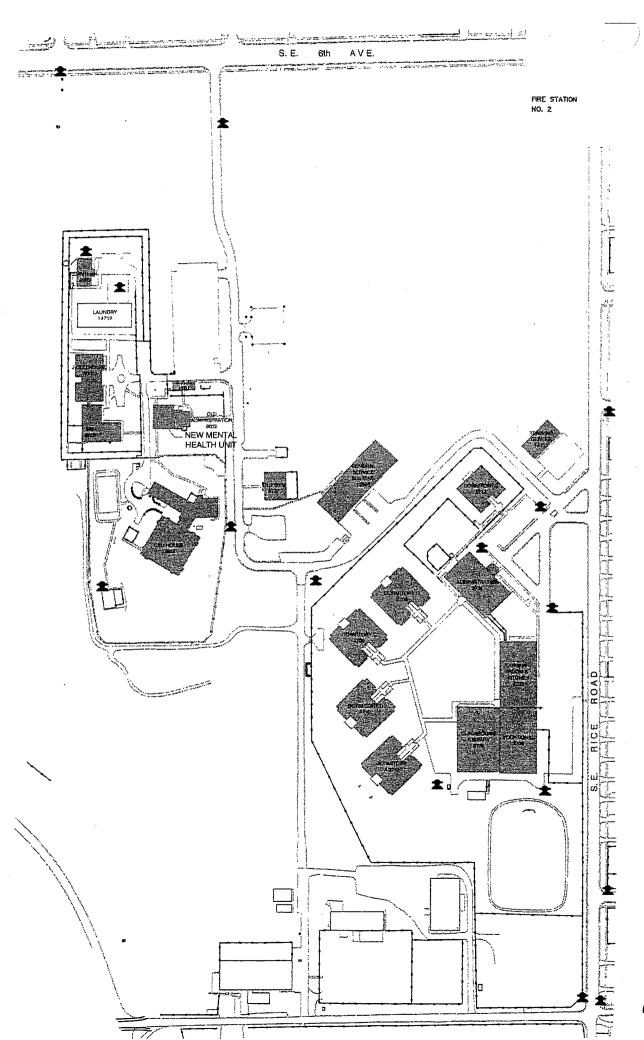
## 6. Recommended Financing:

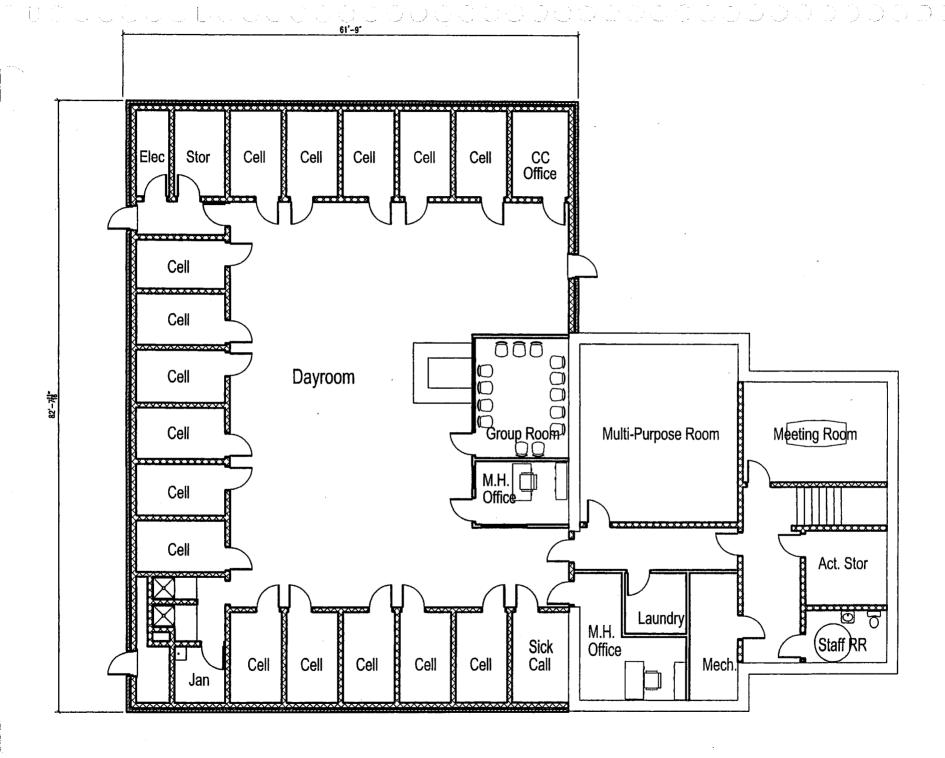
#### AMOUNT BY SOURCE OF FINANCING

Fiscal Years	1. SGF	2. CIBF	3. Bonds	4	4.	5.	TOTAL
Prior Yrs.							\$0
FY 2010							\$0
FY 2011							\$0
FY 2012	\$1,923,224						\$1,923,224
FY 2013							\$0
FY 2014							\$0
FY 2015							\$0
TOTAL	\$1,923,224		\$0	\$0	\$0	\$0	\$1,923,224

## KANSAS DEPARTMENT OF CORRECTIONS DA-418B DOC SUPPLEMENTAL SHEET

**Project Title: Mental Health Treatment Unit** 2. Project No: **S4** 3. Date: 07/01/09 **Detailed Cost Estimate:** Item No Quantity **Unit Cost** Cost Site Utilities (water, gas, electric, san. & storm sewer, etc.) \$ 52,500 Other Site Work (sidewalks, pavements, earthwork, landscaping) 21,000 Basic Building Construction (demolition, repair, remodel, new 3. 5,150 sq ft \$246.00 1,266,900 construction, etc.) Building Plumbing (water supply, DWV) 4. 5,150 sq ft \$7.00 36,050 5. Building Heating, Ventilating, Air Conditioning Systems 5,150 sq ft \$11.00 56.650 6. Building Electrical (service equipment, power supply, lighting) 5,150 sq ft \$11.00 56,650 Communications systems 7,000 Security systems 12,000 9. 10. Total Items 1 - 9 \$ 1,508,750 11. **Escalation to Future Years** 10.00% 150.875 12. Total Items 10 & 11 (Enter on Line 4-1 DA 418B) 1,659,625 13. Design Fees (architectural, engineering, consultant) 7.00% 109,650 14. DOAS 15. Total Items 13 & 14 (Enter on Line 4-2 DA 418B) 109,650 16. SUBTOTAL 1,769,275 17. Moveable Equipment 30,000 18. Special Equipment-cell furniture 35,000 19. 20. Total Items 17 - 19 (Enter on Line 4-3 DA 418B) 21. SUBTOTAL: 1,769,275 22. Project Contingency (Enter on Line 4-4 DA 418B) 5.00% 88,464 23. SUBTOTAL: \$ 1,857,739 24. Other Costs (site survey, soils invest., bid documents, etc.) 2.50% 46,443 (Enter on Line 4-5 DA 418B) SUBTOTAL: | \$ 25. 1,904,182 26. Architectural Services Management Fee (1% of Line 25) 19,042 Grand Total (Enter on Total Line, Sec. 4, DA 418B) 27. \$ 1,923,224 5. Remarks:





Female Mental Health Unit

# FY 2013

## PROJECT REQUEST EXPLANATION **DA-418B** AGENCY: Kansas Department of Corrections FISCAL YEAR: 2013 **Norton Correctional Facility** DATE: July 1, 2009 2. **Project Title: Expand Minimum Visiting Project Priority: S5** 3. **Project Description and Justification:** The current building is not large enough for visitation for the number of minimum security inmates housed at the facility. The area is crowded and inmates have little privacy with their visitors. Added space would allow for a separate area for small children to play. Upgrades to the building would also include carpeting and other materials to help reduce noise levels. **Estimated Project Cost:** 5. Project Phasing: 94,875 (1) Construction, including fixed **Preliminary Planning** equipment and sitework (incl. misc. costs) **Architect's Fee** 6,641 2) Final Planning 2) (incl. misc. costs) **Moveable Equipment** 5,000 3) Construction 115,784 3) (incl. misc. & other costs) **Project Contingency** 5,326 5) **Miscellaneous Costs** 3,942 **TOTAL** 115.784 **TOTAL** 115.784 **Recommended Financing:** AMOUNT BY SOURCE OF FINANCING 5. TOTAL Fiscal Years 1. SGF 2. CIBF 4. 3. \$0 Prior Yrs. \$0 FY 2010 FY 2011 \$0 FY 2012 \$0 \$115,784 FY 2013 \$115,784 FY 2014 \$0 FY 2015

\$0

\$0

\$0

\$115,784

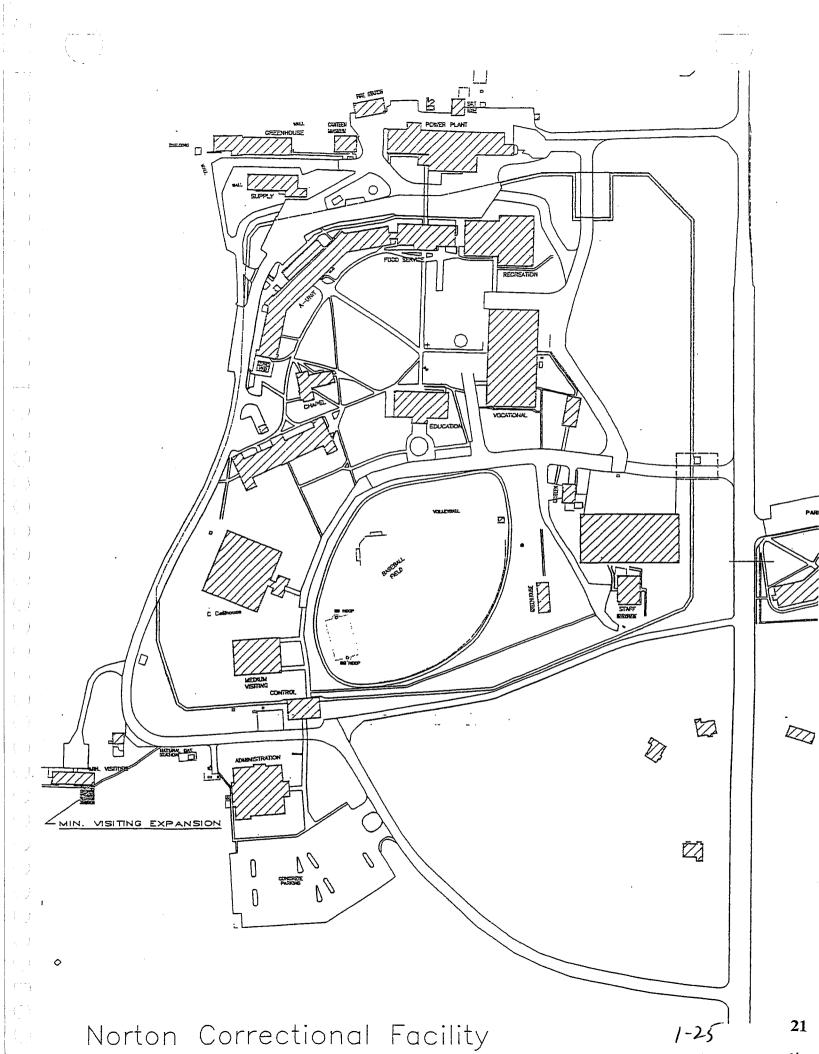
TOTAL

\$115,784

\$0

## KANSAS DEPARTMENT OF CORRECTIONS DA-418B DOC SUPPLEMENTAL SHEET

**Project Title:** 1. **Expand Minimum Visiting** 2. Project No: **S5** 3. Date: 07/01/09 **Detailed Cost Estimate:** No ltem Quantity **Unit Cost** Cost Site Utilities (water, gas, electric, san. & storm sewer, etc.) 1. Other Site Work (sidewalks, pavements, earthwork, landscaping) 2. 5,000 Basic Building Construction (demolition, repair, remodel, new 3. \$ 60.000 construction, etc.) 4. Building Plumbing (water supply, DWV) 5. Building Heating, Ventilating, Air Conditioning Systems 8,500 Building Electrical (service equipment, power supply, lighting) 6. 4.000 Communications systems Security systems 5.000 9. 10. Total Items 1 - 9 82,500 Escalation to Future Years 11. 15.00% 12,375 Total Items 10 & 11 (Enter on Line 4-1 DA 418B) 12. \$ 94,875 13. Design Fees (architectural, engineering, consultant) 7.00% 6.641 DOAS 14. Total Items 13 & 14 (Enter on Line 4-2 DA 418B) 15. 6.641 16. SUBTOTAL 101,516 Moveable Equipment - Visiting Tables 17. 5.000 18. Special Equipment 19. 20. Total Items 17 - 19 (Enter on Line 4-3 DA 418B) 5,000 21. SUBTOTAL: 106,516 22. Project Contingency (Enter on Line 4-4 DA 418B) 5.00% 5,326 23. SUBTOTAL: 111,842 24. Other Costs (site survey, soils invest., bid documents, etc.) 2.50% 2,796 (Enter on Line 4-5 DA 418B) 25. SUBTOTAL: 114,638 26. Architectural Services Management Fee (1% of Line 25) 1,146 27. Grand Total (Enter on Total Line, Sec. 4, DA 418B) \$ 115,784 Remarks:



AUM VISITING RAMP **MECH.** REST ROOM ROOM REST ROOM

# FY 2014

## PROJECT REQUEST EXPLANATION **DA-418B** AGENCY: Kansas Department of Corrections FISCAL YEAR: 2014 DATE: **Norton Correctional Facility** July 1, 2009 **Project Title: Construct Staff Development** 2. **Project Priority: S6 Building Project Description and Justification:** 3. Norton Correctional facility is the only facility with their staff development area located within the secure perimeter. This project is for the construction of 5,000 SF metal building located to the west of the administration building. This would allow for staff to use the existing parking lot located in front of the administration building in order to reduce the construction cost. The building will have four classrooms, three staff offices, lobby, restrooms storage and mechanical space. With the construction of this building staff training and groups such as BC/BS, Parole Services, KOSE and others will have a place to present without have staff and visitors enter the secure perimeter. **Estimated Project Cost:** 5. Project Phasing: Construction, including fixed 461,588 1) Preliminary Planning equipment and sitework (incl. misc. costs) **Architect's Fee** 46,000 2) Final Planning (incl. misc. costs) 3) Moveable Equipment 3) Construction 543,680 (incl. misc. & other costs) 25,379 4) **Project Contingency** 5) Miscellaneous Costs 10,713 **TOTAL** \$ 543,680 TOTAL \$ 543,680 Recommended Financing: AMOUNT BY SOURCE OF FINANCING Fiscal Years 1. SGF 2. CIBF 5. TOTAL 3. Prior Yrs. \$0 FY 2010 \$0 FY 2011 \$0

\$543,680

FY 2012

FY 2013

FY 2014

FY 2015

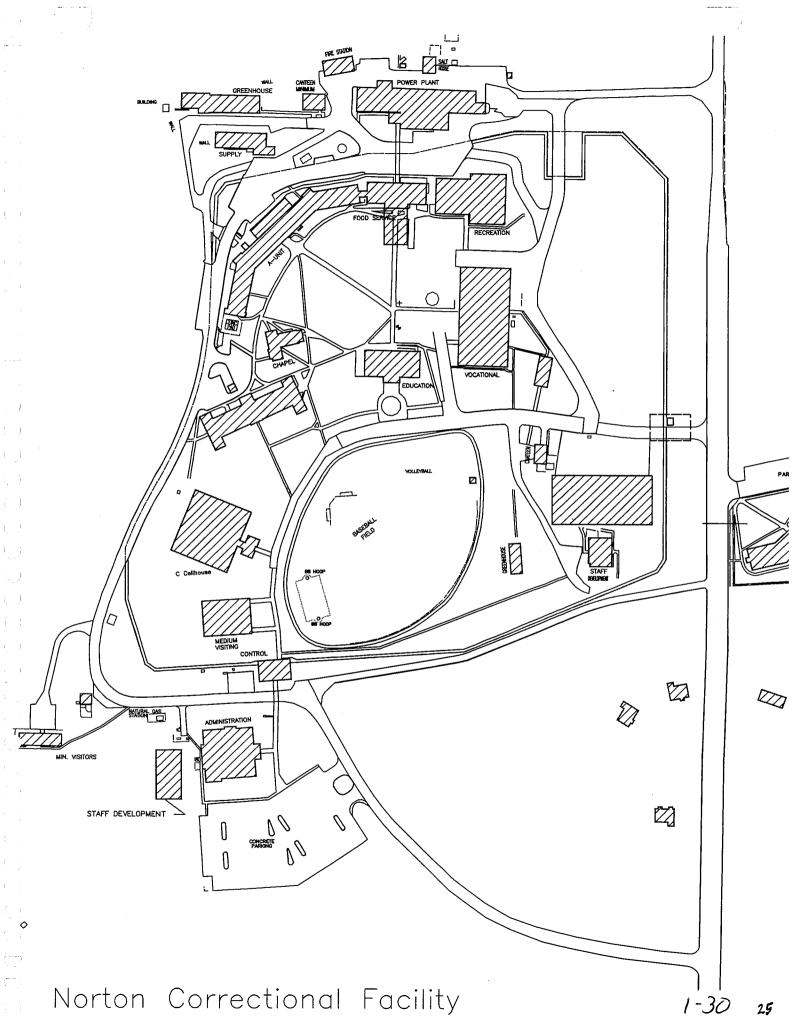
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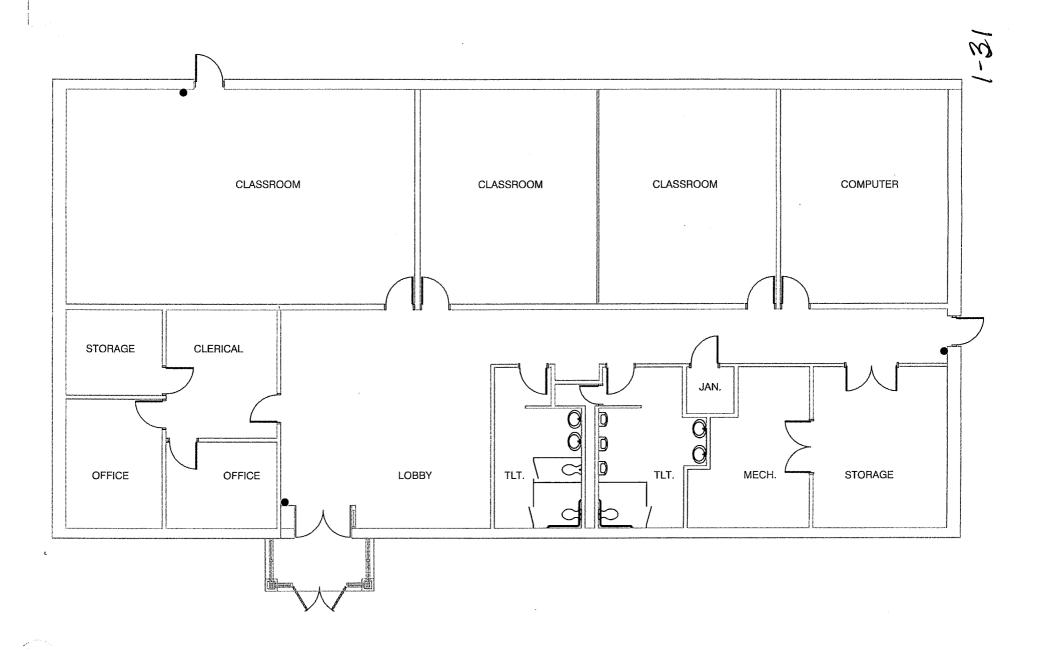
\$0

\$543,680

# KANSAS DEPARTMENT OF CORRECTIONS DA-418B DOC SUPPLEMENTAL SHEET

4.	Detailed Cost Estimate:			
No	Item	Quantity	Unit Cost	Cost
1.	Site Utilities (water, gas, electric, san. & storm sewer, etc.)			\$ 5,000
2.	Other Site Work (sidewalks, pavements, earthwork, landscaping)			5,000
3.	Basic Building Construction (demolition, repair, remodel, new construction, etc.)			327,157
4.	Building Plumbing (water supply, DWV)			8,000
5.	Building Heating, Ventilating, Air Conditioning Systems			20,000
6.	Building Electrical (service equipment, power supply, lighting)			12,000
7.	Communications systems			2,500
8.	Security systems			5,000
9.				
10.	Total Items 1 - 9			\$ 384,657
11.	Escalation to Future Years 20.00%			76,931
12.	Total Items 10 & 11 (Enter on Line 4-1 DA 418B)			\$ 461,588
13.	Design Fees (architectural, engineering, consultant) 10.00%			46,000
14.	DOAS			
15.	Total Items 13 & 14 (Enter on Line 4-2 DA 418B)			46,000
16.			SUBTOTAL	\$ 507,588
17.	Moveable Equipment			
18.	Special Equipment			
19.				
20.	Total Items 17 - 19 (Enter on Line 4-3 DA 418B)			
21.			SUBTOTAL:	\$ 507,588
22.	Project Contingency (Enter on Line 4-4 DA 418B) 5.00%			25,379
23.			SUBTOTAL:	\$ 532,968
24.	Other Costs (site survey, soils invest., bid documents, etc.) 1.00% (Enter on Line 4-5 DA 418B)			5,330
25.			SUBTOTAL:	\$ 538,297
26.	Architectural Services Management Fee (1% of Line 25)			 5,383
27.	Grand Total (Enter on Total Line, Sec. 4, DA 418B)			\$ 543,680





# FY 2015

			PROJ			T EXPLANA <sup>-</sup>  8B	TION			
AG	ENCY: Kansas Departmen	t of Corre	ections		FIS	CAL YEAR:			2015	
	Norton Correctional Facil	ity			DA	TE:		July 1,	2009	
1.	Project Title: Construct A	Activities	Buildin	g For D	2.	Project Pri	ority:		<b>S</b> 7	
3.	Project Description and J	ustificati	on:				5°			
	D-unit activities are limited movement of minimum activitime processing offenders in chapel services and SOTP weight room is located in the inmates in there at one time would allow for increased s X 50' building in the back of	vities outs nside and in cottage e baseme because taff efficie	ide the fout of the four of count of count of count of count of count of the count	fence will fu he medium tage 6 is no ttage 5 and codes. Plac	rthe per t ha is a ing	er reduce suc imeter. Curre andicap acces also outside th all these prog	h inmate move ently we have ssible and is o ne minimum fe grams/activitie	ement and a small mi utside the ence and ces in one be	l as well le nimum libr minimum an only ha uilding insi	ssen staff ary, some fence. The ave 10 de the fence
						÷				
4.	Estimated Project Cost:				5	Project Pha	sina.			·
<del>1</del> . 1)	Construction, including f	ixed	\$	215,000		Preliminary		<del></del>		<del></del>
2)	equipment and sitework Architect's Fee			·		(incl. misc. Final Plann	costs) ing			
3)	Moveable Equipment			-	3)	(incl. misc. Construction	on			246,408
4)	Project Contingency			11,503		(incl. misc.	& other cost	s)		
5)	Miscellaneous Costs			4,855						
	TOTAL		\$	246,408			TOTAL		\$	246,408
		, -								
6.	Recommended Financing	•	AMOU	NT BY SOL	JRO	E OF FINAN	ICING			
	Recommended Financing		AMOU		JRC 3.	E OF FINAN	ICING	5.		TOTAL
Fis						E OF FINAN	-	5.		TOTAL \$0
Fis Pri FY	cal Years 1. SGF or Yrs. 2010					CE OF FINAN	-	5.		\$C
Fis Pri FY	cal Years 1. SGF or Yrs. 2010 2011					CE OF FINAN	-	5.		\$0 \$0 \$0
Fis FY FY	cal Years 1. SGF or Yrs. 2010 2011 2012					CE OF FINAN	-	5.		\$0 \$0 \$0
Fis FY FY FY	cal Years 1. SGF or Yrs. 2010 2011					CE OF FINAN	-	5.		\$0 \$0 \$0

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TOTAL

\$246,408

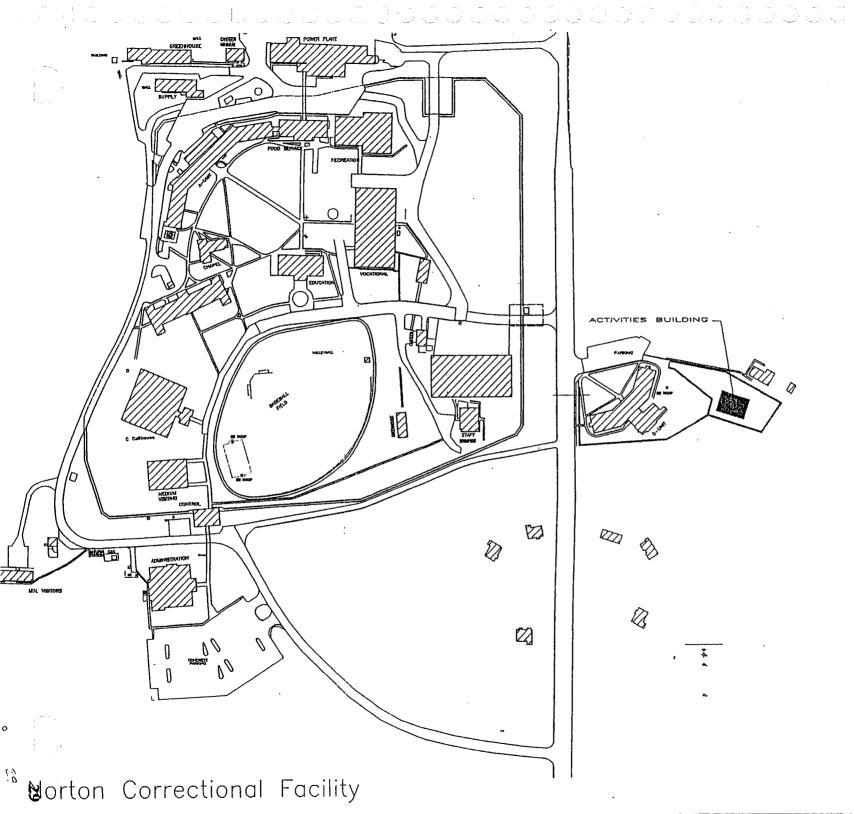
\$246,408

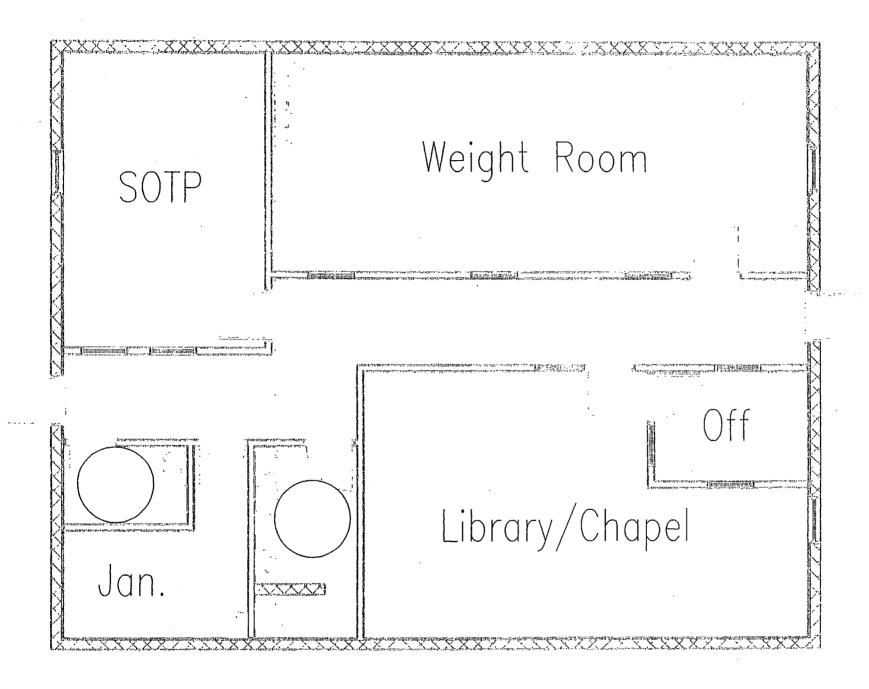
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#### KANSAS DEPARTMENT OF CORRECTIONS DA-418B DOC SUPPLEMENTAL SHEET

Project Title: Construct Activities Building For 2. Project No: 07/01/09 **S7** 3. Date: D Dorm

4.	Detailed Cost Estimate:		
No	Item Quantity Unit Cost		Cost
1.	Site Utilities (water, gas, electric, san. & storm sewer, etc.)	\$	6,000
2.	Other Site Work (sidewalks, pavements, earthwork, landscaping)		2,000
3.	Basic Building Construction (demolition, repair, remodel, new construction, etc.)		115,000
4.	Building Plumbing (water supply, DWV)		9,000
5.	Building Heating, Ventilating, Air Conditioning Systems		16,000
6.	Building Electrical (service equipment, power supply, lighting)		14,000
7.	Communications systems		4,000
8.	Security systems		6,000
9.			
10.	Total Items 1 - 9	\$	172,000
11.	Escalation to Future Years 25.00%		43,000
12.	Total Items 10 & 11 (Enter on Line 4-1 DA 418B)	\$	215,000
13.	Design Fees (architectural, engineering, consultant) 7.00%		15,050
14.	DOAS		
15.	Total Items 13 & 14 (Enter on Line 4-2 DA 418B)		15,050
16.	SUBTOTAL	\$	230,050
17.	Moveable Equipment		25,000
18.	Special Equipment		
19.			
20.	Total Items 17 - 19 (Enter on Line 4-3 DA 418B)		
21.	SUBTOTAL:	\$	230,050
22.	Project Contingency (Enter on Line 4-4 DA 418B) 5.00%		11,503
23.	SUBTOTAL:	\$	241,553
24.	Other Costs (site survey, soils invest., bid documents, etc.) 1.00% (Enter on Line 4-5 DA 418B)		2,416
25.	SUBTOTAL:	\$	243,968
26.	Architectural Services Management Fee (1% of Line 25)		2,440
27.	Grand Total (Enter on Total Line, Sec. 4, DA 418B)	\$	246,408
5.	Remarks:	<u> </u>	





# **ACTIVITY BUILDING PLAN**

## PROJECT REQUEST EXPLANATION DA-418B

AGENCY: Kansas Department of Corrections	FISCAL YEAR:	2015	
Norton Correctional Facility	DATE:	July 1, 2009	<u> </u>
1. Project Title: Construct Addition to Warehouse	2. Project Priority:	\$8	

#### 3. Project Description and Justification:

NCF needs an addition built to the current Warehouse to eliminate storing excess chemicals and canteen items in the Old Supply Building and to give additional security to items that need to be in locked storage. The locked storage area will be to store canteen items that cannot be delivered to Medium Canteen immediately and would eliminate theft by the inmates. We currently store some supplies in the old supply building. We order larger quantities to obtain a better price and to keep enough in stock for 4-6 weeks of sales. We would like to build a 40' X 60' X 14' steel building with an insulated overhead door and insulated walk door.

4.	Estimated Project Cost:		5.	Project Phasing:	
1)	Construction, including fixed equipment and sitework	\$ 213,438	1)	Preliminary Planning (incl. misc. costs)	
2)	Architect's Fee	14,941	2)	Final Planning (incl. misc. costs)	
3)	Moveable Equipment	-	3)	Construction (incl. misc. & other costs)	244,617
4)	Project Contingency	11,419		(mei. mac. a other costs)	
5)	Miscellaneous Costs	4,820			
	TOTAL	\$ 244,617		TOTAL	\$ 244,617

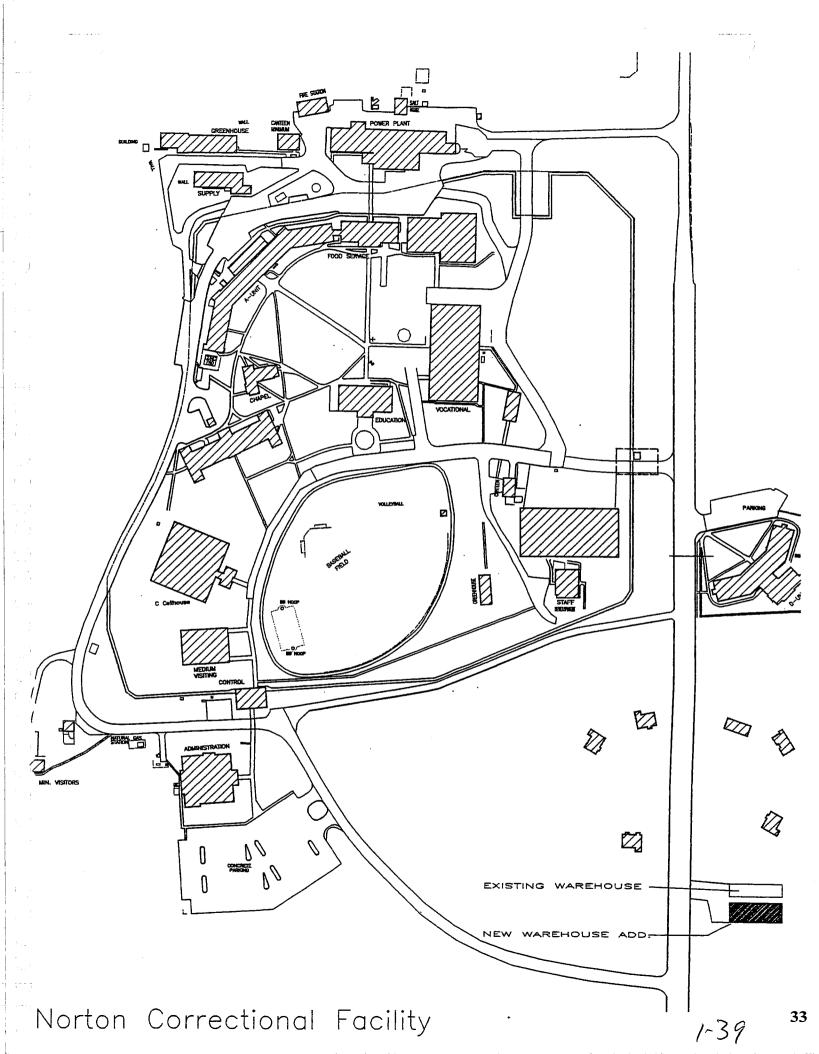
#### 6. Recommended Financing:

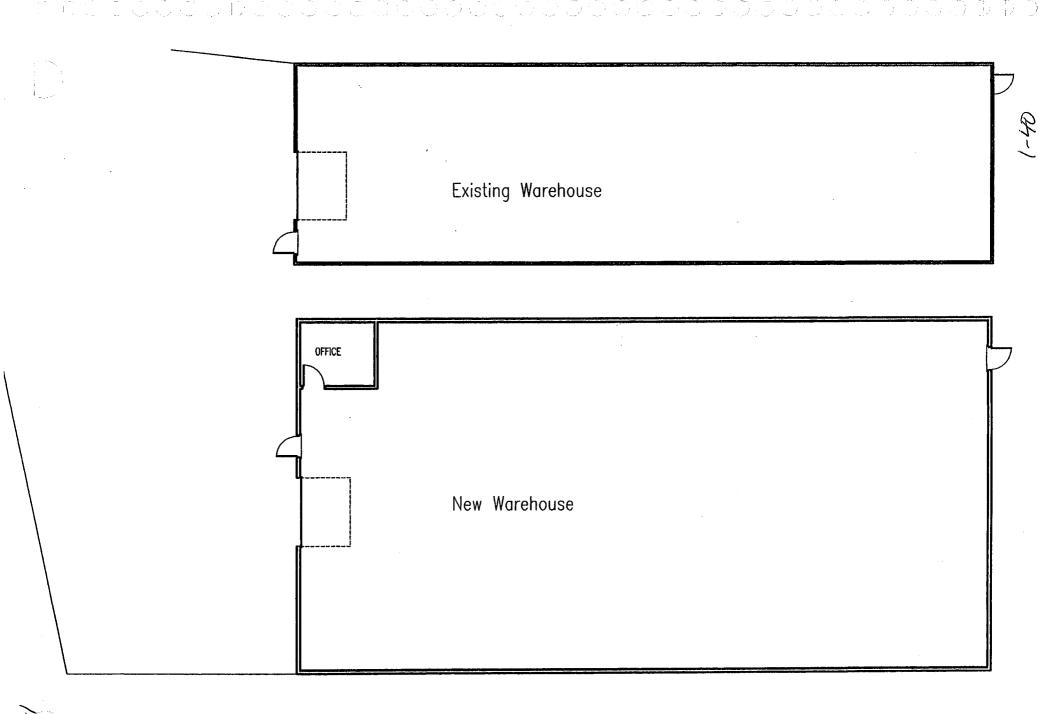
#### AMOUNT BY SOURCE OF FINANCING

Fiscal Years	1. SGF	2. CIBF	3.	4.	5.	TOTAL
Prior Yrs.					·	\$0
FY 2010						\$0
FY 2011						\$0
FY 2012						\$0
FY 2013						\$0
FY 2014						\$0
FY 2015	\$244,617					\$244,617
TOTAL	\$244,617	\$	\$0	\$0	\$0	\$244,617

### KANSAS DEPARTMENT OF CORRECTIONS DA-418B DOC SUPPLEMENTAL SHEET

1.	Project Title: Construct Addition to Warehouse Building 2. Project No: S8 3. Date:	07/0	1/09
4.	Detailed Cost Estimate:		
No	Item Quantity Unit Cos	it	Cost
1.	Site Utilities (water, gas, electric, san. & storm sewer, etc.)	\$	5,500
2.	Other Site Work (sidewalks, pavements, earthwork, landscaping)		8,000
3.	Basic Building Construction (demolition, repair, remodel, new construction, etc.)		138,000
4.	Building Plumbing (water supply, DWV)		
5.	Building Heating, Ventilating, Air Conditioning Systems		6,000
6.	Building Electrical (service equipment, power supply, lighting)		6,000
7.	Communications systems		2,250
8.	Security systems		- 5,000
9.			
10.	Total Items 1 - 9	\$	170,750
11.	Escalation to Future Years 25.00%		42,688
12.	Total Items 10 & 11 (Enter on Line 4-1 DA 418B)	\$	213,438
13.	Design Fees (architectural, engineering, consultant) 7.00%		14,941
14.	DOAS		
15.	Total Items 13 & 14 (Enter on Line 4-2 DA 418B)		14,941
16.	SUBTOT	AL \$	228,378
17.	Moveable Equipment - Storage Racks		10,000
18.	Special Equipment		
19.			
20.	Total Items 17 - 19 (Enter on Line 4-3 DA 418B)		
21.	SUBTOTA	AL: \$	228,378
22.	Project Contingency (Enter on Line 4-4 DA 418B) 5.00%		11,419
23.	SUBTOTA	AL: \$	239,797
24.	Other Costs (site survey, soils invest., bid documents, etc.)  (Enter on Line 4-5 DA 418B)		2,398
25.	SUBTOTA	AL: \$	242,195
26.	Architectural Services Management Fee (1% of Line 25)		2,422
27.	Grand Total (Enter on Total Line, Sec. 4, DA 418B)	\$	244,617







#### State Fair Capital Improvement Fund Matching History

The State Fair Capital Improvements and Maintenance Fund was authorized by K.S.A. 2-223 in 1988.

On June 30, 1989, and each succeeding June 30, the Fair is to contribute at least five (5) percent from its qualified receipts to maintain and generate further balances in the Fund. On July 1, 1989, and each succeeding July 1, the State of Kansas will transfer an amount equal to that contributed by the Fair, but not to exceed \$300,000 in any one annual, single fiscal year.

Fiscal Year	State Fair Contribution	State Contribution
1000		
1989	\$87,551	N/A
1990	Exempt	\$87,551
1991	\$149,779	Exempt
1992	\$107,927	\$149,779
1993	\$117,016	\$107,927
1994	\$145,657	\$117,016
1995	\$153,164	\$145,657
1996	\$196,882	\$153,164
1997	\$113,168	\$196,882
1998	\$260,000	\$113,168
1999	\$300,000	\$260,000
2000	\$300,000	\$300,000
2001	\$300,000	\$300,000
2002	\$158,000	No match made
2003	\$243,000	\$158,000
2004	\$300,000	No match made
2005	\$200,000	No match made
2006	\$25,000	\$200,000
2007	\$300,000	\$25,000
2008	\$300,000	\$300,000
2009	\$300,000	\$300,000
2010	\$200,000	\$300,000
2011		No match made

Attachment 2 JCSBC 9-16-09

#### CAPITAL IMPROVEMENT FUND

DATE	DESCRIPTION	TRANSACTION	BALANCE
6/30/06	Fair Transfer to SFCIF (budgeted)	\$25,000	\$393,044.00
7/15/06	State's Required Match (budgeted)	\$25,000	\$418,044.00
3/1/07	City/County Contribution	\$300,000	\$718,044.00
4/1/07	Bond Payment	(\$700,000)	\$18,044.00
6/30/07	Fair Transfer to SFCIF	\$300,000	\$318,044.00
6/30/07	Projects for FY 2007	(\$88,213.66)	\$229,830.34
	Recovery of Expenditures	\$5,200.00	\$235,030.34
_	Interest Earned	\$16,572.06	\$251,602.12
7/15/07	State's Required Match	\$300,000	\$551,602.12
3/1/08	City/County Contribution	\$300,000	\$851,602.12
4/1/08	Bond Payment	(\$700,000)	\$151,602.12
6/30/08	Projects for FY 2008	(\$93,288.40)	\$58,313.72
6/30/08	Fair Transfer to SFCIF	\$300,000	\$358,313.72
	Misc. Recovery (from Youngers for Beer Garden improvements)	\$2,439.73	\$360,753.45
•	Interest Earned	\$17,488.09	\$378,241.54
7/15/08	State's Required Match	\$300,000	\$678,241.54
3/1/09	City/County Contribution	\$300,000	\$978,241.54
4/1/09	Bond Payment	(\$700,000)	\$278,241.54
6/30/09	Projects for FY 2009	(\$109,713.05)	\$166,177.32
6/30/09	Fair Transfer to SFCIF	\$200,000	\$366,177.32
	Interest Earned	\$15,751.00	\$381,928.32
7/15/09	State's Required Match	\$0	\$381,928.32
3/1/10	City/County Contribution	\$300,000	\$681,928.32
4/1/10	Bond Payment	(\$700,000)	(\$18,071.68)
6/30/10	Projects for FY 2010	(\$80,000.00)	(\$98,071.68)
6/30/10	Fair Transfer to SFCIF	\$200,000	\$101,928.32
	Interest Earned (estimated)	\$5,000.00	\$106,928.32
7/15/10	State's Required Match	\$200,000	\$306,928.32
3/1/11	City/County Contribution	\$300,000	\$606,928.32
4/1/11	Bond Payment	(\$700,000)	(\$93,071.68)
6/30/11	Projects for FY 2011	(\$80,000)	(\$173,071.68)
6/30/11	Fair Transfer to SFCIF	\$300,000	\$126,928.32

Attachment 3 JCSBC 9-16-09

	Interest Earned (estimated)	\$5,000.00	\$131,928.32
7/15/11	State's Required Match	\$300,000	\$431,928.32
4/1/12	Bond Payment	(\$700,000)	(\$268,071.68)
6/30/12	Projects for FY 2012	(\$80,000)	(\$348,071.68)
6/30/12	Fair Transfer to SFCIF	\$300,000	(\$48,071.68)

In addition to FY 2010, there were no State matches to the State Fair Capital Improvement Fund (SFCIF) in FY 2001, FY 2003, and FY 2004. The total amount of contributions not matched is \$1,043,000.

The above scenario reflects a \$200,000 contribution in FY 2009 and a \$200,000 contribution in FY 2010. It assumes the Fair is able to make a \$300,000 contribution beginning in FY 2011. The amount of this contribution is greatly dependent upon the success of the annual State Fair and incurring no major unexpected repairs. It also assumes the State's continuance of matching the Fair's contribution to the SFCIF.

Based on this scenario, you can see we will need to adjust the amount of money spent by the State Fair for Capital Improvement projects in FY 2010, 2011 and 2012. We will also need to explore making our transfer at a date earlier than June 30 (this has been done in the past and, if funds are available, should not create a burden).

On an annual basis, our contract work with Kenny's Electrical Co. and Buck Plumbing are funded from the State Fair Capital Improvement Fund, under the "Projects for FY 20\_" line item. These two contracts historically have cost us about \$76,000. With these expenditures, it leaves a balance of approximately \$4,000 available for miscellaneous repair and rehabilitation projects. This is not an adequate amount to do the items needed on an annual basis.

#### **Long-Term Infrastructure Maintenance Program**

# WICHITA STATE UNIVERSITY Project Update

September, 2009

# **COMPLETED PROJECTS**

## Replacement and Upgrade of Elevator Equipment Controls

Ahlberg Hall – two passenger elevators	\$163,954
Jardine Hall – one passenger elevator	59,438
Lindquist Hall – two passenger elevators	190,347
McKnight Art Center – two passenger elevators	79,994
Wallace Hall – one passenger elevator	35,225

#### Replacement of Pneumatic HVAC Building Controls with Digital Controls

Hesskett Center \$116,696

McKnight Art Center 134,066

National Institute for Aviation Research 86,780

# Replacement and Upgrade of Electrical Service

Replace motor control center at the Central Energy Plant	\$232,096
Replace primary service, transformer and switch gear at DFAC	241,951
Replace / expand needed service to Visual Communications Building	53,942
Replace / expand needed service to Wallace Hall Annex	112,000
Replace transformer and switch gear to serve Ahlberg Hall (combined with infrastructure project to waterproof utility tunnel)	

# <u>Infrastructure</u>

Excavated and waterproofed 420 lineal feet of utility tunnel, and	\$727,75
combined project with replacement of electrical transformer and switch	
gear that serves Ahlberg Hall	
Addressed deficient fire prevention with the addition of 2,360 lineal feet	311,092
of 8 inch water mains, and the addition of three fire hydrants	•

# **Duerksen Fine Arts Center**

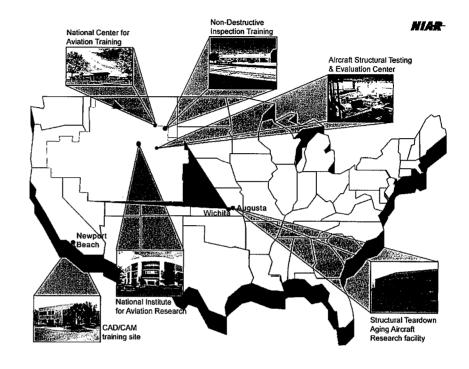
Demolition of obsolete boilers, and abatement of related asbestos	\$ 99,590
containing building materials	
Replacement of existing aluminum storefront single pane glass and	276,124
entrances, with more energy efficient double pane glass and entrances	

# **CURRENT PROJECTS**

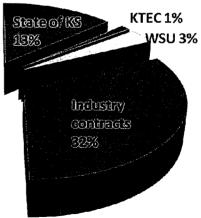
# Replacement of Building HVAC Systems

<u>Duerksen Fine Arts Center</u>	
Negotiated consulting engineering fees for design, construction documents and construction administration for replacement of HVAC	\$ 776,100
systems involving three separate phases or projects	
Engineer's cost estimate for Phase I HVAC replacement	2,784,938
Engineer's cost estimate for Phase II HVAC replacement	2,408,923
Engineer's cost estimate for Phase III HVAC replacement	3,488,527
Engineering Building Negotiated consulting engineering fees for design, construction documents and construction administration for replacement of HVAC system	\$ 144,500
Engineer's cost estimate for HVAC replacement	1,056,790
Grace Wilkie Hall Negotiated consulting engineering fees for design, construction documents and construction administration for replacement of HVAC system	\$ 168,500
Engineer's cost estimate for HVAC replacement	2,352,000

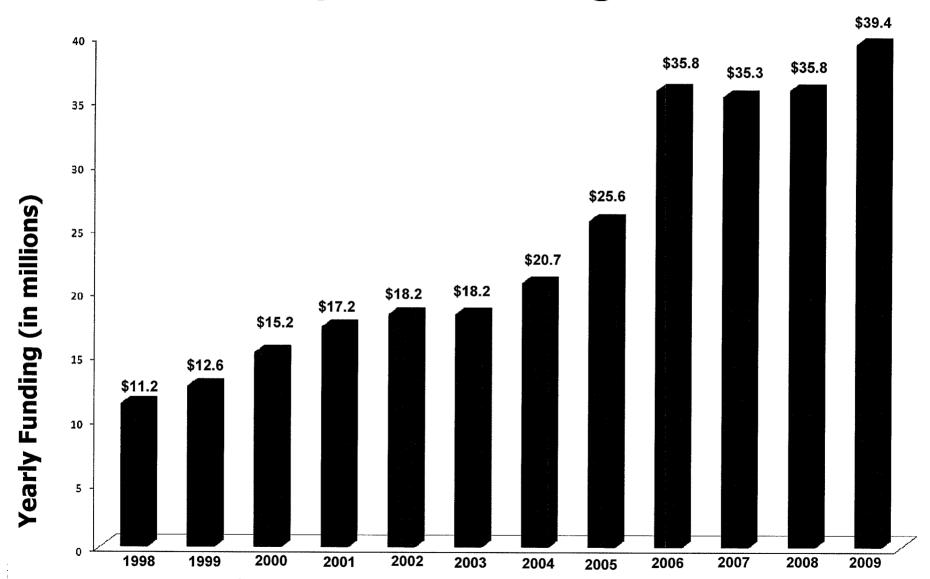
- **Human Resources** 
  - 369 full and part time employees
- Operating Budget (2009)
  - \$39 M
- Operate six facilities (1 outside of Kansas)
- Over 200,000 sq.ft.
- Ranked 3<sup>rd</sup> in aerospace research expenditures nationwide (NSF 2007 data)





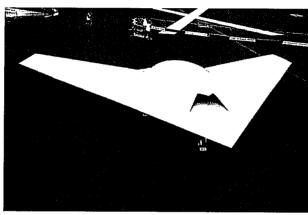


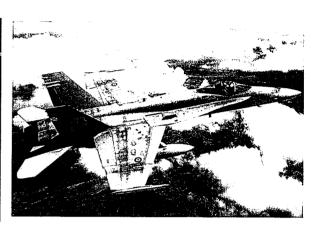
# **Operational Budget**



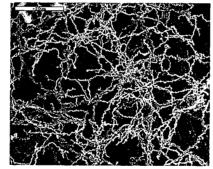
## HIGHLIGHTS DURING THE LAST YEAR



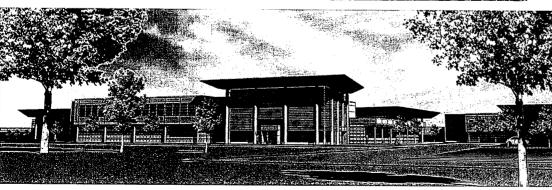








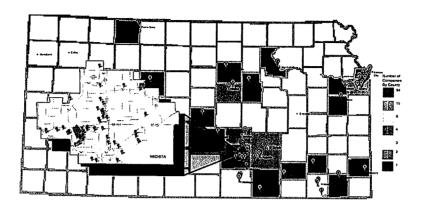






5-4

Existing Large Aerospace Industry 20,000 + jobs



Transportation
Equipment
Manufacturers
35,000 + jobs







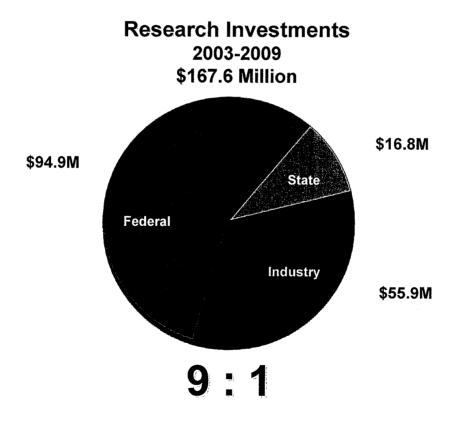






# Return on Investment

 From 2005 through 2008, State of Kansas investments allowed the creation of 90 additional jobs at NIAR at an average salary of \$49,500; \$4.46M yearly recurring back into the Kansas economy



# NIIS

# NIAR – Industry – State Research Program

**Executive Summary** 

**Program Years 2004 - 2009** 

September 2009

Attachment 6 JCSBC 9-17-09

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FY 2007 – 2004	5C

#### NIAR/Industry/State (NIS) Aviation Research Program

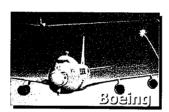
Program Summary - September 2009

The Kansas aviation industry is pleased that the Governor and Kansas Legislature have maintained their focus on economic growth in Kansas. Boeing, Bombardier-Learjet, Cessna Aircraft, Spirit AeroSystems, and Hawker Beechcraft account for a significant portion of the gross domestic product of the state and have a vested interest in initiatives that help maintain and grow their contribution to the state economy. By 2016 it is forecasted that 16.1% of all wages earned in Kansas will be attributable to the aviation industry.

The importance of the existing aviation industry on the Kansas economy is noted below by the following 2008/2009 statistics:

- Aviation is the #1 export in the United States
- · Aviation employment is at its lowest point in 40 years
- 70% of the embedded fleet was manufactured in Kansas
- 50% of the general aviation fleet is manufactured in Kansas
- 20,000+ aviation-related jobs in Sedgwick county June 2009 posteconomic impact estimates
- Each aviation job generates an additional 2.9 jobs
- \$1.6 billion (22%) of the Kansas State's \$5.9 billion budget is related to the 5 largest aviation companies













Today, the aviation industry must compete in a global economic environment far different from that of the past. New challenges to our leadership are arising from aircraft manufacturers in Europe, the Pacific Rim, and Brazil. For example, the commercial airplane industry must now compete against the European union (13 countries). Furthermore, new foreign government-supported research and test facilities, particularly in Europe, are attracting business from United States aircraft companies because of availability, quality of results, rapid response and low cost.

To address this competition, the nation's research and development base in aircraft design and manufacturing must be expanded in partnership with the aviation industry and state governments. It is through research and the application of new technology in aerodynamics, materials, structures, sensors, and safety that the U.S. will be able to maintain its leading position in aviation in the 21<sup>st</sup> century.

The NIAR/Industry/State (NIS) program was created in 2003 to aid the aerospace industry in Kansas and enable technology that allows the Kansas aviation industry to compete in a global economic environment. The program was funded by the State Legislature as a result of an industry campaign. It is executed by industrial representatives through an executive committee comprised of representatives from Boeing, Bombardier-Learjet, Cessna, Hawker Beechcraft and Spirit AeroSystems. WSU representatives on the executive committee consist of J. David McDonald (Assoc. Provost for Research) and John Tomblin (National Institute for Aviation Research) who collectively serve in an advisory role for the industry executive committee with respect to university polices and procedures.

Each program year the industry's most pressing problems are identified by industry representatives on the executive committee, and are matched to existing expertise within NIAR. Each project is conducted with a fixed budget, definite deliverables, and a one-year schedule. The researchers work closely with industry representatives who serve as points of contact and monitor the progress of the research.

The NIS program is structured differently than traditional research program in that the deliverables are more focused towards keeping the Kansas aviation companies competitive by rapid insertion of technology, reduced time-to-market, recued cost and increased quality and safety. Due to these specific goals, the Principle investigators (PIs) on each project agree to the following:

- (1) Most NIS projects are proprietary in nature and therefore publication opportunities may have to be negotiated with the aviation companies.
- (2) Each project will be assigned a primary industry contact who will develop and monitor the project. Weekly or biweekly meetings with the industry

project contacts will be required for each project. The executive committee has also assigned a NIS Liaison to forward briefing information to the executive committee. Regular briefing meetings will be held with the NIS Liaison and it is the responsibility of the principal investigator to brief the liaison, as he/she will represent each project to the executive committee.

- (3) Budgets developed under the NIS program will not be charged University research overhead due to State funding. Routine research expenditures such as release time, summer salary, post docs, graduate/undergraduate students, laboratory fees and materials and supplies will be typical in the budget developed for the project. Limited equipment purchases and travel will be allowed for the project but must be approved by the executive committee and industry monitors and must be directly related to the successful project outcome.
- (4) The industrial executive committee will periodically review each project and reserves the right to discontinue or reduce funding for nonperformance or lack of expenditures. Pls are required to submit monthly expenditure reports on the project.

In 2004, 2005, 2006 and 2007 the Kansas Legislature and the Governor approved \$1M, \$2M, \$2M, and \$2M, respectively, for aviation related research to support future products. In 2007, the Kansas aviation industry requested a second initiative for enhanced funding of \$25M over a 5 year period, which was funded at \$4.75M and \$5M, respectively in 2008 and 2009. In 2009, the industry requested the third year of funding of \$5M to support research and technical support in the areas of:

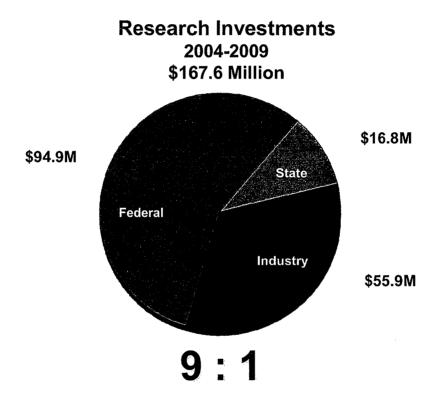
- Composites and Advanced Materials Applications
- Aircraft lcing
- Environmental Effects on Aircraft Operation
- Advanced Manufacturing Techniques
- Crash Dynamics and Crash Safety
- CAD/CAM Applications and Design
- Advanced Joining

In fiscal year 2010, research in these areas continued with a \$4.75M award.

These research projects will help the Kansas aviation industry reduce cycle time-to-market, reduce costs, enhance quality and safety for improved competitiveness, and retain and create jobs. Based upon the report by the Commission on the Future of the United States Aerospace Industry, Kansas was cited as having the largest concentration of aerospace and aviation industry jobs in the nation, accounting for one out of every five jobs in Wichita. While Boeing, Bombardier-Learjet, Cessna, Hawker Beechcraft and Spirit AeroSystems dominate employment in south central

Kansas, there are 1,800 smaller manufacturing shops in the 13-county region surrounding Wichita. Economists estimate that there are 2.9 jobs outside aerospace for every direct job within aerospace.

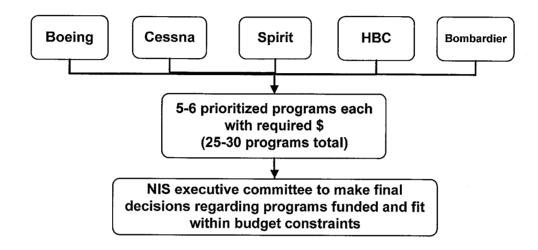
The primary purpose of the program is to transition research directly onto the production floor but it has also been instrumental in attracting federal funding dollars and industry contract dollars into the State. As of the fiscal year end of 2009, this program has generated a 9:1 match with respect to the State dollars invested

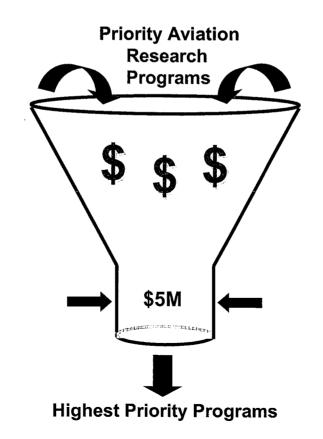


#### **Program Protocol Procedures**

The protocol which the aviation industry executive committee follows is based upon each industrial representative presenting 5-6 high priority research project within their company and sharing with the total group. These projects are summarized in a combined list and discussed among the executive committee which projects have overlap and may be combined, which projects bring the highest return on investment (from providing the greatest competitive advantage for the Kansas aviation cluster) and which projects could achieve specific goals in the required time frame. Budgets are also placed with each project. Based upon the funding provided by the State legislature, the project listing is trimmed or rescaled to fit within the NIS budget year as well as the allowable funding. The following figures depict this process.

### **NIS Funding Protocol**





#### DETAILED PROGRAM REVIEW BY BUDGET YEAR

The following sections provide a listing of each project funded by the NIS executive committee for program year 2009 and 2008 along with a brief project description and a listing of the categorized expenditures incurred by each specific project. A summary of the complete funding and expenditure per fiscal year year is provided at the beginning of each section.

A summary listing is provided for NIS funding years of 2003-2007.

Project	Title	FY 2009 Budgeted Funding After State Recision	FY 2009 Project Expenditures as of August '09
09-002	Repair of Composite Structures (including sandwich)	\$1,023,019	\$1,058,941
09-003	Blind or One-Sided Fastener Usage in Composite Structures (Production and Repair Applications)	\$185,085	\$189,434
09-019	Quiet Interiors Development	\$231,357	\$230,370
09-006	Friction Stir Welding and Related Topics	\$231,357	\$231,357
09-011	Adhesive Joint Characterization and Testing	\$244,628	\$277,571
09-017	Composite Bearing Allowables Baseline	\$391,455	\$391,166
09-023	Ground Anti-Ice Development	\$138,814	\$122,438
09-026	Electromagnetic Characterization of Composite Fuselages	\$148,068	\$148,068
09-027	Metadata Enabled Thinking Systems Tools for Implementation IVHM	\$222,102	\$222,356
09-029	Microcracks in Composites	\$111,051	\$111,000
09-030	Effects of Manufacturing Defects on Composites Materials (NDI Development)	\$231,357	\$231,293
09-031	Engine Inlet Ice Protection System	\$185,085	\$178,056
09-032	Influence of Environmental Knock-down Factors in Composite Design Structural Margins	\$370,071	\$369,629
09-033	CAD neutral data exchange and 64bit functionality	\$138,814	\$138,814
09-034	Composite Fuel Bay Sealant Liner Materials	\$92,543	\$92,510
09-035	Correlation between cure and mechanical properties of composite materials	\$185,085	\$185,085
09-036	Low-cost Light-weight Methods for Flutter Excitation	\$92,543	\$90,759
09-037	Acoustical impact to composite sandwich structures (dampening, core shear and thermal)	\$185,085	\$178,536
09-038	5-axis machine verification by using transducers (concept)	\$26,542	\$26,542
09-039	Simulation and modeling of bird strike testing	\$138,814	\$138,000
	NIS Liaison	\$23,136	\$22,611
		\$4,596,011	\$4,634,536

#### **FY 2009 Project Descriptions and Expenditures**

#### Repair of Composite Structures

Composite structures can be damaged during construction, maintenance, or by normal use. This project was concerned with assessing such damage and developing durable repairs to insure structural integrity.

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				Net Total:	1,023,019.06		1,058,941.29	0.00	-35,922.23	
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#### Blind or One-Sided Fastener Usage in Composite Structures

The use of fasteners in aircraft constrained by accessibility to one side of a joint were reviewed with regard to installation processes, hole quality, corrosion, and performance under fatigue loading.

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Account	Тур	e Description	Adjusted Budget	Activity	Commitments	Available Balance
6B	L	Salaries & Wages	53,210.00	61,858.82	0.00	-8,648.82
6C	L	Benefits	6,155.00	2,362.26	0.00	3,792.74
7A	E	Pooled Other Operating Expenses	0,00	0.00	0.00	0.00
7C	E	Contractual Services	108,102.00	120,143،20	0.00	-12,041.20
7F	E	Commodities	17,618.00	2,097.37	0.00	15,520.63
7H		Capital Outlay	0.00	2,972.46	0.00	-2,972.48
Press Key D Record: 1/6	)up F	Net Total:  ecord for Grant Detail Transactions	185,085.00	189,434.13	0.00	-4,349.13

#### **Quiet Interiors Development**

The turbulent boundary layer (TBL) is the dominant noise source at cruise in modern aircraft. It is necessary to better understand this source of noise to design effective noise control treatments. This project will conduct large scale computational fluid dynamics (CFD) simulations as one means of better understanding this source of noise.

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Account Type Description    L   Salaries & Wages	Adjusted Budget  191,282.00  13,197.81  0.00  6,612.19  20,265.00  0.00  231,357.00	Activity  195,385.76  8,111.07  0.00  6,876.19  0.00  19,997.35	Commitments  0.00  0.00  0.00  0.00  0.00  0.00	Available Balance -4,103.76 5,086.74 0.00 -264.00 20,265.00 -19,997.35	<b>◆</b>
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# Friction Stir Welding and Related Topics

In this project, a comprehensive assessment of friction stir welding of aluminum alloys was conducted. This process produces desirable joint characteristics and may be the most feasible way for aviation manufacturers to join metal parts.

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68	L	Salaries & Wages		0.00	0.00	0.00	0.00	<u>.</u>
6C	L	Benefits		0,00	0,00	0.00	0.00	
7C	E	Contractual Services		211,700.00	231,326.87	0.00	-19,626.87	
7F	E	Commodities		13,639.00	30.13	0.00	13,608.87	
7H	E	Capital Outlay		6,018.00	0.00	0.00	6,018.00	
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			Net Total:	231,357.00	231,357.00	0.00	0.00	
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# Adhesive Joint Characterization and Testing

This investigation addressed defects that could occur in adhesively bonded joints during the manufacture or operation of the joints. Environmental durability of adhesive joints was also tested.

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Account Type Description  L Salaries & Wages  C L Benefits  RE Pooled Other Operating Expenses  C E Contractual Services  Net Total:	Adjusted Budget  42,900.00  6,006.00  0.00  228,722.00	Activity  42,893.77  5,992.03  0.00  228,685.00	0.00 0.00 0.00 0.00	6.23 13.97 0.00 37.00	
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# Composite Bearing Allowables Baseline

This project will develop methodology of predicting conservative bearing allowables for new design and the means to combine the bearing capabilities of uni-directional and plain-weave laminates.

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<b>6</b> E		Salaries & Wages	58,348.36	58,348.40	0.00	-0.04	_
6C	L	Benefits	10,476.39	10,213.60	0.00	262.79	
7A	E	Pooled Other Operating Expenses	0,00	0.00	0.00	0,00	
7C	— j		322,630.25	322,604.00	0.00	26.25	
7F	È	Commodities	0.00	0.00	0.00	0.00	
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#### **Ground Anti-Ice Development**

The objective for the first year of the proposed research is to formulate, develop and test a simulation methodology and to outline an experimental effort for validating the simulation methodology in future years. The simulation methodology will be tested initially with simple aerodynamic configurations such as a flat plate and an airfoil.

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68 L	Salaries & Wages		67,248.00	67,275,68	0.00	-27,68	
6C L	· · · · · · · · · · · · · · · · · · ·		13,547.00	12,638.01	0,00	908.99	
7A E	Pooled Other Operating Exper	nses	0.00	0,00	0.00	0,00	
7C E	Contractual Services	·····	48,515.00	37,831.97	0.00	10,683.03	
7F E	Commodities		4,340.00	2,255.90	0.00	2,084.10	
7H E	Capital Outlay		5,164.00	2,436.80	0.00	2,727.20	
		Net Total:	138,814.00	122,438,36	0.00	16,375.64	100000

#### **Electromagnetic Characterization of Composite Fuselages**

Currently no analytical methods are available for predicting the indirect effects of lightning, therefore extensive and expensive testing is required to show compliance of new designs to FAA requirements. This project will develop a predictive tool correlated with test data to enable the design of robust systems and permit substantial verification with a minimum amount of testing.

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7C	E	Contractual 9	Services		23,587.00	<u>-</u>	24,058.00	0.00	-471.00	
7F	E	Commodities	;		3,023.1	ī	988.08	0.00	2,035.09	
7H	E	Capital Outla	ıy		0.0	<u>.</u>	1,564.08	0.00	-1,564.08	
7N		Other Expend	ditures	Net Total:	148,068.00		148,068.00	0.00	0.00	•
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#### Metadata Enabled Thinking Systems Tools

The design, manufacture and support of complex products generate a tremendous amount of data/information. Although information within specific data bases may be well defined and managed, the concepts and values expressed by relevant stakeholders are not as well disciplined. When faced with the development of a solution to a specific problem associated with the complex design/manufacture/support product, identifying which of the vast information is relevant, how are the relevant subsystems in design/manufacture/support interdependent, and what data/skill/knowledge is needed. This project will provide a well defined set of specifications for a tool based on the assessment of multiple operational concepts. The concepts (architectures) will be assessed based upon use cases derived from potential users of the tools and industry trade studies.

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6E	Ĺ	Salaries &	Wages		188,454.59	Γ	194,125.30	0.00	-5,670.71	<u>_</u>
6C	L	Benefits			17,926.76	ſ	17,645.32	0.00	281,44	
7A	E	Pooled Oth	er Operating Expe	nses	0.00		0.00	0.00	0.00	
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#### Microcracks in Composites

Honeycomb sandwich construction is used widely throughout the aerospace industry. Microcracks in the facesheets of in service honeycomb sandwich structures have been found to develop typically in low temperature cure resin systems. This project will investigate the susceptibility of various facesheet material systems to microcracking, and how that susceptibility is affected by cure cycle, and the resulting behavior when exposed to environmental effects and mechanical loading.

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6C	· [-	Benefits		1,582.08	1,536.12	0.00	45.96	
7A	E	Pooled Other Operating 8	Expenses	0.00	0.00	0.00	0.00	
7C	Ē	Contractual Services		99,084.28	99,078.80	0,00	5,48	
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# Effects of Defects on Composites Materials (NDI Development)

Applications of composite materials in very large, primary structures are becoming commonplace however, defects occurring during the lay-up and cure cycles result in significant rework or worst case, scrap of a part. Understanding the criticality of defect size and density on strength and fatigue properties has the potential to improve manufacturing time and part quality. This project consists of two parts: 1) evaluation and calibration of NDI techniques for determining porosity and 2) understanding the effect of porosity on strength and fatigue properties.

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6B	L	Salaries & Wages		29,950.00		29,893.76	0.00	56.24	ا ۱
6C	L	Benefits		4,493.00	[	4,506.95	0.00	-13.95	
7A	_  E	Pooled Other Operating Expenses		0.00		0.00	0.00	0.00	
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#### **Engine Inlet Ice Protection System**

Safe operation of jet engines in icing conditions requires utilization of ice protection systems (IPS) to prevent the formation of ice accretions that would adversely affect engine performance and aircraft safety. This project will focus on the design, fabrication and testing of light weight, low-power Electro-Expulsive and or hybrid ice protection systems that will keep the inlet lip free or nearly free (< 1mm) of ice.

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68	L	Salaries & Wages		71,068.00		67,851.79	0.00	3,216.21	Δĺ	
6C	F	Benefits		14,617.00		13,476.67	0.00	1,140.33		
7A	Ε	Pooled Other Operating Expenses		0.00		0.00	0.00	0.00		
7C	E	Contractual Services		99,400.00		90,840.79	0.00	8,559.21		
7F	E	Commodities		0.00		3,391.46	0.00	-3,391.46		
7H	E	Capital Outlay		0.00		2,495.00	0.00	-2,495.00		
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# <u>Influence of Environmental Knock-down Factors in Composite Design Structural</u> Margins

A common problem encountered with composites is their sensitivity to environmental conditions such as temperature and moisture. The current practice for the static test article is to account for these environmental enhancement factors in a manner similar to the load enhancement factor approach. This project will document a procedure for applying environmental enhancement and scatter factors to account for the static test condition environment and provide some results for the effects of environment as related to temperature and moisture.

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# CAD Neutral Data Exchange and 64 bit Functionality

CATIA is the mainstream computer aided design and manufacturing package utilized by the aircraft industry. With the advent of 64 Bit computers the capabilities have greatly improved in some areas of CATIA V5. Potentially one of those areas is in its re-engineering capabilities. The main aspects of this proposed project are 1) to study the capabilities of the CATIA V5 environment to handle large amounts of data and investigate methods that can be used to accommodate this data and 2) investigation into neutral data exchange involving CAD data.

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7C E Contractual Services	138,814.00	138,814.00	0.00	0.00
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#### Low-cost Light-weight Methods for Flutter Excitation

Flutter is one of the most dangerous aeroelastic phenomena that an aircraft must be designed to avoid. The aircraft industry needs to drive down the time and cost associated with flight flutter testing without compromising safety. In order to accomplish this, the current system of flutter excitation must be improved to increase the quality of flutter flight test data and reduce the number of flight tests.

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# <u>Acoustical Impact to Composite Sandwich Structures (Dampening, Core Shear and Thermal)</u>

Interior noise in the aircraft cabin is contributed by a variety of sources. Use of composite fuselage structures and floor panels reduces overall weight with increased stiffness while the honeycomb sandwich composite panel is known to have higher radiation efficiency and low coincidence frequency. This results in lower sound Transmission Loss (TL) and hence increased noise levels inside the aircraft. By increasing the core stiffness the sound transmission loss can be increased. An effort to research and procure the available damping, insulation and core materials with varying properties will be made during the initial phase of the project.

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	ount 1			Adjusted Budget		Activity	Commitments	Available Balance	
6B		<u>`</u>	Salaries & Wages	51,992.89		52,792.92	0.00	-800.03	
6C		-	Benefits	12,424.10		10,971.05	0.00	1,453,05	
7A		<u></u>	Pooled Other Operating Expenses	0.00		0.00	0.00	0.00	
7C		-	Contractual Services	7,689.00		18,994.64	0.00	-11,305.64	
7F		느	Commodities	18,840.42		18,059,06	5,896.04	-5,114.68	
7H		E	Capital Outlay	94,138.59		77,718.27	0.00	16,420.32	4:
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#### Simulation and Modeling of Bird Strike Testing

Aircraft are susceptible to bird impacts, mostly during takeoff and landing conditions, on forward facing components such as cockpit windshields and wing leading edges. These components should be capable of withstanding the impact load without causing catastrophic failures or penetration that can cause damage to structural members or pilots and passengers. Significant savings in money and time can be achieved by using state of the art modeling tools rather than expensive, time-consuming full scale testing.

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6B	L Salaries & Wages	39,922.00	39,922.08	0.00	-0.08	<u>^</u>    ∫
6C	L Benefits	6,924.14	6,110.54	0.00	813.60	
7A	E Pooled Other Operating Expenses	0.00	0.00	0.00	0.00	
7C	E Contractual Services	91,967.86	91,967.86	0.00	0.00	
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#### Composite Fuel Bay Sealant Liner Materials

Composite materials, such as laminates and honeycomb structures, are widely used throughout the aerospace industry. The objective of this project is to investigate the use of composite material systems as a viable option for fuel storage. The systems to be tested will comprise of stand alone composites as well as ones that will be used in conjunction with various liners and/or sealants.

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6B	L Salaries & Wages	on Auji	6,923.07		Commitments	Available Balance	
6C	L Benefits		1,054.89	6,923.05	0.00	0.02	- Î∥
7A	E Pooled Other Operating	<u></u>		1,024.23	0.00	30.66	
		expenses	0.00	0.00	0.00	0.00	
7C			84,329.04	84,326.50	0.00	2.54	
7F	E Commodities		236.00	236,00	0.00	0.00	
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		Net Total:	92,543.00	92,509.78	0.00	33.22	
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#### Correlation Between Cure and Mechanical Properties of Composite Materials

The time-temperature approach to cure processing is expensive to support, carries risk, and is difficult to manage. Using this approach, an estimation of the actual final mechanical properties, while material is undergoing cure processing is difficult and many process issues cannot be addressed. The goal of the proposed project is to investigate the correlation between the key variables during cure and the final mechanical properties of composites in order to address the current problems during cure processing and identify an alternative and intelligent definition of cure based on the viscoelastic properties.

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68		_	Salaries & Wages	86,851.00		89,265.23	0.00	-2,414.23	٦∥
6C	_		Benefits	7,849.91		5,435.68	0.00	2,414.23	
7A	¦	-	Pooled Other Operating Expenses	0.00		0.00	0.00	0.00	
7C	;		Contractual Services	42,000.00		29,289.10	0.00	12,710.90	
7F	;		Commodities	48,384.09		20,803.46	0.00	27,580.63	
7H	_	_	Capital Outlay	0.00		40,291.44	0.00	-40,291.44	
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#### NIS 2008 PROGRAM

Project	Title	FY 2008 Budgeted Funding	FY 2008 Project Expenditures
08-002	Repair of Composite Structures (including sandwich)	\$1,000,000	\$1,090,122
08-003	Blind or One-Sided Fastener Usage in Composite Structures (Production and Repair Applications)	\$200,000	\$201,004
08-019	Quiet Interiors Development	\$250,000	\$246,055
08-006	Friction Stir Welding and Related Topics	\$500,000	\$500,000
08-020	Potting Compound Strength/Density Enhancement	\$150,000	\$150,132
08-011	Adhesive Joint Characterization and Testing	\$300,000	\$299,946
08-012	Aviation Network Security	\$150,000	\$134,740
08-021	Integrated Vehicle Health Monitoring Requirements Definition	\$200,000	\$185,877
08-017	Composite Bearing Allowables Baseline	\$300,000	\$296,722
08-023	Ground Anti-Ice Development	\$150,000	\$149,988
08-024	Fuel Tank Inerting	\$50,000	\$19,650
08-025	Virtual Reality Crashworthiness (Certification by Analysis)	\$265,000	\$269,952
08-026	Electromagnetic Characterization of Composite Fuselages	\$160,000	\$134,098
08-027	المولية Metadata Enabled Thinking Systems Tools	\$120,000	\$119,958
08-028	CATIA Workspace Enhancements Trade Study	\$115,000	\$109,540
08-029	Microcracks in Composites	\$120,000	\$116,442
08-030	Effects of Defects on Composites Materials (NDI Development)	\$250,000	\$249,859
08-031	Engine Inlet Ice Protection System	\$200,000	\$209,493
08-032	Influence of Environmental Knock-down Factors in Composite Design Structural Margins	\$230,000	\$229,959
	NIS Liaison	\$40,000	\$36,447
		\$4,750,000	\$4,749,984

# FY 2008 Project Descriptions and Expenditures

# Repair of Composite Structures

Composite structures can be damaged during construction, maintenance, or by normal use. This project was concerned with assessing such damage and developing durable repairs to insure structural integrity.

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68	L	Salaries & Wages	100,243.84	105,993.29	0.00	-5,749,45	∥
6C	Ĺ	Benefits	29,092.00	23,342.55	0.00	5,749,45	
7A	E	Pooled Other Operating Expenses	0.00	0.00	0.00	0.00	
7C	E	Contractual Services	913,783.48	960,786.00	0.00	-47,002.52	
7F	ε	Commodities	47,008.00	0.00	0,00	47,008.00	
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# **Aviation Network Security**

New mechanisms for transporting voice, video, and data traffic streams between an airplane and ground stations in the presence of a satellite link were investigated.

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6C	-	Salaries & Wages	108,386.95	109,072.82	0.00	-685.87	ا∏أ
	I-	Benefits	15,125.00	14,439.13	0.00	685.87	
7A	E	Pooled Other Operating Expenses	0.00	0.00	0.00	0.00	
7C 7F	<u>'</u> _	Contractual Services	5,000.00	5,150.60	0.00	-150.60	
	E	Commodities	-13,772.16	0.00	0.00	-13,772.16	
[7H	E	Capital Outlay  Net Total	20,000.00	134,739.79	0.00	0.00	
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# Friction Stir Welding and Related Topics

In this project, a comprehensive assessment of friction stir welding of aluminum alloys was conducted. This process produces desirable joint characteristics and may be the most feasible way for aviation manufacturers to join metal parts.

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7	F	Ε	Commoditie	!S		-	725.00		2,522.16	0.00	1,202.84	
7	Н	E	Capital Outl	ay		215,	794.00		217,857.95	0.00	-2,063.95	
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# Blind or One-Sided Fastener Usage in Composite Structures

The use of fasteners in aircraft constrained by accessibility to one side of a joint were reviewed with regard to installation processes, hole quality, corrosion, and performance under fatigue loading.

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6B	L	Salaries & Wages	<del>*************************************</del>	38,017.40	38,060.55	0.00	-43.15	<u>.</u>
6C	L	Benefits		6,024.00	5,980.85	0.00	43.15	
7A	E	Pooled Other Operating Ex	expenses	0.00	0.00	0.00	0.00	
7C	E	Contractual Services		151,899.00	152,485.33	0.00	-586.33	
7F	E	Commodities		5,063.12	4,476.79	0.00	586.33	
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# Adhesive Joint Characterization and Testing

This investigation addressed defects that could occur in adhesively bonded joints during the manufacture or operation of the joints. Environmental durability of adhesive joints was also tested.

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68	L	Salaries & Wages	50,543.25	50,595,47	0.00	-52,22	
6C	L	Benefits	7,363.98	7,311.76	0.00	52.22	
7A	E	Pooled Other Operating Expenses	0.00	0.00	0.00	0.00	
70		Contractual Services	242,039.02	242,039.02	0.00	0.00	
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# Composite Bearing Allowables Baseline

This project will develop methodology of predicting conservative bearing allowables for new design and the means to combine the bearing capabilities of uni-directional and plain-weave laminates.

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5E	L Salaries & Wages	32,621.56			Available Balance	
6C	L Benefits	9,916.00	33,662.77 8,874.79	0.00	-1,041.21	ŌΒ
7A	E Pooled Other Operating Expense			0.00	1,041.21	
7C	E Contractual Services	234,136.00	254,184.00	0.00	0.00	
7F	E Commodities	20,048.00	0.00	0,00	-20,048.00	
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# Potting Compound Strength/Density Enhancement

This project will identify modifications that could be made to existing potting compounds in order to improve strength and/or density. The modified compounds will be tested for mechanical properties and sandwich panels will be fabricated using the most promising potting compounds.

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#### Quiet Interiors Development

The turbulent boundry layer (TBL) is the dominant noise source at cruise in modern aircraft. It is necessary to better understand this source of noise to design effective noise control treatments. This project will conduct large scale computational fluid dynamics (CFD) simulations as one means of better understanding this source of noise.

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6C         L         Benefits         20,687.83         10,142.59         0.00         10,545.24           7A         E         Pooled Other Operating Expenses         0.00         0.00         0.00         0.00           7C         E         Contractual Services         7,776.17         4,500.17         0.00         3,276.00           7F         E         Commodities         -2,029.63         1,246.37         0.00         -3,276.00	
7A         E         Pooled Other Operating Expenses         0.00         0.00         0.00         0.00           7C         E         Contractual Services         7,776.17         4,500.17         0.00         3,276.00           7F         E         Commodities         -2,029.63         1,246.37         0.00         -3,276.00	۱
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#### Integrated Vehicle Health Monitoring Requirements Definition

This project will survey existing periodic structural inspection procedures leading to future work to define the impact of IVHM systems on these procedures, investigate data mining methods applied to existing maintenance data provided by industrial partners, determine if a common language for IVHM can be extracted from the maintenance data, and begin testing existing technology discovered in the FY 2007 technology summary on representative structural elements provided by industry.

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<b>6</b> 2	F	Salaries & Wages	109,118.07	119,785.41			
6C		Benefits	26,035.00	15,367.66	0.00	-10,667.34	
7A	<u> </u>	Pooled Other Operating Expenses	<u></u>		0.00	10,667.34	
7C	E		0.00	0.00	0.00	0.00	
	· -	Contractual Services	14,100.00	12,695.32	0.00	1,404.68	
7F	Ε	Commodities	-1,876.09	669.99	0.00	-2,546.08	
7H		Capital Outlay	38,500.00	37,358.60	0.00	1,141.40	<b>*</b>
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#### **Ground Anti-Ice Development**

The objective for the first year of the proposed research is to formulate, develop and test a simulation methodology and to outline an experimental effort for validating the simulation methodology in future years. The simulation methodology will be tested initially with simple aerodynamic configurations such as a flat plate and an airfoil.

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# Fuel Tank Inerting

This project will investigate new and emerging technologies for the control and measurement of nitrogen/oxygen in a fuel tank situation and will supply sufficient background information to help our industry partners interface in an intelligent fashion with regulatory bodies concerning the need (or lack thereof) of a fuel tank venting system on small to mid size aircraft.

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68		L	Salaries & Wages	7,355.38		16,865.00	0.00	-9,509.62	<b>↑</b> ∥ ∶
6C		L	Benefits	11,774.00		2,264.38	0.00	9,509.62	
7A		-	Pooled Other Operating Expenses	0.00		0.00	0.00	0.00	
7C		E	Contractual Services	0.00		0.00	0.00	0.00	
7F		E	Commodities	520,38		520.38	0.00	0.00	
7H		E	Capital Outlay	0.00		0.00	0.00	0.00	
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#### Virtual Reality Crashworthiness (Certification by Analysis)

The development of aircraft interiors is driven by individualized customer demands, increasingly complex products and ever-shorter innovation cycles. In order to remain competitive in today's market aircraft manufacturers must conduct research in the development of state-of-the-art computational tools and processes. This project will develop state-of-the-art aircraft interior design/marketing/certification, computational tools and methods and will involve various NIAR laboratories according to their areas of expertise: CAD/CAM, Virtual Reality, Computational Mechanics, and Crash Laboratory

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6C	-  L	Benefits	wages		9,440.00	76,240.23	0.00	-1,874.44	n∥:
7A	- E	- <del> </del>	er Operating Expe		0.00	7,565.56	0.00	1,874.44	
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# **Electromagnetic Characterization of Composite Fuselages**

Currently no analytical methods are available for predicting the indirect effects of lightning, therefore . extensive and expensive testing is required to show compliance of new designs to FAA requirements,. This project will develop a predictive tool correlated with test data to enable the design of robust systems and permit substantial verification with a minimum amount of testing.

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68	L Salaries & Wages	101,283.65	105,967.23	0.00	-4,683.58	- A    :
6C	L Benefits	19,687.00	15,003.42	0.00	4,683.58	
7A	E Pooled Other Operating Expenses	0.00	0.00	0.00	0.00	
7C	E Contractual Services	31,026.00	9,883.00	0.00	21,143.00	
7F	E Commodities	-21,898.25	0.00	0.00	-21,898.25	
7H	E Capital Outlay	4,000.00	3,244.75	0.00	755.25	
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#### Metadata Enabled Thinking Systems Tools

The design, manufacture and support of complex products generate a tremendous amount of data/information. Although information within specific data bases may be well defined and managed, the concepts and values expressed by relevant stakeholders are not as well disciplined. When faced with the development of a solution to a specific problem associated with the complex design/manufacture/support product, identifying which of the vast information is relevant, how are the relevant subsystems in design/manufacture/support interdependent, and what data/skill/knowledge is needed. This project will provide a well defined set of specifications for a tool based on the assessment of multiple operational concepts. The concepts (architectures) will be assessed based upon use cases derived from potential users of the tools and industry trade studies.

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68		Salaries & Wages		101,273.96	102,863.13	0.00	-1,589.17	
6C	_  L	Benefits		11,943.88	10,354.71	0.00	1,589.17	
7A	'	Pooled Other Operating Exp	enses	0.00	0.00	0.00	0.00	
7C	E	Contractual Services		1,582.15	1,787.70	0.00	-205.55	
7F	_ E	Commodities		-888,12	447.96	0.00	-1,336.08	
7H	_   [	Capital Outlay		6,045.97	4,504.34	0.00	1,541.63	
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# **CATIA Workspace Enhancements Trade Study**

CATIA users tend to learn the main approach to the software and as new developments are introduced, many times they are overlooked because the users do not have time to investigate these new developments. This project will look at two main aspects of the CATIA environment and study the pros and cons of each.

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6B	L Salaries & Wages	0.00	0.00	0.00	0.00	ا ۾
6C	L Benefits	0.00	0,00	0.00	0.00	
7A	E Pooled Other Operating Expe	enses 0.00	0.00	0.00	0.00	
7C	E Contractual Services	115,000.00	109,539.80	0.00	5,460.20	
7F	E Commodities	-5,460.20	0.00	0.00	-5,460.20	
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#### Microcracks in Composites

Honeycomb sandwich construction is used widely throughout the aerospace industry. Microcracks in the facesheets of in service honeycomb sandwich structures have been found to develop typically in low temperature cure resin systems. This project will investigate the susceptibility of various facesheet material systems to microcracking, and how that susceptibility is affected by cure cycle, and the resulting behavior when exposed to environmental effects and mechanical loading.

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68	L	Salaries & Wages		32,352.12	33,664.35	0.00	-1,312.23	<u>_</u>
6C	<u> </u>	Benefits		10,052.00	8,739.77	0.00	1,312.23	
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7C	<u> </u>	Contractual Services		70,000.00	74,038.00	0.00	-4,038.00	
7F	E	Commodities		4,038.00	0.00	0.00	4,038.00	
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# Effects of Defects on Composites Materials (NDI Development)

Applications of composite materials in very large, primary structures are becoming commonplace however, defects occurring during the lay-up and cure cycles result in significant rework or worst case, scrap of a part. Understanding the criticality of defect size and density on strength and fatigue properties has the potential to improve manufacturing time and part quality. This project consists of two parts: 1) evaluation and calibration of NDI techniques for determining porosity and 2) understanding the effect of porosity on strength and fatigue properties.

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ll	int Tyl		Description		Adjusted Budget	Activity	Commitments	Available Balance	
6E	_	Salaries & 1	Wages		45,441.56	45,582.85	0.00	-141.29	
6C		Benefits			7,376.00	7,234.71	0.00	141.29	
7A	_  E	- <del> </del>	er Operating Expe	nses	0.00	0,00	0.00	0.00	
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# **Engine Inlet Ice Protection System**

Safe operation of jet engines in icing conditions requires utilization of ice protection systems (IPS) to prevent the formation of ice accretions that would adversely affect engine performance and aircraft safety. This project will focus on the design, fabrication and testing of light weight, low-power Electro-Expulsive and or hybrid ice protection systems that will keep the inlet lip free or nearly free (< 1mm) of ice.

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6B	_ [	Salaries & Wages	54,856.90	55,292.18	00.00	-435.28	
6C		Benefits	12,927.00	12,491.72	0.00	435,28	1
7A	E	Pooled Other Operating Expenses	0.00	0,00	0.00	0.00	
7C	E	Contractual Services	141,709.34	141,709.34	0.00	0.00	
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## Influence of Environmental Knock-down Factors in Composite Design Structural Margins

A common problem encountered with composites is their sensitivity to environmental conditions such as temperature and moisture. The current practice for the static test article is to account for these environmental enhancement factors in a manner similar to the load enhancement factor approach. This project will document a procedure for applying environmental enhancement and scatter factors to account for the static test condition environment and provide some results for the effects of environment as related to temperature and moisture.

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#### NIS 2007 PROGRAM

Project	Title	FY 2007 Budgeted Funding	FY 2007 Project Expenditures
07-001	Design Philosophies for Structures Utilizing Metal and Composites with Large CTE Differences	\$150,000	\$147,914
07-002	Repair of Composite Structures (including sandwich)	\$450,000	\$513,100
07-003	Blind or One-Sided Fastener Usage in Composite Structures (Production and Repair Applications)	\$100,000	\$104,820
07-019	Quiet Interiors Development	\$120,000	\$117,731
07-006	Friction Stir Welding and Related Topics	\$200,000	\$193,859
07-020	Potting Compound Strength/Density Enhancement	\$100,000	\$54,042
07-011	Adhesive Joint Characterization and Testing	\$150,000	\$150,257
07-012	Aviation Network Security	\$90,000	\$81,799
07-013	Icing Tanker Spray Nozzle Characteristics and Performance Evaluation	\$150,000	\$141,945
07-021	Integrated Vehicle Health Monitoring Requirements Definition	\$100,000	\$100,445
07-017	Composite Bearing Allowables Baseline	\$150,000	\$179,979
07-018	NDE Simulations of Aircraft Structure	\$150,000	\$128,710
07-022	Quiet Composite Fuselage Panels	\$130,000	\$164,007
		\$2,040,000	\$2,078,608

#### NIS 2006 PROGRAM

Project	Title	FY 2006 Budgeted Funding	FY 2006 Project Expenditures
06-001	Design Philosophies for Structures Utilizing Metal and Composites with Large CTE Differences	\$200,000	\$199,974
06-002	Repair of Composite Structures	\$200,000	\$199,626
06-003	Blind or One-Sided Fastener Usage in Composite Structures (Production and Repair Applications)	\$120,000	\$120,018
06-004	Analysis of Braided Composite Structures (3rd year)	\$100,000	\$97,702
06-005	Crashworthiness of Composite Fuselage Structure	\$120,000	\$120,025
06-006	Friction Stir Welding and Related Topics (3rd year)	\$160,000	\$160,176
06-007	Tolerancing Overview of Application to Support Aircraft Final Assembly	\$80,000	\$80,301
06-009	Characterization of Fatigue Crack Development and Growth from Dents in 7475-T7351 Machined Wing Planks and Crack Growth Correlation Between CRACKS95, AFGROW, and Empirical Data	\$60,000	\$58,948
06-011	Adhesive Joint Characterization and Testing	\$120,000	\$115,411
06-012	Aviation Network Security (3rd year)	\$100,000	\$83,159
06-013	Icing Tanker Spray Nozzle Characteristics and Performance Evaluation (3rd year)	\$100,000	\$100,038
06-014	Acoustic Material Database (3rd year)	\$80,000	\$74,335
06-015	Blitzen Code Investigation (3rd year)	\$80,000	\$76,651
06-016	Child Safety Seat Provisions	\$120,000	\$117,972
06-017	Composite Bearing Allowables Baseline	\$96,000	\$96,000
06-018	NDE Simulations of Aircraft Structure	\$80,000	\$80,665
06-019	Potting Compound Strength/Density Enhancement	\$96,000	\$96,306
06-020	Flammability Characterization of Materials for Aircraft Interiors	\$80,000	\$42,967
•		\$1,992,000	\$1,920,274

#### NIS 2005 PROGRAM

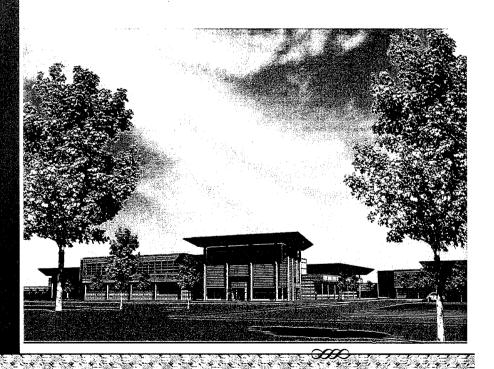
Project	Title	FY 2005 Budgeted Funding	FY 2005 Project Expenditures
05-001	lcing Tanker Spray Nozzle Characteristics and Performance Evaluation (2nd year)	\$200,000	\$200,000
05-002	Design Philosophies for Structures Utilizing Metal and Composites with Large CTE Differences	\$250,000	\$235,996
05-003	Aviation Network Security (2nd year)	\$125,000	\$123,216
05-004	Repair of Composite Structures	\$250,000	\$247,232
05-005	Blind or One-Sided Fastener Usage in Composite Structures (Production and Repair Applications)	\$150,000	\$149,966
05-006	Crashworthiness of Composite Fuselage Structure	\$150,000	\$149,565
05-007	Blitzen Code Investigation (2nd year)	\$65,000	\$64,839
05-008	Acoustic Material Database (2nd year)	\$60,000	\$56,833
05-009	Friction Stir Welding and Related Topics (2nd year)	\$200,000	\$196,593
05-010	Tolerancing Overview of Application to Support Aircraft Final Assembly	\$65,000	\$62,572
05-011	Analysis of Braided Composite Structures (2nd year)	\$100,000	\$99,972
05-012	Catia V5 Beta Model Generation – Automated Crack Analysis Tool	\$65,000	\$61,861
05-013	Characterization of Fatigue Crack Development and Growth from Dents in 7475-T7351 Machined Wing Planks and Crack Growth Correlation Between CRACKS95, AFGROW, and Empirical Data	\$100,000	\$95,516
05-014	Review of the Capabilitilies of the Photogrametry Technology as a Non-Destrcutive Testing Methodology	\$70,000	\$69,969
05-015	Adhesive Joint Characterization and Testing	\$150,000	\$145,301
		\$2,000,000	\$1,959,431

#### **NIS 2004 PROGRAM**

Project	Title	FY 2004 Budgeted Funding	FY 2004 Project Expenditures
04-001	Simulated Icing Test Nozzle Design and Feasibility Study	\$75,000	\$75,324
04-002	Paint Thickness Measurement Over Composites	\$70,000	\$69,100
04-003	Network-based Aviation Security	\$75,000	\$74,085
04-004	Carbon Tri-axial Braid Material Qualification	\$200,000	\$200,000
04-005	Assessment of Load Distributions in Composite Panels with Semi-Parasitic Acoustic Treatments	\$150,000	\$150,105
04-006	Development of Design Philosophies for Large Bonded and Fastened Assemblies Containing Metals and Composites with Large CTE Differences	\$150,000	\$146,798
04-007	Lightning Protection of Composite Aircraft	\$75,000	\$75,125
04-008	Cabin Acoustics	\$75,000	\$74,503
04-009/			
04-010/ 04-012	Fiscal Year 2004 Progress Report and Friction Stir Welding and Laser Welding Feasibility Study	\$100,000	\$99,223
04-011	Analysis of a Tri-axial Braided Composite Structure with a Constant Cross Section	\$30,000	\$29,998
		\$1,000,000	\$994,261

# State of Kansas Investment in Aviation and Manufacturing Training Report

2008 - 2009



National Center for Aviation Training (NCAT)

JesBC 9-17-09

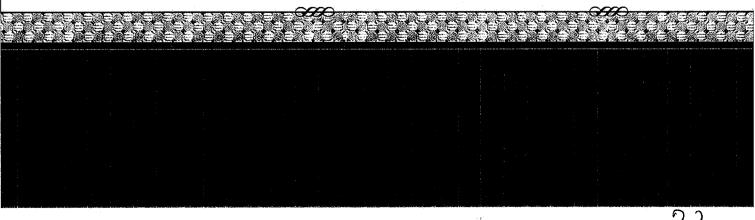
## Executive Summary

#### Overview

Located on a 70-acre site at Colonel James Jabara Airport in northeast Wichita, the National Center for Aviation Training (NCAT) is a world-class aviation training facility designed to meet workforce demands of the local manufacturing and aviation industry. The campus will provide students the opportunity to receive hands-on, real-world training in the areas of general aviation manufacturing and aircraft and power plant mechanics while simultaneously providing local employers with skilled individuals ready to enter the workforce. NCAT will focus on the immediate needs of the aerospace and general manufacturing industries to ensure our community can supply highly skilled, qualified workers and secure our future.

In January 2007, Sedgwick County identified Wichita Area Technical College (WATC) as the Managing Partner for the National Center for Aviation Training. WATC will handle all administrative responsibilities in relations to programming and program incubation at NCAT.

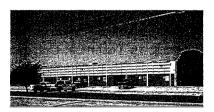
Phase I of NCAT has concentrated solely on the areas of manufacturing and aviation. WATC will provide a seamless and fluid transition to NCAT by 2010. WATC has worked collaboratively with subject matter experts to receive business input for curriculum development and instruction to assure that the programs are providing needed skills to meet industry job needs. Throughout the transition to NCAT, loaned professionals from the aviation and general manufacturing industries will be consulted to ensure that all programs are business-approved and that students are employable upon completion.



# Executive Summany

#### **Program Incubation and Expansion**

In order to fulfill its promise to the community to provide world-class aviation training, Wichita Area Technical College is incubating new aviation programs while significantly expanding its current aviation programs. Presently we are using four locations to incubate these programs.



COMOTARA



GROVE



ATC EAST



ATC WEST

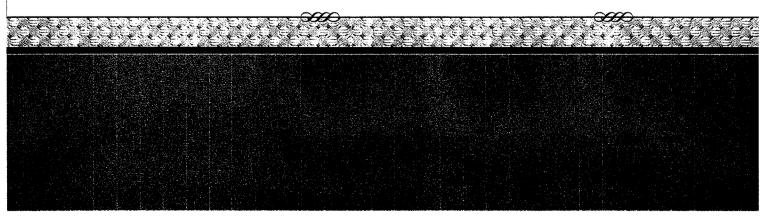
#### Program expansions include:

- Aviation Maintenance Technology day and night classes from two campuses will combine to anchor this new NCAT facility
- Avionics expanded to include both day and night courses
- Composite Fabrication/Repair expanded to include both day and night courses
- Machining revised to include CATIA coursework and added certificate of completion
- Engineering Design Technology revised current program to include CATIA and added new technical certificate and certificate of completion focused on CATIA

#### Program incubation includes:

- Applied Science of Aviation Manufacturing this program blends aerostructures, composites, and avionics to produce a more valuable aviation employee
- Composite Repair this program began in August 2009

Due to these program incubations and expansions, instructional costs were expensed from the State of Kansas Appropriation funds for 2008/09, with the intention of those costs being reduced to 50% reliance on the state funding for 2009/10 working towards institutional sustainability within three years.



## Executive Summary

#### **Program Development**

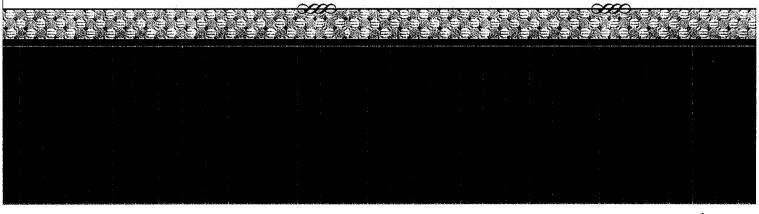
Working with teams of subject matter experts who are charged with providing technical expertise and guidance, the curriculum designers and aviation faculty members at WATC produced 5565 hours of unduplicated curriculum hours. These hours translate into 13 Associate Degrees, 16 Technical Certificates and 16 Certificates of Completion. These programs will result in over 600 credit hours for the college. These programs will be incubated and implemented over the next three years as WATC moves to the National Center for Aviation Training in the Fall of 2010. The majority of these programs will require a significant amount of equipment, which is slated to be purchased with NCAT funds in FY 2010-2012.

#### **Equipment**

World-class aviation training requires a significant investment in equipment for the classroom and laboratories. Equipment was purchased for Aviation Maintenance Technology, Avionics Technology, and Machining Technology.

#### **Technology Infrastructure for NCAT**

The existing information systems and processes have been adequate and would continue to be adequate for a college with stable growth and programming. However, in order to meet the technology needs of the new campus, and associated student base, these systems and processes will not be sufficient. During this year, WATC began this restructuring process to ensure that the technology needs will be met and processes will be in place when the new campus opens. This includes new ERP software, equipment, servers, and personnel implementation costs.



## Aviation Maintenance Technology

Program Standed 2008-2009

Invested: \$2.767.661

Located at ATIC East and ATIC Wes



#### RETURN ON INVESTMENT

According to the Department of Labor, the supply of trained aviation mechanics may not keep up with the needs of the air transportation industry. WATC has met this challenge with proactive marketing and building relationships with current aviation employees. The college's investment in AMT training ensures the needs of the local aviation market will be met now and in the future.

- \$25,900-Avg. wage of HS Grad
- \$31,560-Avg. wage of Tech College student
- \$50,044 -Avg. wage of Aviation Mechanics in Wichita

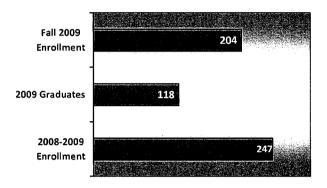
The growth in wage presented is extremely important considering the average worker provides 15.4% of their salary to state and local taxing authorities and invests 60% of their take home pay in the local region.

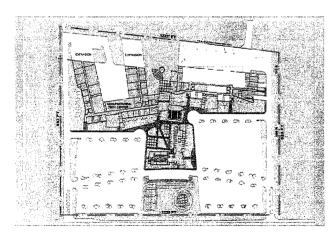
#### Program Investment in Equipment

Examples of Equipment Purchased

- Cessna 310 N5077B Airplane
- Cessna 152 N93116 Airplane
- Cessna 17V Legg Engine
- Cessna 210 Fuselage
- Auxiliary Power Unit (4)
- Jet Engine (2)
- A Frame
- *Turbines* (10)

#### Student Enrollment





Highlighted location of Aviation Maintenance at NCAT.

## PROGRAM HIGHLIGHTS

- o Aviation Maintenance program was established in 2004 and has produced 250 graduates
- o 95% pass rate of FAVA Awighton Maintenance Certified Exam.
- o Noel Cary, Director, was awarded the Charles Taylor Master Mechanic Award given by the FAA
- Faculty have received two Diamond awards and two Gold awards by the FAA for their participation in additional training





#### RETURN ON INVESTMENT

As the only Avionics program in Kansas, WATC's program fulfills both the need for Avionics Technicians in Wichita as well as the rest of the state. The impact of this program can be expressed in the fact that Kansas Avionics Technicians account for the highest percentage of Avionics Technicians per state capita; moreover, Wichita Avionics Technicians rank 2<sup>nd</sup> in the same category for Metropolitan centers.

- \$25,900-Avg. wage of HS Grad
- \$31,560-Avg. wage of Tech College student
- \$49,316-Avg. wage of Avionics Technicians in Wichita

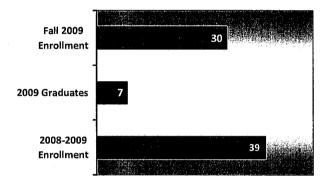
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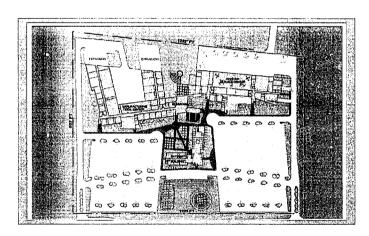
#### Program Investment in Equipment

Examples of Equipment Purchased

- Color Fluke Scopemeter
- Avionics Simulation Trainers
- Handheld Radio Test Set
- Graphic Adapters
- Gear Box & Elements
- Establishment of Avionics Library

#### Student Enrollment





Highlighted location of Avionics (2nd Floor) at NCAT.

## PROGRAM HIGHLIGHTS

- o First graduating class Spring 2009
- o Faculty have over 100 years of combined industry expensionee
- The Aviation Technology program has been featured in the Afreraft Electronics Association magazine

## Composite Technology

Lavested: \$142,764

Located af Grove



ibveting Prograd

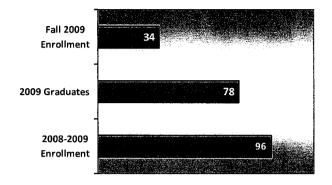
#### RETURN ON INVESTMENT

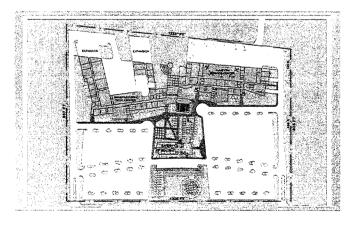
The investment and research focus demonstrated by NIAR and CiBOR in the field of Composites is echoed in WATC's investment in Composite Technicians fields. Starting in 2005, WATC's composites programs have been developed and adjusted to meet the needs of local industry and this trend will continue.

- \$25,900-Avg. wage of HS Grad
- \$31,560-Avg. wage of Tech College student
- \$41,080-Avg. wage of Aircraft Assemblers in Wichita

The growth in wage presented is extremely important considering the average worker provides 15.4% of their salary to state and local taxing authorities and invests 60% of their take home pay in the local region.

#### Student Enrollment





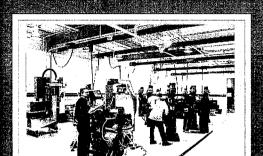
Highlighted location of Composites at NCAT.



#### PROGRAM HIGHLIGHTS

- o Partnering with Edmonds Community College to offer an FAA approved Composite Repair Program
- o Revised Composite Fabrication program and created Composite Repair and Composite Technician programs
- State of the art equipment added to expand laboratory facilities

Invested: \$10.879



## RETURN ON INVESTMENT

Due to the emphasis of aviation manufacturing in Wichita, there has always been and will continue to be a huge need for well-trained machinists. By adding CATIA and continuing to utilize new CNC and CAM systems within the classroom, WATC students will remain on the cutting edge of Machining Technology skills.

- \$25,900-Avg. wage of HS Grad
- \$31,560-Avg. wage of Tech College student
- \$38,397-Avg. wage of Machinists employed in Aviation

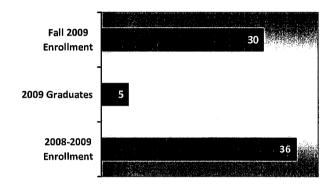
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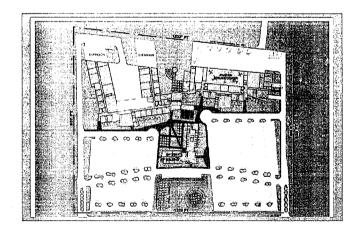
#### Program Investment in Equipment

Examples of Equipment Purchased

- Specialized Computer for CATIA
- Tool Boxes

#### Student Enrollment





Highlighted location of Machining at NCAT.

### Programi Hürgelligens

- a Baharaced program relationship to aviation by adding CATIA
- O Partnership with NILAR to offer CATLA
- o Machining Laboratory is a IHAAS Conter Showroom

During 2009, WATC began a restructuring process to ensure that the technology needs at NCAT would be met and processes would be in place when the new campus opens. This process included two major functions: information management systems and facility hardware and software installations.

In order to provide optimal service for all WATC constituents, it was determined that the college needed to upgrade to a new Enterprise Resource System. This system will allow WATC to streamline Enrollment, Financial, Human Resources, and Financial Aid computing and data processes at NCAT. Furthermore, the new system also interacts with internet-based interface for easily accessible student and employee information.

Software and computer hardware were purchased for the aviation portion of an information management system to provide resources for our current, expanded and future post-secondary students and incumbent workers.

#### Enterprise Resource System

Examples of Equipment Purchased

- ERP Software
- ERP Equipment

#### Infrastructure for NCAT

Examples of Equipment Purchased

- Equipment
  - Computers
  - Monitors
  - o Servers
  - o Digital Phones
  - Webcams
  - o Projectors
  - o Printers
  - Software Upgrades
  - o Network Upgrades

#### Program Highlights

- o Replaced Analog Phone System with Digital Unified Communication System comparible with NCAT
- Replaced stove piped databases with modern Enterprise Resource Planning (ERP) unified digital system ready for NCAT
- Equipped Aviation/Manufacturing classrooms and faculty with modern, secure IT equipment and software transferrable to NCAT



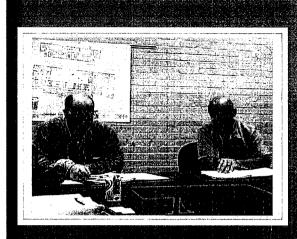
The key to the success of any program is the quality of the curriculum and faculty. The curriculum development process is both intensive and time consuming. The goal of NCAT is to be the national leader in aviation education. In order to become the standard for aviation education, WATC utilized a portion of the state investment for this critical component. The building and the equipment is built and purchased based on the programming developed and the requirements of our industry partners.

The formal curriculum development process has a series of six steps including 1) needs assessment, 2) research and benchmarking, 3) identification of industry subject matter experts (SME's), 4) curriculum content development, 5) approval documentation, and 6) program transition.

Our curriculum has already been recognized as the national standard by the state of North Carolina and the aerospace cluster in Seattle, WA.

#### Some of our industry partners are:

Cessna Aircraft Company
Spirit Aerosystems
Bombardier Aerospace
The Boeing Company
Hawker Beechcraft
KITCO Fiber Optics
NIAR - National Institute For Aviation Research
Triumph Group, Inc.
United States Air Force
Metal Finishing Company
Sherwin-Williams Aerospace Coatings



#### **PROGRAMS**

Advanced Aerostructures Aerospace Coatings & Paint Technology Aerospace Quality Control Composite Fabrication - revised Composite Repair Composite Technology Data Cable Installation Industrial Systems Technology **Industrial Motor Controls** Programmable Logic Controls Manufacturing Engineering Technology Machining Technology - revised CATIA - Machining Mechanical Engineering Design CATIA - Design Mechanical Systems Technology Industrial Precision Alignment Nondestructive Testing

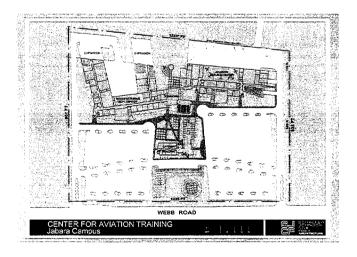


13 Associate of Applied Science Degrees 16 Technical Certificates 16 Certificates of Completion — 5565 Curriculum Hours

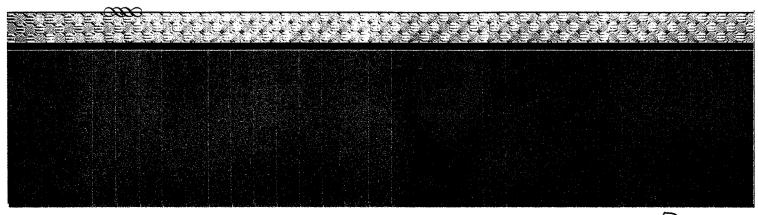
# Cumiculum Development Hours for NCAT

## **July 2008 – June 2009**

Programs	Clock Hours	Development Cost
Advanced Aerostructures	120	24,000
Aerospace Coatings and Paint Technology	360	72,000
Aerospace Quality Control	300	60,000
Advanced Industrial Systems	330	66,000
CATIA—Design	270	54,000
CATIA—Machining	270	54,000
Composite Technology (Includes new courses in Composite Repair)	600	120,000
Composite Fabrication	15	3,000
Data Cable Installation	255	51,000
Industrial Systems Technology	1155	231,000
Manufacturing Engineering Technology	60	12,000
Mechanical Engineering Design	255	51,000
Mechanical Systems Technology	1050	210,000
Nondestructive Testing (COC)	525	105,000
Total	5565	1,113,000



Highlighted location of new program growth at NCAT.



## Program Incubation and Expansion for NCAT

#### FY 2009 Report

Program	Location	Number of Faculty/Staff	Salaries/Benefits	Number of Students in Program
Aviation Maintenance Technology (Airframe & Powerplant)	ATC East/West	23	1,431,108	247
Avionics Technology	ATC West	2	86,065	39
Composite Technology	Grove	2	142,764	96
Machining Technology (CATIA coursework added)	Grove	1	3,946	36

Sub - Total

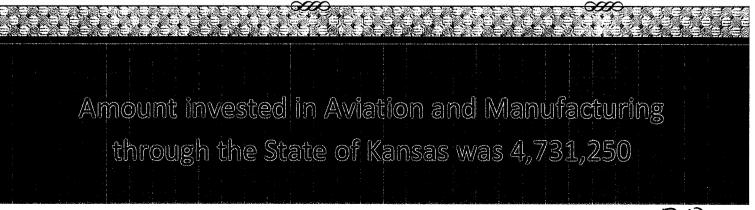
1,663,881

Program Development	1,113,000 Sub-Total 1,113,000
Aviation Programs	1,113,000
<b>Sub-Total</b>	1,113,000

Equipment	Location	The bottom was a second state of the second st
Aviation/Manufacturing Programs	NCAT	125,690
Aviation Maintenance Technology	ATC East/West	1,336,553
ERP Software	NCAT	144,237
ERP Equipment	NCAT	95,513
Sub - Tot	:al	1,701,992

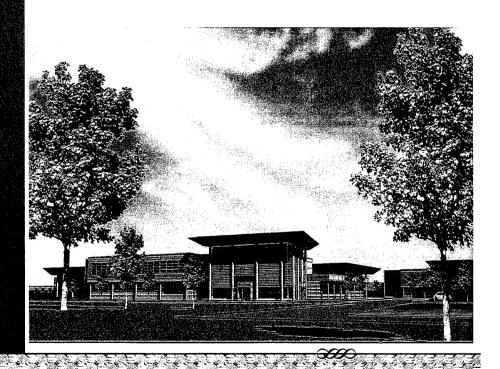
Technology Infrastructure for NCAT	The article of the article of the programmed with the the tree of the article of	
IT	Salaries/Benefits	481,033
	Equipment	390,958
Sub-Total		871,991

TOTAL 5,350,864



# State of Kansas Investment in Aviation and Manufacturing Training Report

2009 - 2010



National Center for Aviation Training (NCAT)

## Aviation Maintenance Technology

Invested: \$1,685,585

LOXCANIEDD AN ATIC IEASH AND ATIC WIEST



#### RETURN ON INVESTMENT

According to the Department of Labor, the supply of trained aviation mechanics may not keep up with the needs of the air transportation industry. WATC has met this challenge with proactive marketing and building relationships with current aviation employees. The college's investment in AMT training ensures the needs of the local aviation market will be met now and in the future.

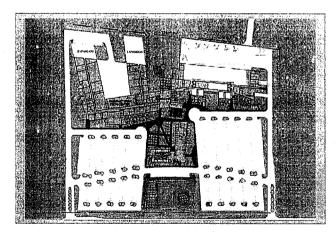
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- \$50,044 -Avg. wage of Aviation Mechanics in Wichita

The growth in wage presented is extremely important considering the average worker provides 15.4% of their salary to state and local taxing authorities and invests 60% of their take home pay in the local region.

#### Program Investment in Equipment

Examples of Equipment Purchased

- Alternator Generator Test Benches
- Helicopter Engine
- Fuel Injection Trainer
- Hydraulic Actuator
- Training Manuals
- Thompson Engine
- Electrical Trainer
- Variable Pitch Propellers



Highlighted location of Aviation Maintenance at NCAT.

## PROGRAMI HIGHLIGHTS

- O Awiation Watnesprogram was established in 2004 and has produced 250 graduates
  - 95% pass rate of FAA Aviation Maintenance Certified Exam
- O Noel Carry, Director, was awaitded the Charles Taylor Master Mechanic Award given by the FAA
- Faculty have received two Diamond awards and two Gold awards by the FAA for their participation in additional training

## Technology

Imvested: \$200.000

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In order to provide optimal service for all WATC constituents, it was determined that the college needed to upgrade to a new Enterprise Resource System. This system will allow WATC to streamline Enrollment, Financial, Human Resources, and Financial Aid computing and data processes at NCAT. Furthermore, the new system also interacts with internet-based interface for easily accessible student and employee information.

Software and computer hardware were purchased for the aviation portion of an information management system to provide resources for our current, expanded and future post-secondary students and incumbent workers.

#### Infrastructure for NCAT

Examples of Equipment Purchased

- Microsoft Software
- Cisco Video Surveillance
- Servers
- IT Installation Support for NCAT
- Color Copy Support for NCAT

#### PROGRAMI HIGHLIGHTS

- o Replaced Analog Phone System with Digital Unified Communication System compatible with NCAT
- Replaced stove piped databases with modern Enterprise Resource Planning (ERP) unlified digital system
  ready for NCAT
- Equipped Aviation/Menulacturing classrooms and faculty with modern, secure IT equipment and software transferrable to NCAT



## Program Development



#### Curriculum Development

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The formal curriculum development process has a series of six steps including 1) needs assessment, 2) research and benchmarking, 3) identification of industry subject matter experts (SME's), 4) curriculum content development, 5) approval documentation, and 6) program transition.

Our curriculum has already been recognized as the national standard by the state of North Carolina and the aerospace cluster in Seattle, WA.

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Cessna Aircraft Company
Spirit Aerosystems
Bombardier Aerospace
The Boeing Company
Hawker Beechcraft
KITCO Fiber Optics
NIAR - National Institute For Aviation Research
Triumph Group, Inc.
United States Air Force
Metal Finishing Company
Sherwin-Williams Aerospace Coatings

#### **PROGRAMS**

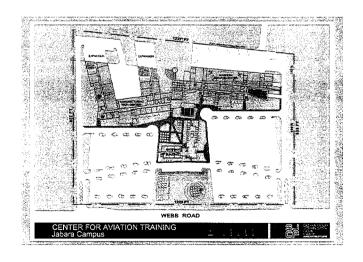
Aeronautical Engineering
Aerospace Fiber Optics & Data Cable Installation
Applied Science of Aviation Interiors
Nondestructive Testing
Robotics



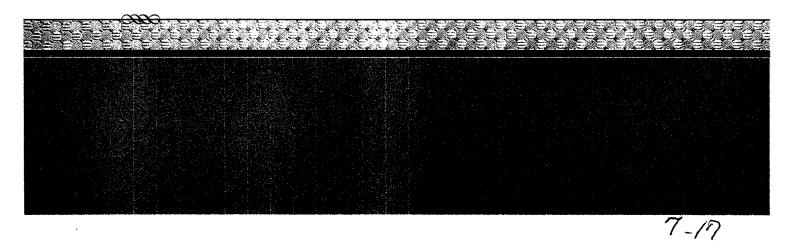
## Cumiculum Development Hours for NCAT

## **July 2009 – June 2010**

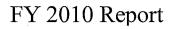
Programs	<b>Clock Hours</b>	<b>Development Cost</b>
Aeronautical Engineering	600	120,000
Aerospace Fiber Optics & Data Cable Installation	700	140,000
Applied Science of Aviation Interiors	555	111,000
Nondestructive Testing (TC and AAS)	165	33,000
Robotics	480	96,000
Tota	l 2265	500,000



Highlighted location of new program growth at NCAT.



## Proposed NCAT Budget 2010



Program Name	Location	Number of Faculty/Staff	Salaries/Benefits	Number of Students in Program
Aviation Maintenance Technology	NCAT	23	685,585	
Avionics	NCAT	2	43,033	
Composite Technology	NCAT	2	71,382	

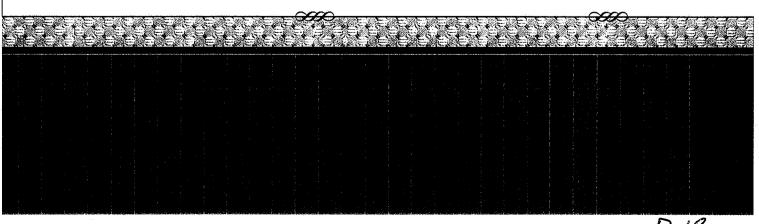
Sub - Total 800,000

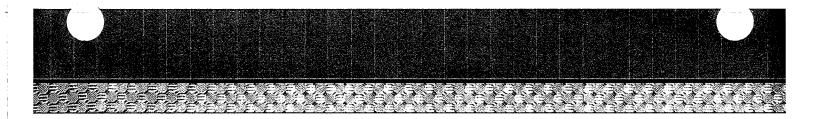
Program Development	
Aviation Programs	
Sub-Total	500,000

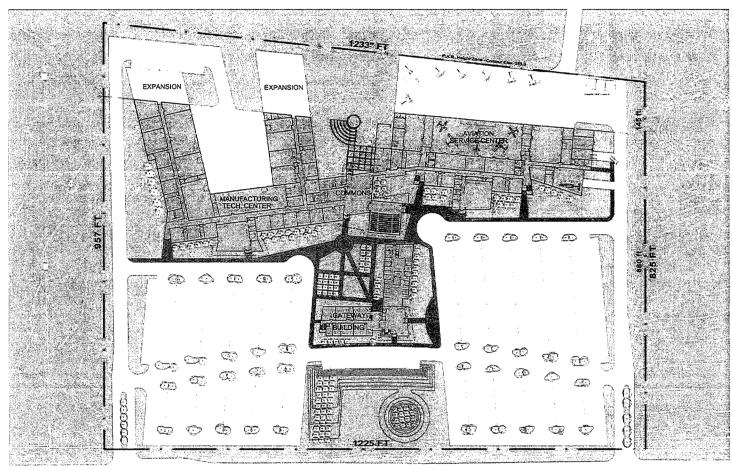
Equipment	Location	
Aviation Maintenance Programs	NCAT	1,000,000
Sub - Tota	1	1.000.000

Technology Infrastructure for NCAT	
IT	200,000
Sub-Total	200,000

TOTAL 2,500,000





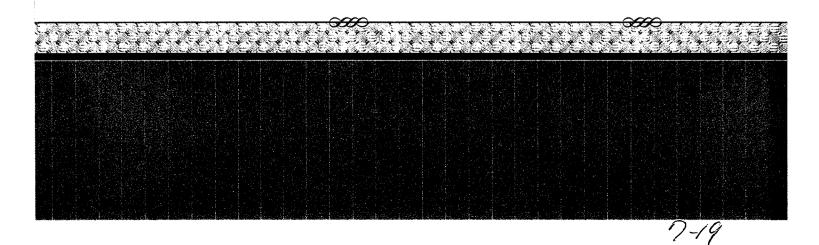


WEBB ROAD

CENTER FOR AVIATION TRAINING Jabara Campus







## edgwick County Technical Education and Training Authorit Governing Board of Wichita Area Technical College

Jim Walters (Chair) SR, VP Human Resources Cessna Aircraft Company

Rich Jiwanlal VP Human Resources Hawker Beechcraft

Sharon Fearey Former Councilwoman City of Wichita

Dave Unruh
County Commissioner
Sedgwick County
Board of County Commissioners

Lyndon Wells Executive Vice President Intrust Bank

Scott Strode VP & General Manager Boeing Integrated Defense Systems

Peter Gustaf CEO SCTETA President WATC Jeff Turner (Vice Chair) President/CEO Spirit Aerosystems

Ray Frederick President Frederick Plumbing & Heating, Inc

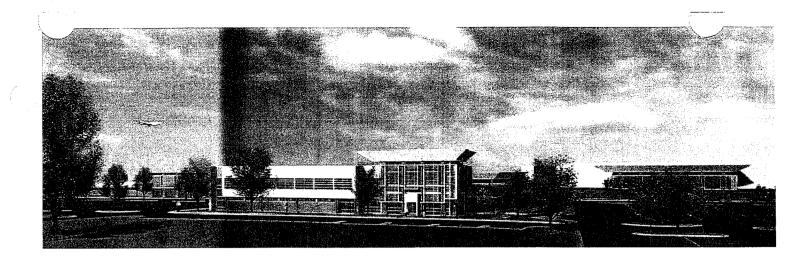
Cindy Hoover Director, Fuselage Engineering Spirit Aerosystems

Kim Shank Executive Director Wichita Clinic

John Dieker VP Operations Bombardier Learjet



We would like to personally thank you for your investment in Aviation and Manufacturing in Kansas. Your efforts will ensure that Kansas remains the "Air Capital of the World" with a highly skilled and quallified workforce to design and build airplanes for now and in the fitture.



## Welcome Message from President



I am pleased to welcome you to the National Center for Aviation Training (NCAT), the largest and most dynamic aviation training center in the nation.

Our college offers educational opportunities with a global perspective that includes curriculum designed for and by industry experts. We are committed to high quality, in demand, and customer driven education.

We prepare our students to become problem solvers, thinkers and practitioners of advanced technology. These are the attributes and skills that will transform the way we advance the boundaries of knowledge fueled by advances in technology. Our aim is to provide our students with not only the tools but with the values and professionalism necessary to excel in their chosen careers.

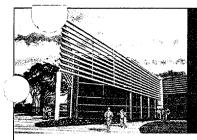
We are pleased that you have the opportunity to share in our passion. If we can do anything to make your visit more enjoyable, please let us know.

With warm regards,

Peter A. Gustaf, President

Vetela Gustaf

Attachneut 8 JcsBc 9-17-09



## Opportunities. Accelerated.

#### Jabara Campus Plan

#### Opportunities. Accelerated.

Jabara Campus Plan
A world-class technical education and training campus
February 2006

#### Accelerate skills.

The need for technical training is well documented. In the region, the five largest aviation companies have immediate needs: hire **4,150 skilled workers** this year. Our regional and state economy depends on manufacturers who depend on a steady supply of technically skilled workers.

4,150 workers at \$61,000 equals \$259 million payroll in 2006

Wichita MSA (Sedgwick, Butler, Harvey, Sumner) manufacturing contributes to state:

- 585,000 residents 21% of the Kansas population
- Paid more than \$346 million personal income tax 23% state total (2002)
- 33% of the state's manufacturing employment and **40% of the state's** manufacturing earnings (2004)

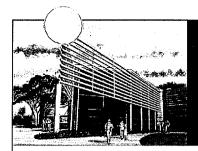
The region boasts a continued level of manufacturing employment – which brings new wealth into Kansas and the United States. Average manufacturing employment:

- Wichita 21%
- Kansas 13.4%
- United States 10.6%

In addition to current needs, the future looks bright with industry forecasts:

- Today's commercial aircraft fleet expected to double by 2024
- Delivery of 9,900 new business aircraft from 2005-2015
- Record-breaking delivery of 800 business aircraft this year

Nationally, the Bush administration has recognized the need for funding new skills in regional economies. The aviation and aerospace industries represent important manufacturing clusters as recognized by funding for national centers of excellence in aviation and aerospace research and engineering.



## Opportunities. Accelerated.

#### Jabara Campus Plan

#### Accelerate solutions.

Build a new technical education campus where workers and students can get the education they need to meet the growing demands of the future. Create high-paying jobs for people in our state and country. Offer world-class programs for our citizens and catch up to our competitors in other states and other countries.

#### Accelerate success.

Training must be employer-driven to be successful, with Sedgwick County Technical Education and Training Authority administering the campus. Like an airport hub, the Authority will coordinate programs. The effort will work with **local**, state and federal partners so training is highest quality, efficiently delivered. Then employers and students will have access to training in one place with one phone call.

#### Accelerate funding.

The estimated cost to build the first phase of the campus is \$36 million. This would fund:

**Aviation technology** 

Advanced manufacturing

Career development and assessment center

Proposed partnership for funding:

\$500,000

Federal seed money (already committed)

\$1.5 million

EDA grant (pre-approved)

\$5 million

State of Kansas

\$5 million

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Federal

\$24 million

Local (County lead funder/City – land/other)

\$36 million total project costs (estimated)

\$5 million

Private sector start-up (scholarships and equipment)

#### Accelerate results.

The plan is to break ground early 2007. For public and private investors, the return on investment is critical with retaining and growing jobs, workforce, salaries, tax base and businesses. For citizens, it's about high-paying jobs.

#### For more information contact:

Peter Gustaf • 316-831-2032 • pgustaf@cessna.textron.com

Lori Usher • 316-660-9381 • lusher@sedgwick.gov

A world-class technical education and training campus

8-3



WEBB ROAD

CENTER FOR AVIATION TRAINING Jabara Campus





#### \$54 MILLION TRAINING CENTER ENSURES PIPELINE OF HIGHLY SKILLED WORKERS

STORY BY GARY PERILLOUX PHOTOGRAPHY BY TODD BENNETT

ome 97 years after Clyde Cessna crafted his first Kansas plane, the manufacturing company that bears his name riveted the aviation world with news it would build its boldest business jet ever in Wichita.

It's a day the founder of Cessna Aviation Co. could only dream of: \$780 million invested to develop Citation Columbus jets, with another \$74 million in annual payroll and 1,000 new jobs to drive Cessna's Wichita work force past 11,000.

Yet even before the April 2008 announcement made headlines, a critical piece of Cessna's plans to build the jets began coming out of the ground.

At Jabara Airport – a general aviation facility in northeast Wichita - construction started a month earlier on the National Center for Aviation Training. At \$54 million, the 220,000-square-foot center will steep students in avionics, robotics, composites manufacturing and other 21st-century aviation disciplines.

Cessna will lean heavily upon the new center to build its \$27 million jet. Spirit AeroSystems Holdings, Hawker Beechcraft Corp., The Boeing Co., Bombardier Aerospace Learjet, Airbus North America Engineering Inc. and other Wichita mainstays will also tap the facility when they look to fill 15,000 new aerospace jobs projected for the area over the next decade.

That growth will push Wichita's aviation employment beyond 50,000 and into a new frontier.

"You take Spirit, for example," says Pete Gustaf, president of Wichita Area Technical College, which will manage the training center. "The workers there have lab coats on and work on the forward composite section of a 787 in a 100-yard clean room. It's a little different than pounding rivets in a 100-degree warehouse."

That difference is why John Tomblin's 300-member National Institute for Aviation Research staff will launch its resources as the center opens in 2010 to help prepare 1,500 students at a time.

"We have a research and training role," says Tomblin, the institute's executive director and Sam Bloomfield Distinguished Professor of Aerospace Engineering at Wichita State University. "If you think of research as a continuum, you're always going to start out with a research project. And the last piece of that continuum is always going to be training."

That continuum - as with friction stir welding techniques for aircraft typically takes 10 years or more. Tomblin

Composite material research is just one area of study at the National Institute for Aviation Research.

IMAGESWICHITA.COM GREATER WICHITA AREA believes the hand-in-glove work of his research institute and the aviation training center in the same spot, using state-of-the-art equipment supplied by local industry, can cut the implementation time to one to three years.

In some cases, the transfer of research to training could be almost instantaneous, Bloomfield says. One initiative will lead to diagnostic tools, such as CT scans, that can inspect aircraft for problems without the need to take them apart.

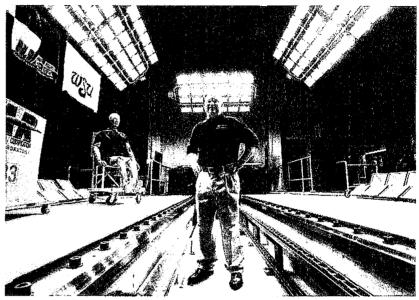
Gustaf said the Sedgwick County Technical Education & Training Authority, which oversees his college and all area technical education, played the galvanizing role in conceiving the project, designing the aviation center with industry input and issuing bonds for construction.

The investment will be a wise one, says Vicki Pratt Gerbino, president of the Greater Wichita Economic Development Coalition.

"If any place in the world should have an NCAT-type facility, it's Wichita," she says. "We need to ensure a steady pipeline of new, trained personnel for our local aircraft industry. It's simply a smart investment in our economic future."



#### VICKI PRATT GERBINO PRESIDENT, GREATER WICHITA **ECONOMIC DEVELOPMENT COALITION**



John S. Tomblin, executive director of the National Institute for Aviation Research, says that NIAR officials look forward to a research and training role with the newly created National Center for Aviation Training.

## **Connecting to Cutting-Edge Jobs**

ndy Solter witnessed the wonder of it in Wichita: AWhen students from low-income families saw their coursework converge with concrete jobs. lightbulbs blazed on and performance soared.

Now, Solter and his Kansas Career Pipeline staff witness lightbulb moments statewide - 30.000 career assessments the first school year - as the Internet-based learning community creates training profiles to take Kansans from their first what-I-wantto-be-when-l-grow-up moment to retirement.

The pipeline and its resources are accessible by logging onto www.kansascareerpipeline.org.

Businesses are boarding the pipeline, too. In June 2008, they began pre-qualifying job applicants, posting videos and creating scholarship and Internship opportunities on the Web site.

"No. 1, it gives them an immediate recruiting tool

When we street at with the brack fitting

to start posting their jobs," says Karen Cox, marketing director for the private, not-for-profit pipeline. "Secondly, and this is the part that's extremely exciting, we're connecting them with their future workforce."

Interaction begins as early as fifth grade, when students begin probing careers online. They take assessments of their career leanings in seventh grade.

Solter formed the pipeline after a federally funded career program for students in lower-income families ended at Wichita Public Schools. He huddled with the Kansas Department of Education, the Kansas Board of Regents and the Kansas Department of Commerce to see if an online model could connect the business community with future employees.

After initial state funding, the pipeline's \$1.5 million 2008-09 budget will increasingly rely on annual business sponsorships from \$50 to \$30,000.

"There may be other states who are beginning to do this," Solter says. "If so, I salute them, because it really is a critical part of helping kids find things they're interested in."

- Gary Perilloux

# The Sky's the Limit

#### WICHITA FULFILLS REPUTATION AS "AIR CAPITAL OF THE WORLD"

hen Clyde Cessna built Wichita's first plane in 1917, maybe he knew it was the start of something big. Yet even Cessna might not have envisioned today's Wichita, known as the "Air Capital of the World" and home to burgeoning aircraft companies employing thousands of the most talented engineers on the planet.

According to a Milken Institute study, Wichita has the highest concentration of aerospace employment and skills in the nation. About 61 percent of the Wichita area's manufacturing jobs – or more than 40,000 people – are in the aerospace industry. Wichita giants Cessna Aircraft Co., Hawker Beechcraft Corp. and Bombardier Aerospace Learjet deliver more than half the nation's general-aviation planes. Also at home in Wichita are Boeing, Spirit AeroSystems, an

Airbus engineering center, a network of tier one suppliers and scores of precision machine shops.

"The specialization in the workforce just doesn't exist anywhere else. It's only in Wichita," says Tom Aldag, director of research and development at the National Institute for Aviation Research at Wichita State University.

NIAR's cutting-edge research and Wichita State's renowned engineering programs will soon join with the Wichita Area Technical College at the new, \$54 million National Center for Aviation Training, a facility that will open for classes in 2010 at Jabara Airport in northeast Wichita. In the meantime, the Wichita Metro Chamber of Commerce has several initiatives in place to nurture the aviation industry and lure top-notch professionals here.

Once people visit Wichita, it's an easy sell, thanks to an enviable quality

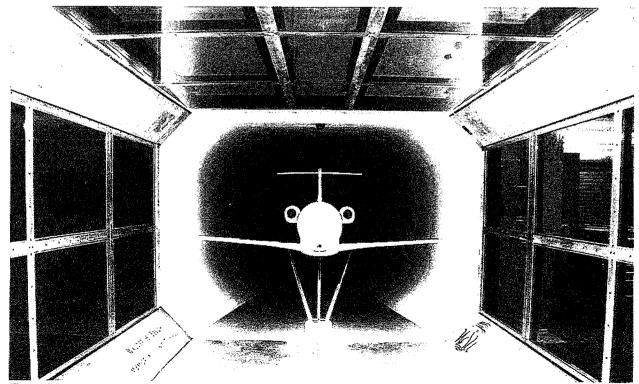
of life that includes a vibrant downtown and an easy commute.

"Getting around Wichita is so easy. It's 15 to 20 minutes to get anywhere, no matter where you live. Because of that, you can really get out and enjoy all of the entertainment that's offered in what we call 'hot spots' all over the city," says Olivia Simmons, vice president of the Greater Wichita Convention & Visitors Bureau.

The city boasts a wealth of cultural, natural and entertainment options, from the burgeoning Tallgrass Film Festival to the Kansas Flint Hills located nearby.

"Literally, you can immerse yourself in the sights and the sounds of the outdoors," Simmons says. "Not too many cities can brag about what's so close to them and what they have within their city at the same time."

The result? Wichita is flying high.



The Walter H. Beech Memorial Wind Tunnel at NIAR was originally built in 1948 and underwent a \$6 million renovation in 2005.



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## Kansas Aviation Manufacturing

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## Kansas Aviation Manufacturing – Summary of Findings

The Center for Economic Development and Business Research, W. Frank Barton School of Business, Wichita State University, was given the task of analyzing various industry clusters in the state of Kansas. The objective is to review historical employment trends, identify strengths and weaknesses within the industry cluster, identify future occupational needs of the cluster and employers' perceptions of the current workforce supply. Notable findings are listed below:

- Aviation manufacturing employs 17.8 percent of all Kansas manufacturing employees.
- The average annual wage for an employee in the aviation cluster in Kansas in 2006 was more than \$63,000.
- Aviation manufacturing is highly concentrated in the state of Kansas versus that of the U.S. with an industry concentration ratio of 8.3.
- Although the cluster is expected to gain 4,450 net new employees from 2004 to 2014, the
  industry is expected to need more than 10,000 total new employees when taking
  retirement and turnover rates into consideration.
- Although jobs requiring moderate on-the-job training dominate the aviation cluster, the largest need from 2004 to 2014 will be for bachelor's degree holders.
- Sedgwick County employed 89.8 percent of all aviation manufacturing employees in the state of Kansas in 2006.
- Industry leaders perceive a shortage in the current availability of white-collar professionals and engineers in the aviation cluster.
- Industry leaders believe it is more difficult, compared to five years ago, to hire highskilled blue collar professionals and engineers within aviation manufacturing.

<sup>&</sup>lt;sup>1</sup> Industry Concentration refers to the industry concentration in Kansas versus the industry concentration in the U.S. A concentration is relative to the respective geographies total employment.



## Kansas Aviation Manufacturing – Defined

The Aviation Manufacturing Cluster refers to a variety of establishments primarily engaged in manufacturing complete aircraft, missiles or space vehicles, manufacturing aerospace engines, developing and making prototypes of aerospace products, aircraft conversions or complete aircraft overhaul. The cluster is defined by the North American Industrial Classification System as sector 3364, Aerospace Product and Parts Manufacturing.

## Kansas' Strengths

#### **Aviation Manufacturing**

Aviation Manufacturing employs 17.8 percent of all manufacturing employees in the state of Kansas. The industry contributes more than 26 percent of all manufacturing wages, with total wages paid in 2006 equaling \$1.99 billion. The largest employer in Kansas, Cessna Aircraft Co., is included in the aviation manufacturing sector.

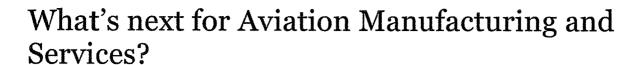
#### **Key Locations**

The number of aviation manufacturing and service employees is largest in Sedgwick County. Montgomery, Cowley and Sumner Counties are all tied for second largest. Sedgwick County paid the largest amount of aviation manufacturing wages and was home to the largest number of establishments in 2006.

Wichita, Kansas, is known as the Air Capital of the World. Fittingly, the Wichita MSA employed approximately 92-4 percent of all Kansas aviation manufacturing employees

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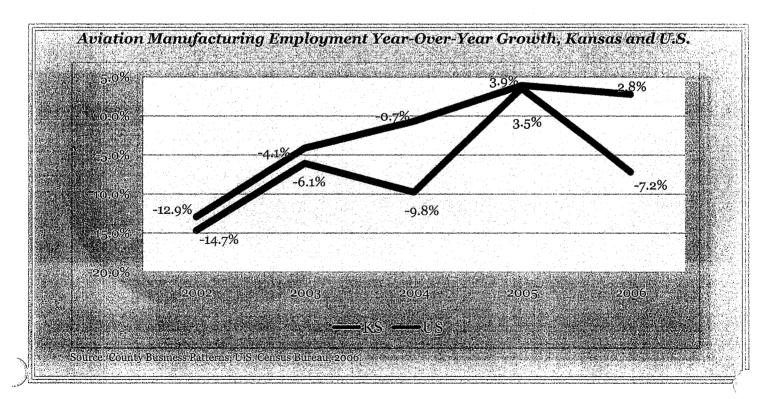
Procure courtesy of National Justinia for Aviation Research. References to proceed the procure of 
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Aviation manufacturing has been and is an important industry in the Kansas economy. Aviation manufacturing companies supplied 2.8 percent of all employees in the Kansas economy in 2006. Nationally, aviation manufacturing supplied 0.3 percent of all employees. The average annual wage for all industries in the United States in 2006 was \$39,965. The average annual wage in the aviation cluster in the state of Kansas was well above the national average for all industries in 2006 with an average annual wage of \$63,238.

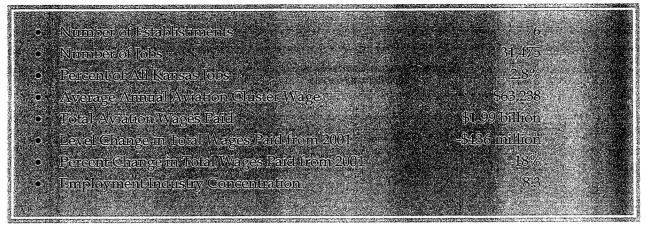
Nationally, the aviation cluster is expected to increase in total employment from 2006 to 2016 by 5.4 percent. The growth within the cluster indicates the strength within the industry. The aviation cluster in Kansas is expected to increase from 2004 to 2014 by an estimated 4,450 positions. However, the total openings by 2014 are expected to surpass 10,000 positions due to employee turnover and retirement. The largest challenge facing the aviation cluster through 2014 will be the availability of workers. The manufacturing industry is already reporting employment shortages of over 5,000 positions in 2007 according to the Kansas 2008 Job Vacancy Survey.

The occupations with the largest concentration of positions in aviation manufacturing in the state of Kansas in 2004 included aircraft mechanics and service technicians, machinists, inspectors and engineers. These occupations require on-the-job training, work experience in related occupations, post-secondary technical education and bachelor's degrees.



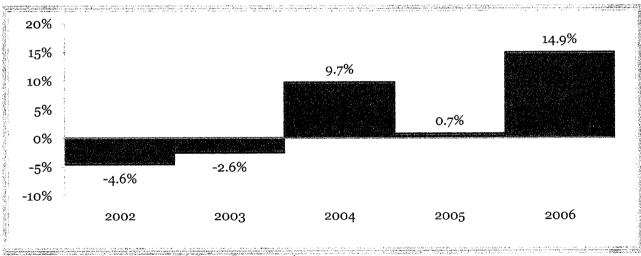


#### **Kansas Aviation Cluster Statistics (2006)**



Source: County Business Patterns, U.S. Census Bureau, 2006.

#### Kansas Aviation Cluster Average Annual Wage Growth

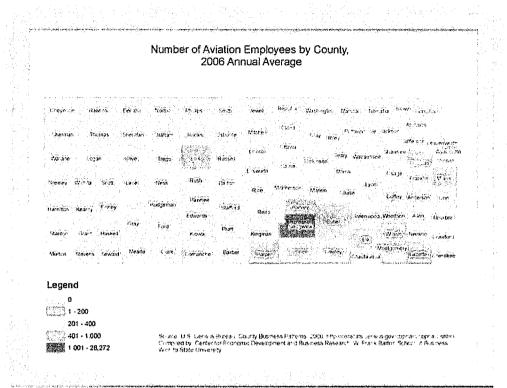


Source: County Business Patterns, U.S. Census Bureau, 2006.

#### **Kansas Aviation Cluster Employment Levels by Requirement**

	Base Year	Projected Year	Total Openings
Educational Attainment	Employment (2004)	Employment (2014)	(2004 to 2014)*
Work experience in a related occupation	2,486	2,872	936
Short-term on-the-job training	2,595	2,821	921
Moderate-term on-the-job training	6,112	6,741	2,045
Long-term on-the-job training	2,670	3,152	1,114
Postsecondary vocational training	2,087	2,765	1,174
Associate degree	1,438	1,766	617
Bachelor's degree	5,395	6,685	2,380
Post Bachelor's Degree	2,341	2,779	850

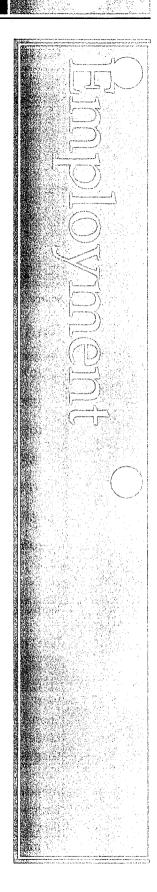
<sup>\*</sup> Total openings include growth, retirement and turnover estimates. See page 13 for further details.



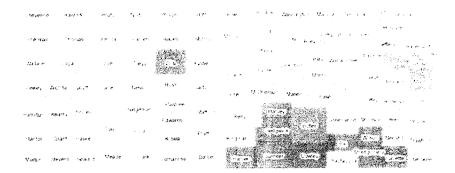
#### **Top Five Aviation Cluster Counties by Employment**

			.R. •
Rank	County	Employed	Percent of Cluster
1	Sedgwick, KS	28,272	89.8%
2	Cowley, KS	750	2.4%
3	Montgomery, KS	750	2.4%
4	Sumner, KS	750	2.4%
5	Johnson, KS	375	1.2%
	Balance of Kansas Aviation Cluster	578	1.8%
	Kansas Total Aviation Cluster	31,475	100.0%

Source: County Business Patterns, U.S. Census Bureau, 2006.



#### Aviation Employment Industry Concentration by Kansas County. 2006



0.0 No employment

8 1 - 0 9 industry concentration less than national average 1.0 Industry concentration similar to nation

1.1 - 1.2 Economy is concentrated in the industry

>1 2 Economy is specialized in the industry

Source: U.S. Census Bureau: County Business Patterns 2006. http://censtats-census.gov/copnaic.copnaic shtml Compiled by Center for Economic Development and Business Research: W. Frank Barton School of Business. Wichita State

Please note. The location quotient for Wyandotte County is 0.046. Consequently, it is shown on the map in gray, even though a does have 10 aviation employees.

\*Industry Concentration refers to the industry concentration in Kansas versus the industry concentration in the U.S. A concentration is relative to the respective geographies total employment.

#### Regional Employment Comparison of Industry Concentration for Seven States **Aviation Sectors**

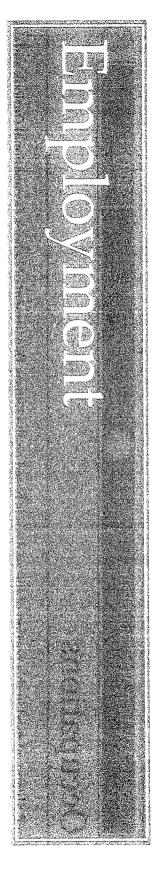


#### Legend

學의 0 f : 0.9 Industry concentration less than national average

1.0 Industry concentration similar to nation

fit+ 12 Economy is concentrated in the industry >1 2 Economy is specialized in the industry





# 9

# **5 Key Occupations**

The Occupational Alignment used in this portion of the analysis is based on the Kansas Department of Labor's Occupational Outlook and degree completions obtained through the Kansas Board of Regents. An Index (in bold) was calculated based strictly on economic criteria. Equal weights were given to four criteria including the Median Annual Wage, Base Year Employment (2004), Total Openings (2004 to 2014) and the Additional Training Needed. Indices can range from 0 to 4. The larger the index value, the higher the economic impact the occupation has in Kansas.

Below are three charts listing various aviation manufacturing occupations. The first table illustrates employment needs at all education levels. The second table illustrates employment needs for bachelor degree holders. The third table illustrates employment needs for technical education, certificate programs and associate degree holders. It is important to keep in mind, occupations were ranked based on the calculated index mentioned above, and the occupational openings DO NOT include current shortages. Please see page 13 for definitions concerning the tables below.

#### Occupational Alignment, Kansas Aviation Cluster, All Levels

	Occupational Title	Educational Attainment		Base Year Employment (2004)			Total Completers	Training Leakage	Total Number Needed to Be Trained	Additional Trained Workers Needed	
1.	Industrial Engineers	Bachelor's	\$62,962	1,017	1,209	439	453	47.5%	837	384	4.00
2.	Mechanical Engineers	Bachelor's	\$67,891	752	950	404	416	47.5%	769	353	4.00
3.	Management Analysts	Bachelor's +	\$60,403	604	676	155	96	34.5%	237	140	4.00
4.	Engineering Managers	Bachelor's +	\$97,261	717	914	340	774	61.6%	884	111	3.75
5.	Business Operations										
	Specialists, All Other	Bachelor's	\$51,688	620	784	270	168	34.5%	412	244	3.75



#### Occupational Alignment, Kansas Aviation Cluster, Bachelor's Degree ONLY

	Occupational Title	Educational Attainment	Median Annual Wage (2004)	Base Year Employment (2004)	Projected Year Employment (2014)	Total Openings (2004 to 2014)	Total Completers	Training Leakage	Total Number Needed to Be Trained	Additional Trained Workers Needed	Index
1.	Industrial Engineers	Bachelor's	\$62,962	1,017	1,209	439	453	47.5%	837	384	4.00
2.	Mechanical Engineers	Bachelor's	\$67,891	<b>7</b> 52	950	404	416	47.5%	769	353	4.00
3.	Business Operations Specialists, All Other	Bachelor's	\$51,688	620	784	270	168	34.5%	412	244	3.75
4.	Computer Software Engineers, Systems Software	Bachelor's	\$74,880	378	520	180	262	46.5%	337	74	3.50
5.	Accountants and Auditors	Bachelor's	\$48,755	286	342	110	102	33.4%	165	63	3.25

### Occupational Alignment, Kansas Aviation Cluster, Technical Education or Associate's Degree

	Occupational Title	Educational Attainment	Median Annual Wage (2004)	Base Year Employment (2004)	Projected Year Employment (2014)	Total Openings (2004 to 2014)	Total Completers	Training Leakage	Total Number Needed to Be Trained	Additional Trained Workers Needed	Index
1.	Industrial Engineering Technicians	Associate's	\$42,286	504	677	277	233	18.6%	340	107	3.75
2.	Engineering Technicians, Except Drafters, All Other	Associate's	\$53,102	351	425	163	137	18.6%	200	63	3.50
3.	Mechanical Drafters	Postsecondary	\$39,000	149	169	63	9	62.7%	169	161	3.50
4.	Avionics Technicians	Postsecondary	\$47,237	282	384	172	227	25.5%	230	4	2.75
5.	Electrical and Electronics Repairers, Commercial and			450	450	44		25 50/	F.C.	1	2.50
1	Industrial Equipment	Postsecondary	\$42,890	150	158	41	55	25.5%	56	1	2.50



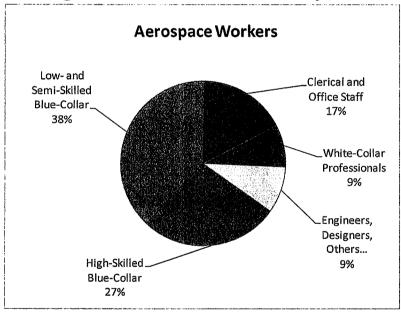


## Available Workforce as Perceived by Cluster Industry Leaders

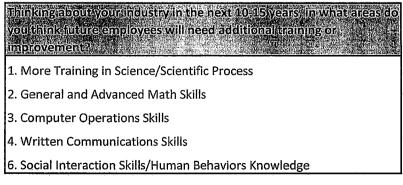
Docking Institute of Public Affairs personnel interviewed leaders from aviation manufacturing companies in the State of Kansas from June 3 to June 19, 2008. Ten industry leaders were interviewed. The sample was not randomly drawn. Rather, the employers with the largest workforces were targeted for interviewing. The responses shown in this report are suggestive and not inferential – similar to that of a focus group.

Interviews were designed to assess industry leaders' perceptions of strengths and weaknesses of their cluster's workforce quality and supply in Kansas, types of training on basic and industry-specific skills most needed among new hires, and anticipated growth in cluster workforce needs over the next 10 to 15 years.

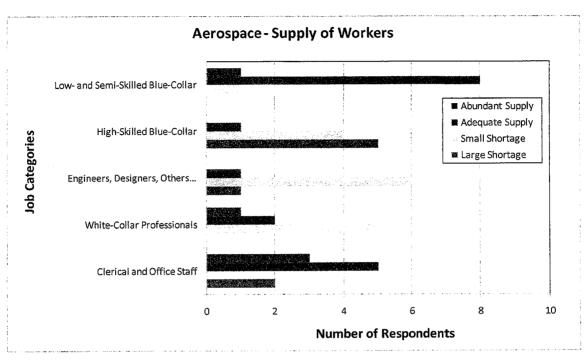
#### Occupational Segmentation as Perceived by Industry Leaders



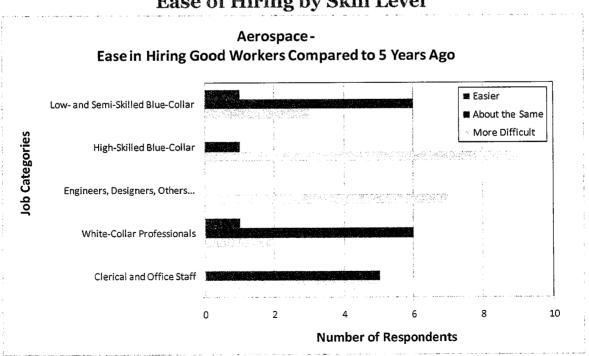
#### **Additional Training Needs as Perceived by Industry Leaders**



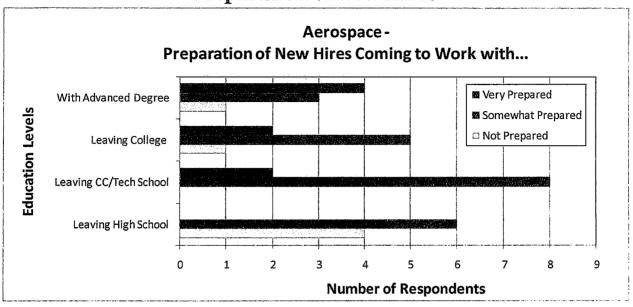
#### Supply of Workers by Skill Level



#### Ease of Hiring by Skill Level



#### **Preparation of New Hires**



#### **Skill Sets Needed**

Thinking of skills or skill sets needed at the	workplace, are there certain skills that <u>s</u>	seem to lack or that could be improved upon?				
High School Graduates	Community College or Technical School Graduates	Four Year, Advanced, and Specialized Degree Holders				
1. Written Communications Skills	1. Communications Skills	1. Math Skills				
2. Verbal Communications Skills/English Skills	2. Math Skills	2. Science Skills/Understanding of Basic Science				
3. Basic Math Skills	3. General Understanding of Manufacturing/	3. Hands-On Experience/Real World Experience				
4. Hands-On Mechanical Experience	Production	4. Social Interaction Skills/Understanding of Small Group Interaction and Processes				
5. Computer Operation Skills	4. Hands-On Experience					

#### **Training Needs Public Education Might Address**

When thinking about new AND current workers, do you have industry specific training needs that the public education system might appropriately address?

- 1. Computer Operation Skills
- 2. Computer Programming Skills
- 3. Work Ethics/Puncuality
- 4. Social Interaction Skills/Understanding of Human Behaviors

#### **Definition of Terms**

**Cluster** – refers to the concentration of employment within a given industry or industry sector within a given region.

**Industry Concentration** – refers to the concentration of employment within a given area relative to the United States. Industry concentrations were calculated by dividing a given area's percentage of employment within a given industry, relative to all employees, by the nation's percentage of employment within a given industry, relative to all employees in the nation. An industry concentration above one implies a strong or high potential industry concentration within the given area; a low industry concentration implies a weak or low potential industry concentration within the given area.

**Educational Attainment** – refers to the required level of education needed to obtain a job in the respective occupational code.

**Total Openings** – refers to the total number of job openings from turnover and from occupational growth in the respective occupational code.

**Total Completers** – refers to the expected number of instructional program completers attributable to the respective occupation from 2004 to 2014 working in Kansas 6 months after degree completion. This analysis assumes a constant annual rate of instructional program completers based on 2006 completer numbers obtained through the Kansas Board of Regents.

**Training Leakage** – refers to the number of program completers that are not expected to work in Kansas six-months after degree completion based on data provided by the Kansas Board of Regents.

**Total Number Needing to Be Trained** – refers to the number of program completers needed to fill all job openings from 2004 to 2014 in the respective occupation, taking into account the training leakage rate.

**Additional Trained Workers Needed** – is the difference between the Total Number Needing to Be Trained and Total Completers.

Index – refers to the ranking criteria used in the occupational alignment. Equal weights were given to four criteria including the Median Annual Wage, Base Year Employment (2004), Total Openings (2004 to 2014) and the Additional Training Needed. Indices can range from 0 to 4. The larger the index value, the higher the economic impact the occupation has in Kansas.

See You for Breakfast at Sun 'n' Fun!

# AVIation/Women

The official publication of Women in Aviation, International

OPPORTUNITIES:



Up From These

good blue-collar manufacturing job is not the stuff of most little girls' dreams, but the women employed at Textron's Cessna Aircraft Company, located in Wichita, Kansas, Independence, Kansas, Columbus, Georgia, and Bend,

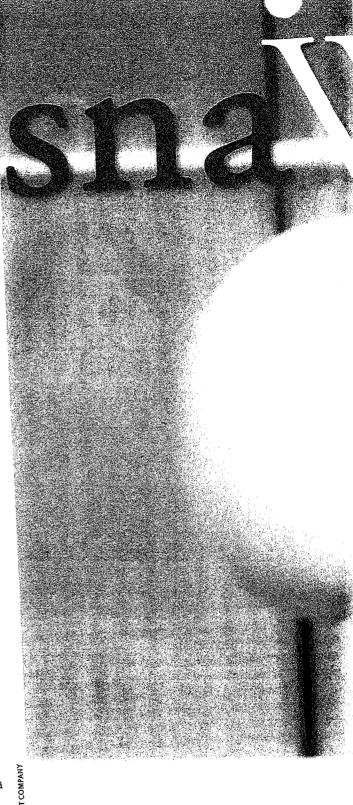
Oregon, will tell you that starting on the production line, or even in the mailroom

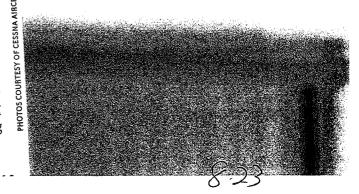
by Amy Laboda

or secretarial pool at this company is still a great way to get a foot in the door on a long and productive career in aviation.

Whether you stopped your education at a high school diploma, a hands-on technical degree (such as an A&P or avionics tech), a B.A. in Liberal Arts or an engineering degree, Cessna has a place for you, it seems, from talking to the women who work for the company.

Christy Ballinger had just graduated from high school and taken a job in a local machine shop when her opportunity came to work at Cessna's Independence, Kansas, facility. "I needed a shift-work job so that I could go to school during





Tracey Robinson

8-24

the day," she says. Through Cessna she earned a Bachelor's in Business Administration and Human Resources, and now works as the quality manager of the Quality Engineers at the Independence plant. "Our main function is to make sure that we have aircraft that leave the facility within type design. We take care of FAA compliance," she explains.

Laura Hilboldt was fascinated by airplanes in her youth, and even worked as a line girl at the airport to finance flying lessons. She went to Parks College, in Cahokia, Illinois, near St. Louis, Missouri, but chose to major in engineering because it was more economical. After years with Boeing as an engineer, though, she changed her mind.

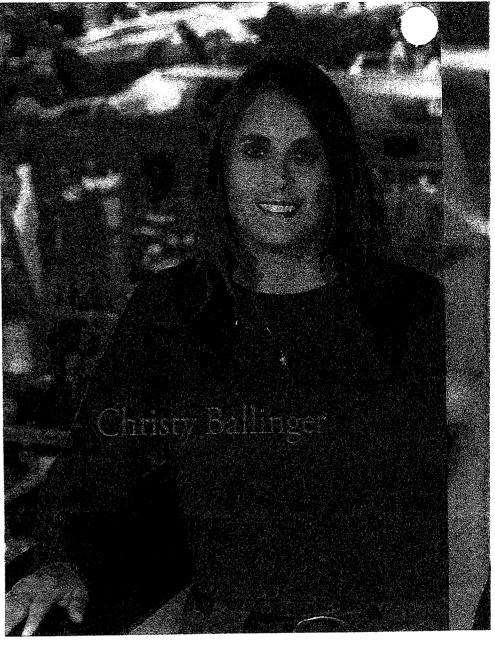
"I'm 46. I kind of had a mid-life crisis at 41 and realized that I really wanted to fly for a living. A flight instructor friend told me it was not too late. I soloed at 17 but did not fly between 1980 and 2003. That's when I got my commercial and multiengine ratings. Cessna has a program that transitions lower time pilots into its production test flight program and I took advantage of that," she says.

But it wasn't all that easy. "It was a good year and a half before I got a call to interview at Cessna after applying," she recalls."Turns out that I didn't get hired for the first job I interviewed for,

however, they looked for a place for me to fit in," she says. "Even when I interviewed they asked me why I was leaving Boeing and I said I wanted to work as a pilot, and they said, that's okay. The HR person did say, though, "don't be disappointed if you aren't hired as a pilot." But they did eventually let me go there. At Cessna they are willing to help you get there," she says. And "get there" she did. With Cessna's new Associate Test Pilot Program Hilboldt was able to transition from a production position into a Test Pilot position with a little more than 500 hours of flying under her belt. She was the only female test pilot at the Independence, Kansas, plant at the time of this writing.

In Wichita, Kansas, at Cessna Aircraft's Corporate headquar-

opseniversite. Their that their spect



ters and the site of several more of the company's production lines, Tracey Robinson, a Six Sigma Black Belt, whose job it is to examine and determine process improvements throughout the production lines, remembers how she started at the company with just an Associate's degree in Business. "My first job here was as a general clerk," she says. But Cessna's generous education stipend (up to \$5200 a year) allowed her to go back to school for her Bachelor's degree in business. "I went from a general clerk up through all the quality engineering ranks and I dealt primarily with the FAA and helped write some of our orders. I thought that would be my life, until I was offered director of Interiors and then, electrics. I was so pleased," she



smiles. "It was odd at first to go from being the one in compliance saying "no, you can't do this" to being the one trying to figure out the best way to do a project. I had to back up from my "black and white" quality engineering background mind-set," she recalls.

Susan Bair is now an A&P mechanic, one of only three female mechanics (out of 300) at the Citation Service Center, on the main corporate campus in Wichita. Bair got her start on the Cessna Sovereign production line in 2000, and used her Cessna education stipend to go to school at Cowley County Aviation Technical Center (now Wichita Area Technical College) to earn her airframe and powerplant certificates. "At the point where I was getting my powerplant rating I interviewed at the Service Center and was hired as soon as I had the full license" she recalls. "I was fortunate that I had the production job first, though. It put a solid foundation underneath my knowledge."

Sherry Skinner, program manager for the 525 series airplanes (Citation), started with 15 years in the interiors and electrical departments helping to design and install lights

and stereos as a design engineer. "My background is in electrics as an electrical engineer. I worked my way over to avionics, then worked as a section supervisor, group lead, and as a DER in Avionics for the FAA. My current supervisor made me go look for other things to do, to expand my horizons. I went to work for the special interests group (military). Then worked with the Citation jet (CJ), then processes and procedures, refining paperwork, then as an assistant, and now fully in charge of the CJ line," she smiles. It sounds easy when she says it, but in fact, the process was one of learning every detail of the airplanes that were being produced, so that she can assist her engineers and production workers on the floor whenever issues arise that could slow down the line.

"Being a pilot and having installed avionics does help me a lot in my position. And avionics is a constant churn because we are constantly upgrading. That's the challenging part of the job, to keep up with the technology. Our marketing department helps define what the customer wants and brings that to our design department," she says.

Lisa Mashnouk, director of Interior Operations, where the

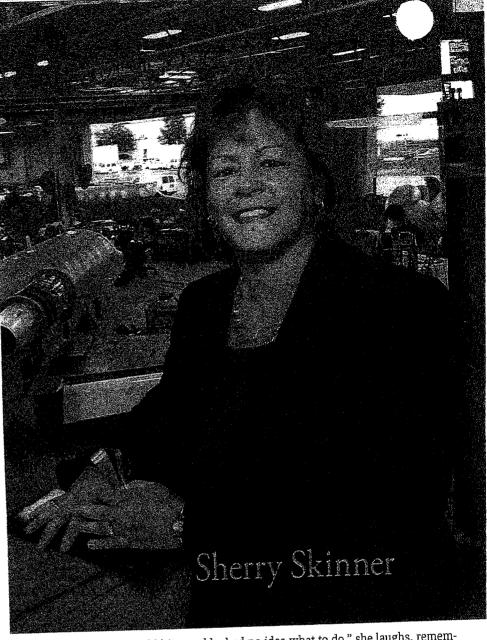
interiors are fabricated and installed, began her engineering career before she ever left college at San Diego State University in San Diego, California. She was a sheet metal worker for Boeing, and ended up on pylons and nacelles before graduation. "My very first job at Cessna was as a supervisor for the industrial and mechanical engineers. Got my business advanced degrees. Went into the factory and managed the CJ line, and then finally Tracey's position opened and I went to director of Interior, and, at the time, Paint," she remembers. Today Mashnouk is working on a Doctorate in Leadership and Organizational Change, and yes, Cessna is helping to pay her tuition.

Laura Chitwood, the engineering supervisor who hired Hilboldt, owned a cleaning business and readily admits to floundering around for a while in her early years before settling on engineering as a career. A desire to work for Cessna and be closer to her Wichita-based family brought her to the company, first to work on the Citation X production line. But when the opportunity to work on the Cessna Mustang surfaced, Chitwood headed to Independence, Kansas, where that production line was built.

Young, wispy and fair, A&P mechanic Ashley Pepper doesn't strike you as a mechanic or a pioneer at first, until you learn that at hardly more than 20 years old, she was the first female A&P hired by the Citation Service Center (the company's largest). Another Cowley County Technical Center graduate, Pepper had started with experience at another manufacturer, Spirit Aerosystems, on its Boeing 777 pylon production line.

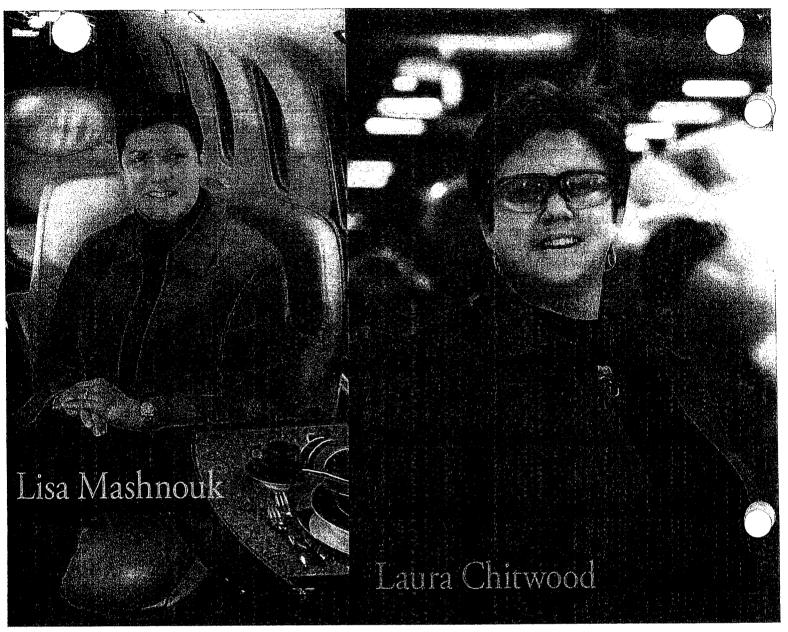
In the two years that she's been working for the Citation Service Center the bosses there have hired two more women mechanics, which means that Pepper has served as a strong model for the company. And that's even though she's recently delivered her first child.

"When I knew I was pregnant I went to my manager and



told him, and he had no idea what to do," she laughs, remembering the day. "But everyone took care of me. They all got too scared to let me work on the shop floor once I was pregnant. I was touching up paint with a respirator on and gloves!" Shortly thereafter the manager found her a position on a desk updating maintenance manuals and performing logbook surveys for the duration of her pregnancy. It was felt to be the safest tack for both Pepper and her baby.

"We have good benefits for time off," says Pepper, who recently returned from her maternity leave. "I'm glad to be back in a routine though, working each afternoon through 2 a.m., coming home and waking with the baby at 7 a.m. But I get to take naps when she does to catch up on sleep," she smiles.



Pepper is back on the shop floor now, with the rest of the Service Center mechanics, where her job definitely entails heavy lifting and some serious climbing. Susan Bair knows that the guys are watching to see what you will do, at first. "You have to earn a level of respect from them," she says. "You will get the typical new person initiation, such as, working outside in the winter. Sometimes they do test the thickness of your skin, but that's more about being a new mechanic than being a girl. Once they see that you are there to work, and you can lift a 90 lb battery by yourself...and work on the equipment...they are fine. Don't let it intimidate you. You can do it," she says.

Sherry Skinner says, "The dinosaur attitude that women should not be in charge is eroding here. When hiring at Cessna we think, you need to be the right person with the right attitude for the job. They don't even look at gender today. They truly care here about the worklife balance and they want you to have a life outside of work," says this mother of three.

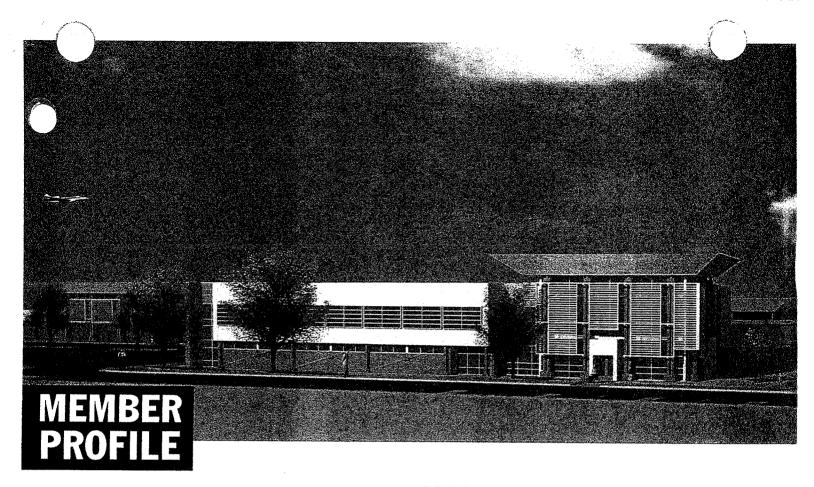
It is clear to see from the camaraderie of the women that they have learned, even if they are not seeing each other every day at work, to seek out each other for networking and mentoring. Cessna also has a formal mentoring program which is encouraged for employee growth.

"You have to be willing to be a team player and make it work," says Lisa Mashnouk. "The crew I worked with told me how wonderful it was to see Sherry go out there and get her hands dirty with the avionics installers. And they know that Tracey is out there trying to make their job safer and easier, and they respect that, too."

Sherry Skinner laughs at that. "I encourage the black belts to go out and talk to the people on the assembly line. The biggest adrenaline rush for me is working with the people and knowing they are doing their best job."

"I always tell the employees that I interview and hire, they are never pigeonholed here," says Laura Chitwood. "It is one of the things I really love about Cessna. We are motivated to keep them here and keep them growing." And as for the gender issue? "The men don't cut you any slack, but they don't hamper your job, either," she laughs. "Women at Cessna can go as far as they want to. It is a wide open door, and a big change since I was hired, back in 1990."

Change, it seems, for the good.







Main Facility: 301 Grove Street Wichita, Kan, 67211 Enrollment Information: Melody Brown — 316-677-9556 Avionics Program Information: Jason Davis — 316-652-2814

Website: www.watc.edu

What They Do: WATC offers training programs in aviation maintenance and avionics as well as business, medicine, manufacturing and general education.

Instructors/Staff: 25 in the aviation department

Students: 3,000 students total; 400 to 450 students in the aviation programs

Facilities: Next year, WATC will move its aviation training to a new campus. Sedgwick County's National Center for Aviation Training at Jabara Airport will open with 222,000 square feet dedicated to classrooms, labs and hangars.

**AEA Member Since: 2009** 

CHRISTINE

### **Wichita Area Technical College Develops Comprehensive Avionics Training Program**

n entirely new type of avionics training recently landed in Wichita, Kan. In April 2008, Wichita Area Technical College (WATC) debuted an avionics program that offers comprehensive training in all aspects of aircraft systems to ensure technicians are well-versed in installation, troubleshooting and repair.

The program is the result of a collaborative, yearlong effort by WATC, leading avionics and aircraft manufacturers, Wichita fixed-based operators, and the local community.

"We were asked to help develop a program from the ground up, pretty much clean sheet of paper," said

Billy McDaniel, a Garmin field engineer and avionics engineering consultant for the WATC avionics program.

"The first thing we did is create a board of advisors made up of industry experts," McDaniel said. "On our board, we have a company owner and president of a space operation, three avionics managers, several inspectors and several test pilots. By putting that group together, we were able to come up with a program that fills a real need: a well-rounded aircraft avionics technician."

Instead of teaching students a particular skill, such as avionics installation or bench testing and repair, WATC's program gives a student the



Expected to be completed in fall 2010, Wichita Area Technical College's new 222,000-square-foot training center will feature state-of-the-art classrooms and testing labs, hangars to house aircraft used for learning, and faculty offices.

opportunity to fully understand each and every system and subsystem on all types of aircraft — from legacy planes to today's highly sophisticated aircraft.

"In avionics, training is no longer a nice thing to have, it is a requirement if you're going to be successful," McDaniel said. "The OEMs, as well as the fixed-base operations, are looking for more of a well-rounded avionics technician and not just an installer or someone who can trouble-shoot, as in the past.

"Businesses see it as a way to keep their costs down. They can pay more money upfront for technicians who can fill a whole gambit of roles versus just having expertise in a certain area," he said. "They're looking for that one person who can do it all."

Jason Davis, avionics instructor at WATC, agreed.

"The avionics and aircraft companies were instrumental in getting this school started. They're the ones who were calling for an avionics school here so they could hire technicians who know how to troubleshoot the avionics systems on an aircraft," Davis said.

"There's a big difference between being able to troubleshoot a piece of equipment in a lab and being able to go out and troubleshoot the entire system on an aircraft," he said. "Everything in the cockpit is integrated now. There's not just one unit or one system to work on anymore. Everything is integrated into one

larger system, so you have to know how all those systems work together. You have to know how to troubleshoot all of them and repair all of them."

WATC's avionics program offers two options: a technical certificate and an associate's degree in applied science. In addition, the school is

Continued on following page



Students practice soldering circuit boards as part of their avionics technical training at Wichita Area Technical College in Kansas.

#### WICHITA AREA TECHNICAL COLLEGE

Continued from page 33

working toward offering avionicsand electronics-related certifications, such as Electronics Technicians Association certifications, Federal Communications Commission licensing, and the National Center for Aerospace & Transportation Technologies certification, with exams offered in-house.

"In addition to the AEA, we're working with the Electronics
Technicians Association. In the past, the ETA has not given a lot of time to the avionics world; however, they

have jumped onboard a few years back, and now they're starting to offer certain tests and certification levels for avionics techs," McDaniel said.

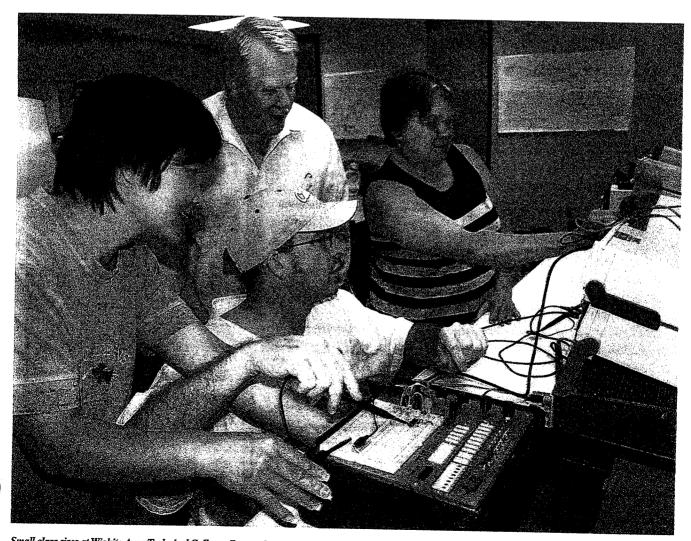
"We want students to be able to leave not just with a certificate and/ or a degree, but also with hands-on experience and NCATT certification and ETA certifications that support their knowledge," he said.

The school also is considering the option of offering an Aircraft Maintenance Technician program that rolls the avionics and A&P (aircraft and powerplant) courses together and creates a combined program for an associate's degree. Students would graduate with both their A&P and avionics technician licenses as well as with the various other certifications.

#### Experienced Instructors, Small Class Sizes

Since 1964, WATC primarily has been a technical college — a votech-style school where students learn air conditioning and machining skills.

During the past couple of years, the college has expanded into general education and academic fields, evolving into a two-year college,



Small class sizes at Wichita Area Technical College allow students to enjoy hands-on training as seen here in the avionics testing lab.

which feeds into larger, four-year institutions.

WATC has added some 15 new programs, including the new avionics program, this past year, doubling WATC's student enrollment. Academic options include business, manufacturing and general education as well as a large medical program. In the aviation field, WATC also offers a Part 147 A&P maintenance program as well as training in sheet metal, composites, aircraft cabinetry and interior modifications.

For the avionics program, WATC has chosen highly skilled instructors, many of whom are actively involved in aviation outside of academia.

"We have people who work on an aircraft all day long in an avionics

field — be it on the engineering side or in installation or as experimental users. They teach at night, bringing that experience with them. It's a tremendous asset for this school versus many other schools," said McDaniel, who has 25 years of experience in the industry.

The school's aviation class sizes are about 10 to 12 students, which allows more one-on-one teaching.

"The great thing about WATC is we're right here in your own area. Wichita is the hub of civil aircraft production," Davis said. "There are jobs here when you finish your training. It's a quality education at a fair price. Plus, students can get full financial aid here just like at a four-year college."

#### A New Campus at Jabara Airport

Wichita's vision of a comprehensive avionics program will be fully realized next year when Sedgwick County's National Center for Aviation Training at Jabara Airport opens its doors. The first phase, which features an administration building, was scheduled for completion this summer. The second phase should be finished and ready for students by fall 2010.

Managed by WATC, the \$54-million, state-of-the-art facility will house training for the A&P and avionics programs as well as some manufacturing programs. Approximately 222,000 square feet

Continued on following page





Students perform an air-data test on a Cessial 172 in detect leaks in the aircraft's pitol/stage-system. The system, which consists of a pitol tube, static port and related instruments, helps determine the aircraft's ourspeed and altitude.

#### WICHITA AREA TECHNICAL COLLEGE

nued from page 3

will be dedicated to classrooms, labs and hadrears, which will contain new continuent, new trainers and newer afferaft.

The new Jabara campus will feel more like a business center than an educational institution. Workers for the county's five aircraft manufacturers and hundreds of businesses that amountable movil receive training at the new campus.

WATC has made a tremendous financial investment in the tabs test equipment." McDaniel said, new "Surgents will be operating the latest test equipment on the market as well as some of the older legacy equipment that they'll still need to know how to use depending on where they 80 may a five aircraft manufacturers and hundreds of businesses

In addition to ployiding guidance and leadership, major tyration companies have stepped in to lead financial support. Garmin end Rock ell. Collins each donated \$150,000. Cessna donated a cockpit valued at \$75,000. Contributions — from money and test equipment to general aviation aircraft — have poured in from local businesses and the general public.

#### An Investment in the Future 🛸

The companies view the new training center as an investment in their businesses, the Kansas comemy and in aviation. With cutting edge systems chilly equipped labs and the ability to provide hands on experience. WATC and the National Center for Aviation Training will educate a new generation of technicinas.

#### An investment in the Enture

The companies view the new train-

"We really can't stress enough to students that they need to look over the temp small, not the short run when it semestre etting an education. Davis said "We re not teaching stredents to go out into the manufacturing section; we're teaching students avionics and aviation maintenance. As long as there are planes in the air, aviation maintenance is going be in high demand.

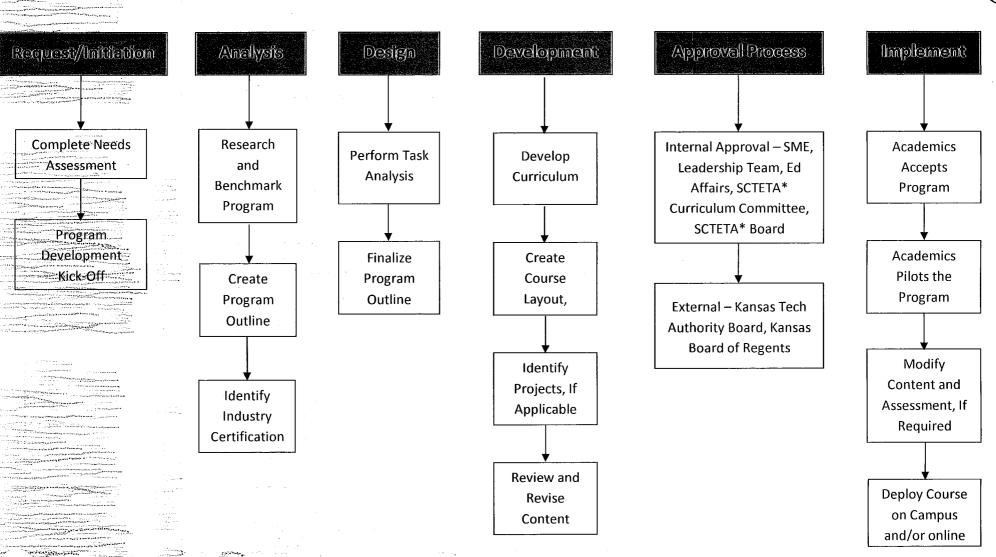
"We're lucky to have a lot of major aircraft players in the aircraft industry helping to get this school started. With people from the aircraft companies on our board, we're able to get direct feedback. We know what they want in a technician," he said. "Avionics tends to evolve really quickly. This is an ever changing process and we're more in tune with what the aircraft industry actually wants."

"We're lucky to have a lot of major aircraft players in the Depth industry helping to get this school."

# Curriculum Development Approach

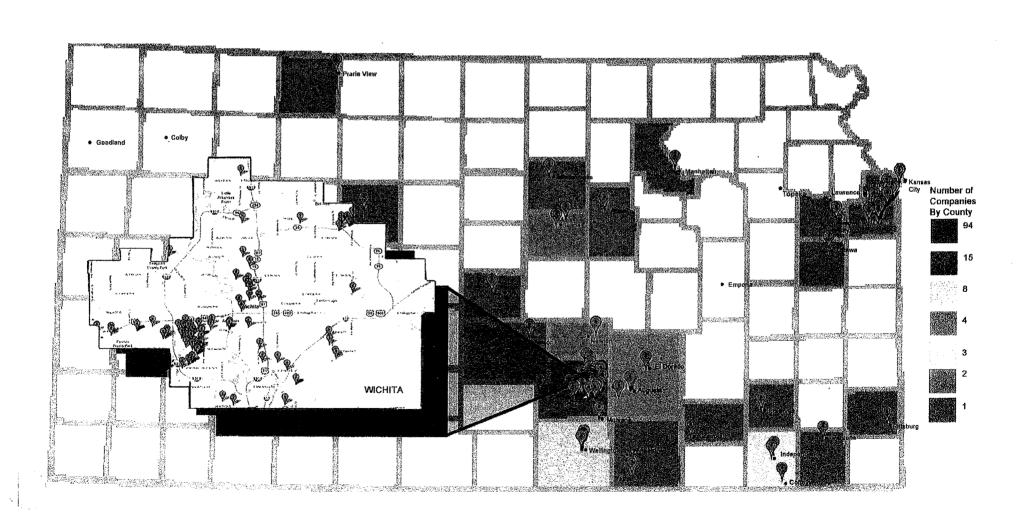
College Credit Programs







# **Kansas Aviation Companies By County**





#### WATC New Program Needs Assessment Fall 2007

As Wichita Area Technical College (WATC) begins to develop programs focused on responding to the needs of local industry, as well as the creation of the new Center for Aviation Training, we are seeking to expand our offerings in both the aerospace and composite related fields. These new programs would provide students multiple occupational/educational choices that would lead to employment in local industry. In order to determine the feasibility of such programs, we need your help. Each of the areas below are specific educational tracts that WATC is considering implementing over the next few years. Please respond to each of the following questions by filling in the bubbles or writing in your answers where indicated. Once you have completed the survey, please return it in the post-paid envelope provided. If you prefer to complete the survey online please email Scott Lucas, Director, Institutional Effectiveness, and he will send you a link to an online version of the survey---slucas@watc.edu Your assistance is greatly appreciated.

Please indicate the organ	ization you represent		
1. Please mark all areas of focus	that apply to your organization	:	
2. Please indicate how many indi Please also indicate the numbe	ation mology Cechnology (A&P) mology Specialist rol Specific Safety Specialist	ment) vou anticipate	at each area during
ene nost two years. I marry, pr	Currently Employed	Anticipated Openings	Initial Salary
Avionics Maintenance			
Composite Material Repair			
Aviation Interior Installers			
Advanced Coating Techs			
Aviation Maintenance Techs		···	
Aircraft Structural Techs			
Tool Design Specialists			
Aerospace Quality Control			
Manufacturing/Industry Safety			
	(OVER)		8-36

3.	the	are interested in determining what the potential job market would be like for program graduates. Based of above occupational areas, would you be willing to hire individuals who gained their training through TC?	
	0	Yes No	F
	_	f you indicated yes, please mark the areas below in which you would hire WATC graduates:	
	1.		
		O Avionics Maintenance O Composite Material Repair	
		O Aviation Interior Installation	
		O Advanced Coating Technology	
		O Aviation Maintenance Technology (A&P)	
		O Aircraft Structural Technology	
		<ul><li>Aerospace Tool Design Specialist</li><li>Aerospace Quality Control</li></ul>	
		<ul><li>Aerospace Quality Control</li><li>Manufacturing/Industry Specific Safety Specialist</li></ul>	
4.	Wo	ould you be willing to send your current employees to WATC for training?	
••	0	Yes	
	Ŏ	No	
	]	If you indicated yes, please mark the areas below in which you would send your employees for training:	
		O Avionics Maintenance	
		O Composite Material Repair	_
		O Aviation Interior Installation	6
		O Advanced Coating Technology	
		<ul><li>Aviation Maintenance Technology (A&amp;P)</li><li>Aircraft Structural Technology</li></ul>	
		<ul><li>Aircraft Structural Technology</li><li>Aerospace Tool Design Specialist</li></ul>	
		Aerospace Quality Control	
		Manufacturing/Industry Specific Safety Specialist	
5	. W	ould you or someone in your organization be interested in serving as a member of the advisory committee for ny of the listed programs at WATC?	
	0	Yes	
	0	No	
	-	yes, please provide the following contact information:	
		ame	
	O	organization	
	P	hone Number Email	
		rogram	
]	Pleas spac	se feel free to provide any additional occupational areas, comments or suggestions you may have in the e below that will assist us in developing future programs at WATC. Thank you for your assistance.	

8-37



#### Composites Benchmarking

Institution Name	Website Address	Program Name	General Description	Length of Program	Number of Credits	Technical (hands on) Credits in first two years	Technical Credits in the last 2 yrs	Course Sequence	Course Descriptions	Program Costs	Equipment	Industry Certification	Existing Online Courses/Programs
Butler Community College	http://www.butlercc.edu/	Integrated Technology	This program combines industrial maintenance, quality, manufacturing , design with a focus on composites	2	65	25	25	http://www.butlercc.edu/outl ine/bit/Integrated Technolog y/index.cfm		http://www.butlercc.edu/ad missions/cost_info.cfm		SME	http://webcourses.butlercc.ed u/frames.aspx
Cowley County	http://www.cowley.edu/	·	Cowley does have an NOI program which is used to test/composite materials							http://www.cowley.edu/depa rtments/it/ndt/costs.html	1		
College	http://cms.hutchcc.edu/hcc/index.a spx	N/A											
Flinthills Technical College	http://www.fhtc.edu/	N/A											
Salina Technical College	http://www.salinatech.com/	N/A											
Pratt Community College	http://www.pcc.cc.ks.us/	N/A											
St Could State University	http://www.stcloudstate.edu/defau lt.asp	Mechanical and Manufacturing Engineering	This program provides one course in which composites is discussed	4	4				http://bulletin.stcloudstate. edu/courses.asp?deptCode emme.	http://www.stcloudstate.edu /billing/tuition/			http://www.stcloudstate.edu/s ummer/pdf/2008/08onlineprog rams.pdf
Everett Community College	http://www.evereticc.edu/	Advanced Manufacturing Technology: Composites	This program is made up of 33 credits in composites (4 courses) - these courses are actually taught by Edmonds community college /26 credits from a technical core (engineering and manufacturing courses) general education (35 credits) and capstone course - project based 8 credits	2	92			http://www.everettcc.edu/up loadedFiles/Majors and Prog rams/AdvManfTech Composi tes.pdf	http://www.edcc.edu/cours es/default.php?d=56	http://www.everettcc.edu/er rollment/tuition/index.cfm?id			http://www.everettcc.edu/elea mins/.
		Composites Certificate	This program has 4 composites courses and 1 engineering course - material science		33		-	http://www.everettcc.edu/up loadedFiles/Majors and Prog rams/AdvManfTech Composi tes.pdf	http://www.edcc.edu/cours es/default.php?d=56	http://www.everettcc.edu/e rollment/tuition/index.cfm?i =3514	n d		
St Louis Community College	http://www.stcloudstate.edu/acade mics/majors/	N/A	There is a course in Mechanical and Manufacturing Eng which includes Composites				j		http://bulletin.stcloudstate. edu/courses.asp?deptCode =mme				
Olin College	http://www.olin.edu/	Engineering	Composite materials are studied in materials courses for engineering										
		Graduate Certificate in Composites	This certificate is designed to provide working engineers with composites education - some courses are hand-ons		24	9		http://webs.wichita.edu/?u=6 ngineering&p=/composites/co rtificate	<u>.</u>				
WSU	http://www.wichita.edu/thisis/	Manufacturing Engineering	Requires one course in composites * web site does not agree with printed catalog on this requirement					http://webs.wichita.edu/?u= mfge&p=/Admission/BSMFgE Degree/					

#### Composite Benchmarking Course Comparison Chart

	WATC		Community college course	The state of the s		inity College WSU		University Of Washington - w Boeing LTD - Seattle	vith	FlightSafety International	Abaris:		
	Composite Fabrication and Con Repair	posite	Advanced Manufacturing Technology - Composites	AAS	Composite Engineering Technology	AAS	Composite Certificate	MA	Program Name	ВА	N/A N/A	N/A N/A	
Course Areas	Course Name	- 11	Course name	Courses #	Course name	Courses #	Course Name	Ħ	Course Name	#	Course Name III	Course Name II	
			Introduction to Materials Science	МЕТСН 175	Intraduction to Composites	135							
Composite Materials (overview)	Introduction to Composites	CFT 101	Critical Composite Maintenance and Repair - On line							Aircraft Composite materials		Principles of Advance Composite Structures Repair	Fabrication and Damage Repair Phase I
			Applied Materials Strength	MTECH 220									
General Aircraft	Aircraft Familiarization  Aircraft Systems and Components	AVC 105	N/A		N/A		N/A		N/A		N/A	N/A	
	All care systems and components	AVELOG					Mechanics of Laminated	AE 753					
Laminates	Introduction to Composites	CFT 101	N/A		N/A		Composites Advanced mechanics of laminated Composites	AE853	N/A		N/A	Fabrication and Damage Repair Phase I	
Polymeric Composites			Polymer Technology	MTECh 180			Polymeric Composite Material	ME 762	N/A		N/A	N/A	
	Disassemble Damage and Removal Techniques	CFT 141	Critical Composite Maintenance and Repair - On line		Composite Structure Repair	235			Aircraft Composite Repair		Comprehensive Composite Structures Repair	Repaired Analysis and Substantiation	
	Composite Repair	CFT 142	Critical Composite Maintenance and Repair - Laboratory - In development				Mechanics of Laminated	AE 753	Aircraft Composite Structures: Analysis and Design Section 12- Repair Design		Advanced Composites Metal Bonding	Basics of Composite Repair On line	
Repair	Complex Composite Repair	CFT 143		<b>1</b>			Composites		Mechanics and Materials section 16 is on Repair		Composite Blade Repair	Fabrication and Damage Repair Phase I	
	Electrical Bonding Repair	CFT 144								Aircraft Composite Manufacturing Section 7 is on repair			Composite Structures Damage Repair Phase 2
		<u></u>										Damage Repair - Phase 3	
Composite Overview	Introduction to Composites	CFT 101	Introduction to Composites and Materials	МТЕСН 159	Introduction to Composites	135	Composite Manufacturing	IME 576	Mechanics and Materials				
	Composite Fabrication	CFT 130	Fiber Reinforced Composites: Manufacturing	MTECH 169	Machining Process I and II	101 102	Machining of Composites	IME 778	Aircraft Composite Manufacturin	ua.	N/A	N/A	
Manufacturing Processes	Fundamentals of Aerospace Manufacturing	AVC 107	Composites Manufacturing	МТЕСН 260	Beginning Concepts of CNC and Advanced Automated	IT 120 and IT 220	Machining of composites	IIVIE 776	Ancian composite mandactum	5	1,7,8	.,,	
Manufacturing Processes				•	Manufacturing Processes	204			N/A		N/A	N/A	
					Manufacturing Science	277	N/A		NA		11/8	9/6	
Fluid Power	N/A		N/A		Introduction to Fluid Power	117	. N/A		N/A		N/A	N/A	
Composite	Composite Assembly	CFT 107			Composite Manufacturing						Advanced Composite Tooling and Rapid		
Composite Tooling/instrumentation	Geometric Dimension and Tolerancing	AVC 103	Composites Manufacturing - includes tooling	MTECH 260	Composite Manufacturing Practices	135	N/A		Aircraft Composite Tooling		Prototyping	N/A	
	Precision Instruments	AVC 102				ļ							
					Basic and Advanced Master Cam	217, 225			Aircraft Composite Structures Design Case Studies Aircraft Composite Structures:		-	Composite Structures Damage Repair Phase 2	
Design	Aerospace Blue Print Readii	ng	Composites Engineering Design	MTECH 250	Basic and Advanced CATIA  Basic and Advance Feature	218 -219	N/A		Analysis and Design		N/A		
					Cam  Manufacturing Part Design	216 221 230			N/A			N/A	

# Curriculum Development Hours for NCAT July 2008 - August 2009

Programs	Clock Hours
Advanced Aerostructures	120
Advanced Industrial Systems	330
Aeronautical Engineering *	600
Aerospace Coatings and Paint Technology	360
Aerospace Fiber Optics & Data Cable Installation*	480
Aerospace Quality Control	300
Applied Science of Aviation Interiors	555
CATIADesign	270
CATIAMachining	270
Composite Fabrication Technician	15
Composite Technician (Includes new courses in Composite Repair)	600
Data Cable Installation	255
Industrial Systems	1155
Manufacturing Engineering	60
Mechanical Engineering Design	255
Mechanical Systems	1050
Nondestructive Testing (COC)	525
Nondestructive Testing (TC and AAS)	165
Robotics*	465
Total Clock Hours	7830

<sup>\*</sup> indicates coursework still in review - number may change

# Sedgwick County Technical Education and Training Authority Program Development Chart 2009-2010

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95.72(5)

	Implemented Programs Aviation				
	Advanced Aerostructures	coc			
	Aerostructures Technician	coc			
ř	Applied Science of Aviation Manufacturing	TC/AAS			
ì	Aviation Maintenance Technology (AMT)	AAS			
è	AMT - Airframe	TC			
	AMT - Powerplant	TC			
	Aviation Cabinetmaker	TC			
q	Aviation Cabinetry	COC			
	Avionics Technology	TC/AAS			
Ė	Composites Fabrication	coc			
ì	Composite Repair	coc			
	Data Cable Installation	coc			
	Introduction to Nondestructive Testing	COC			
	Manufacturing				
Ť	Architectural Design Technology	TC/AAS			
À	CNC Lathe Machining	COC			
	CNC Mill Machining	COC			
	Engineering Design Technology	AAS			
	Mechanical Engineering Design	TC			
Ž.	Gas Metal Arc Welding	COC			
į.	Gas Tungsten Arc Welding	coc			
¥	Machining Technology	TC			
	Manual Lathe Machining	coc			
Ž	Manual Mill Machining	coc			
推	Mechanical Design Technology	TC/AAS			
	Shielded Metal Arc Welding	coc			
į,	Welding	TC			
d	Manufacturing Skills Certification	coc			
	AutoCAD	coc			
Ĭ.	Chief Architect	coc			
Š	Business	9			
ij	Six Sigma	COC			
Š	Industry Certification Preparatio	n			
1	Production & Inventory Management	COC			
	Project Management	coc			
ũ	SHRM Preparatory Course	Course			

Approved by SCTETA Board & KBOR Ready to Implement							
		Target Implementation Date	Watch item for Funding				
Mechanical Systems Technology	AAS	January 2010					
Mechanical Systems Technology	TC	January 2010					
Manufacturing Engineering Technology	AAS	January 2010					
Manufacturing Engineering Technician	TC	January 2010					
Industrial Engineering Technician	TC	January 2010					
Quality Engineering Technician	TC	January 2010					
Advanced Nondestructive Testing	coc	January 2010					
Aerospace Quality Control	TC	January 2010					
Aerospace Coatings & Paint Technology	TC/AAS	August 2010	J				
Industrial Systems Technology	AAS	August 2010	J				
Industrial Systems Technology	TC	August 2010	1				
Programmable Logic Controls	coc	January 2011					
Industrial Motor Controls	coc	January 2011					
Industrial Precision Alignment	coc	January 2011					
Advanced Industrial Systems	coc	January 2011					

Programs in Development 2009-2010					
		Pending KBOR Approval	Send to KBOR		
Nondestructive Testing (NIAR)	TC/AAS	J	August		
Composite Technology	TC		September		
Aviation Interior Installation	TC/AAS		October		
Aerospace Fiber Optics & Data Cable Installation	TC/AAS		October		
Robotics	TC/AAS		November		
Aeronautical Engineering Technology	AAS		November		
Airframe Systems Technician	TC		November		
Electrical Systems Technician	TC		November		

Associate of Applied Science Degree AAS
Technical Certificate TC
Certificate of Completion COC

### **AVIATON CORE**

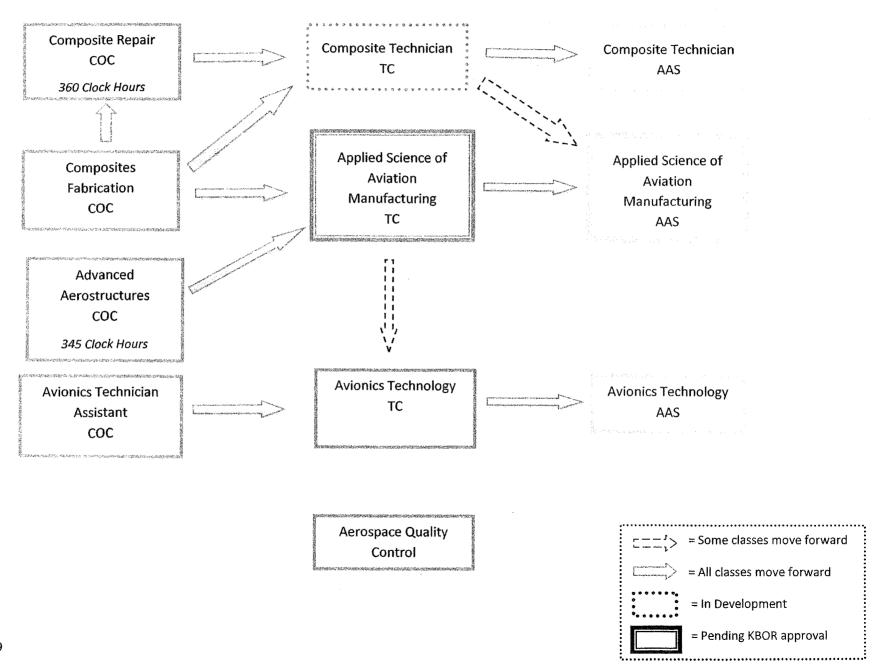
Cou	ırse		Clock Hours	<b>Credit Hours</b>
AVC	100	Aerospace Safety	15	1
AVC	101	Applied Shop Math	. 30	2
AVC	102	Precision Instruments	15	1
AVC	103	Geometric Dimensioning and Tolerancing	15	1
AVC	104	Quality Control Concepts	15	1
AVC	105	Aircraft Familiarization	15	1
AVC	106	Aerospace Blueprint Reading	30	2
AVC	107	Fundamentals for Aerospace Manufacturing	15	1
AVC	108	Aircraft Systems and Components	60	4
EMP	100	Global Professional Standards	30	2
CED	101	Computer Essentials	30	2

Total Credit Hours Required: 18

Total Clock Hours: 270

# 8-43

### NCAT Composite/Aerostructures Academic Plan



# NCAT Aeronautical Engineering Academic Plan

Pre Aeronautical Engineering I
COC

255 Clock Hours

Pre Aeronautical Engineering II
COC

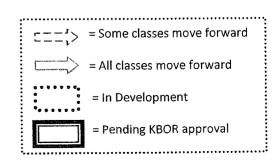
Pre Aeronautical Engineering II
COC

240 Clock Hours

Airframe Systems Technician
TC

Aeronautical Engineering
Technology
AAS

Electrical Systems Technician
TC



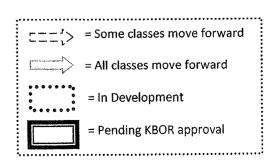
# NCAT Aerospace Coatings & Paint Technology Academic Plan

8-45

Aerospace Coatings & Paint Technology

TC

Aerospace Coatings & Paint Technology AAS



### NCAT Aerospace Fiber Optics Academic Plan

943

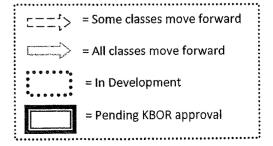
Data Cable Installation COC

300 Clock Hours

Aerospace Fiber Optics & Data Cable Installation TC

Aerospace Fiber Optics & Data Cable Installation AAS

``Z



# NCAT Aviation Maintenance Academic Plan

Aviation Maintenance
Technology – General

420 Clock Hours

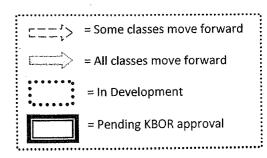
Aviation Maintenance
Technology – Powerplant
TC

840 Clock Hours

Aviation Maintenance Technology - Airframe TC

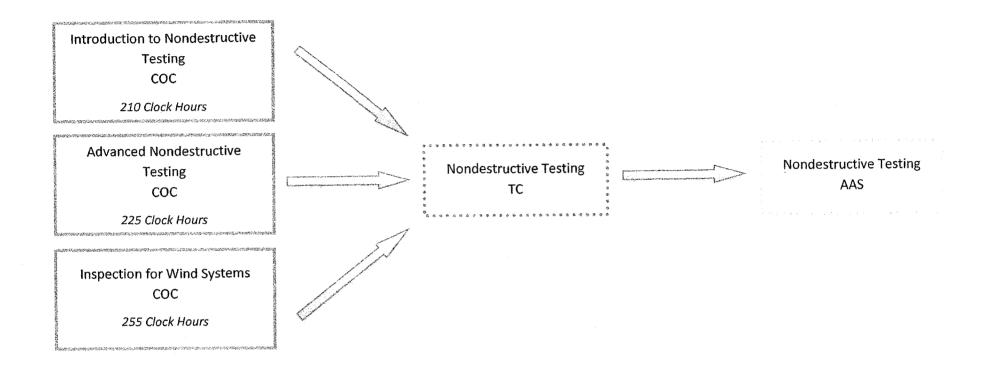
840 Clock Hours

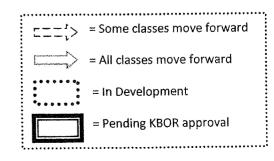
Aviation Maintenance Technology AAS



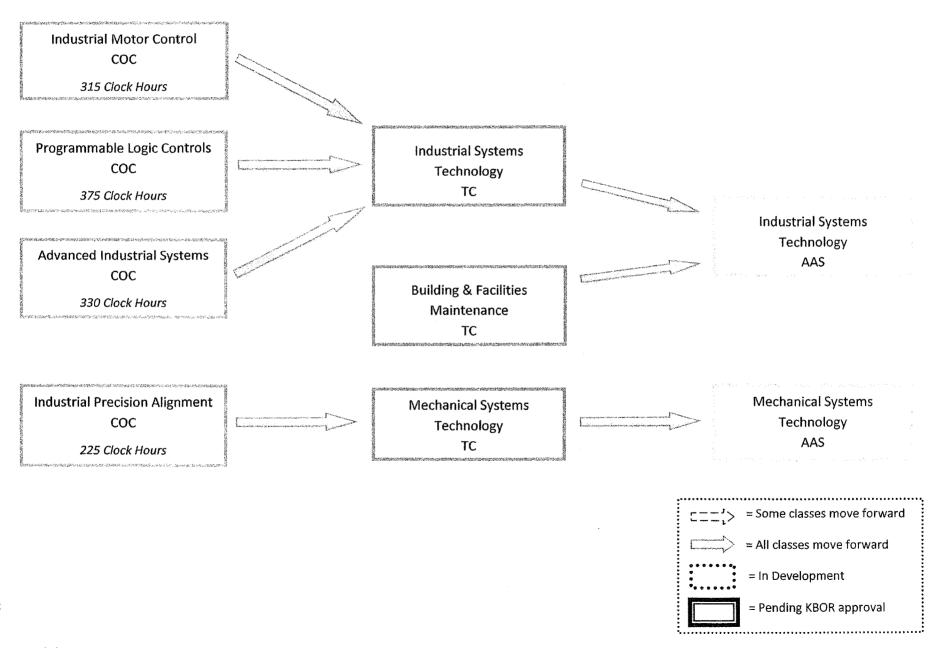
# 84.8

# NCAT Nondestructive Testing Academic Plan

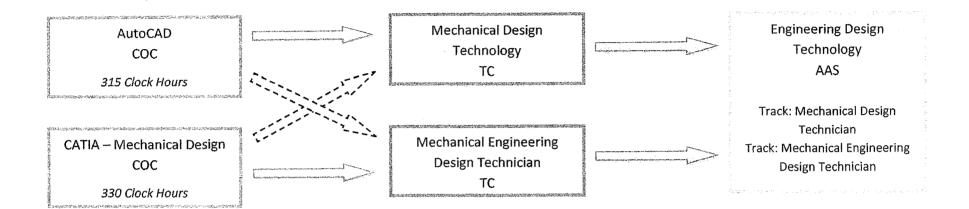


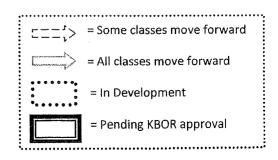


# NCAT Industrial Systems and Mechanical Systems Technology Academic Plan



# NCAT Engineering Design Technology Academic Plan





# Architectural Design Technology Academic Plan



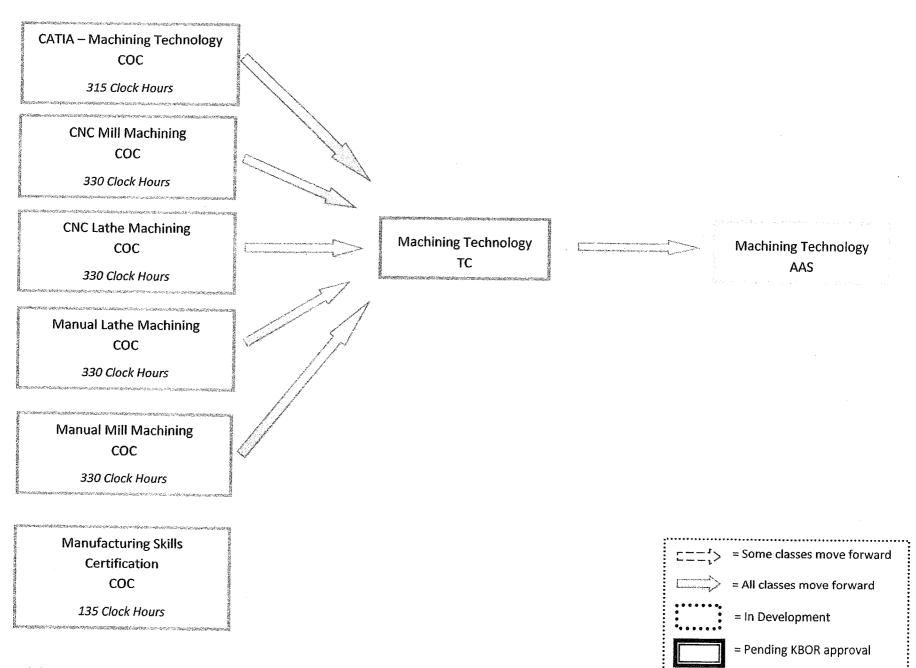
Chief Architect COC

255 Clock Hours

Architectural Design Technology TC Architectural Design Technology AAS

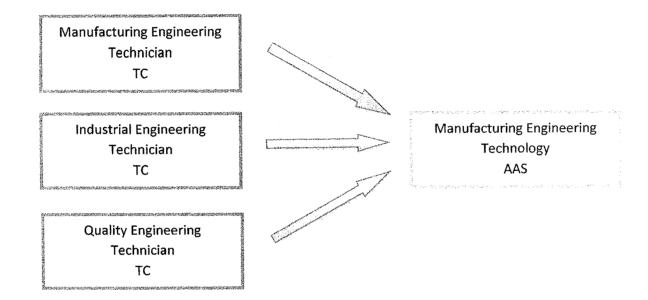
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
===;>	= Some classes move forward
	= All classes move forward
******	= In Development
	= Pending KBOR approval

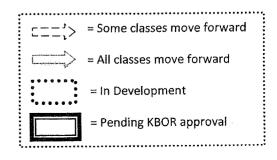
# NCAT Machining Technology Academic Plan



# 8-53

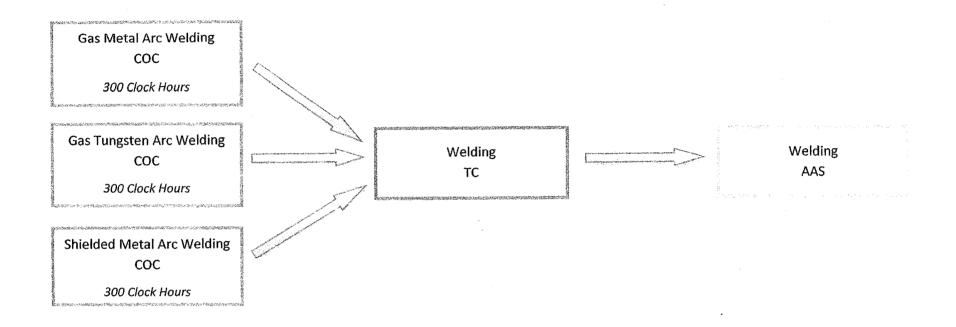
# NCAT Manufacturing Engineering Technology Academic Plan

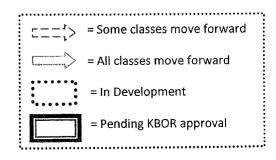




# F-54

# NCAT Welding Academic Plan





# **Global Professional Standards**

Productivity

Communication

Cooperation

Resoect

Attendance

Team Work

Appearance

Additions

# **Grading Scale**

3 = Exceeds Expectations

2 = Meets Expectations

1 = Needs Improvement

0 = Unacceptable

# **Student Global Professional Standards**

The mission of Wichita Area Technical College is to provide the necessary skills for you to be successful employees in your chosen career. To be successful in that career you must possess both strong occupational skills and good work habits. We are committed to incorporating these good work habits into every facet of your education. The following are ten areas of work ethic traits and performance standards you will be presented and expected to exhibit in classrooms and laboratories:

#### **Attendance**

Attend 95% or more of the required class time

Be tardy for class no more than six times during the semester

Be prepared for class by reading assignments and completing homework

Participate in activities by contributing to class discussion, completing assignments, and being involved in lab activities

Begin and end work as expected

Use work time appropriately

Notify instructor before planned absences or tardiness

### Character

Display a high level of effort and commitment to performing and completing work

Be honest in all situations

Demonstrate trustworthiness and responsible behavior

#### **Teamwork**

Encourage and facilitate cooperation, pride, trust and group identity

Foster commitment and team spirit

Facilitate cooperation

## **Appearance**

Present a neat, clean appearance

Practice personal hygiene

Wear clothing suitable to the job, task and environment

#### Attitude

Display a willingness to cooperate and accept constructive criticism Set realistic expectations

8-56

## **Productivity**

Observe established policies on safety

Notify proper authorities of circumstances or situations presenting potential safety hazards

Maintain equipment and supplies

Do not use or knowingly permit others to use tools and equipment improperly

Make up missed assignments in a timely manner

Sty on task and utilize time constructively

## **Organizational Skills**

Prioritize and manage time effectively

Demonstrate flexibility in adapting to changes

#### Communication

Communicate accurate information to others in a professional and courteous manner Demonstrate appropriate nonverbal communication skills Listen attentively to others

## Cooperation

Convey a willingness to assist others

Work to resolve conflicts and to identify solutions in which all parties benefit

Demonstrate concern for treating people fairly and equitably

Follow the chain of command in resolving conflicts

## Respect

Treat instructors, staff and fellow students with respect, courtesy, and tact Do not engage in harassment of any kind

8-57

#### GLOBAL PROFESSIONAL STANDARDS EVALUATION FORM

STUDENT NAME	ID#	_cou	RSE #	<u> </u>		SEC	CTION	#		
INSTRUCTOR	COURSE	TITLE	)					an Malanda an		
			M	id-Te	rm			End o	f Term	ì
Grading Scale										
3 – 24-30 Exceeds Expectations 2 – 20-23 Meets Expectations		Exceeds Expectations	Meets Expectations	yemen	Unacceptable		Exceeds Expectations	ations	Needs Improvement	Unacceptable
1-17-19 Needs Improvement 0- 0-16 Unacceptable		Exceeds Expecta	Meets	Needs Improvement	Unace		Exceeds	Meets Exnectations	Needs Improv	Unace
Global Professional Standard	8			Score			3	Point	Score	,··
		3	2	1	0	_	3	2	1	0
Attendance: Attends class; arrives/leaves on time; notifies instruct absences.	-		2					2		
Character: Displays loyalty, honesty, trustworthiness, dependabili discipline, and self-responsibility.			2					2		
Teamwork: Respects the rights of other; respects confidentiality; is cooperative; is assertive; displays a customer service attitude; seeks learning; demonstrates mannerly behavior.	opportunities for continuous		2					2		
Appearance: Displays appropriate dress, grooming, hygiene, and e			2					2		
Attitude: Demonstrates a positive attitude; appears self-confident; self.	has realistic expectations of		2					2		
Productivity: Follows safety practices; conserves materials; keeps follows directions and procedures; makes up assignments punctuall			2					2		
Organizational Skills: Manifests skill in prioritizing and manager demonstrates flexibility in handling change.	ent of time and stress;		2					2		
Communication: Displays appropriate nonverbal (eye contact, bod listening, telephone etiquette, grammar) skills.	ly language) and oral		2					2		
ooperation: Displays leadership skills; appropriately handles crit complaints; demonstrates problem-solving capability; maintains apsupervisors and peers; follow chain of command.	icism, conflicts, and propriate relationships with		2					2		
Respect: Deals appropriately with cultural/racial diversity; does no any kind.	t engage in harassment of		2					2		
SUBTOTAL		0	20	0	0		0	20	0	0
	MID-7				,		INAL			I
TOTAL SCORE	2 (Meets l	Expect	ations)	2	0   2 (	Mee	ts Exp	ectatio	ns)	20
	MID-TERM G	RADE	C:			<b>I</b> FI	INAL (	GRAD	E:	
STUDENT'S GRADE	The second secon									
DI DIDITI O GRADA	L				1				<del>^</del>	L

		·····	
77 1 42			C
Explanation	of Global Prof	essional Standard	Grades
	<u> </u>	TOUR PRINT O THERETOR O	

Exceeds Expectations: Global professional standards performance is exemplary. Student has consistently demonstrated

characteristics that will stand out in the work environment.

Meets Expectations: All global professional standards are met. The quality of student's global professional standards performance

is that of a good employee in the normal work environment.

Needs Improvement: Some standards were not met. Additional training in employability skills is recommended.

Inacceptable: Global professional standards performance was below average. Additional training in employability skills is

a must if the student is to survive in the work environment.

G TR

# GLOBAL PROFESSIONAL STANDARDS **Exception Form**

Tame:

Course:

Date:

POINTS ADDED OR DELETED PER TRAIT:

Exceeds Expectations (+1)

Need Improvement (-1)

Unacceptable (-2)

Attendance

Character

Skills

**Teamwork** 

**Appearance** 

Attitude

**Productivity** 

Organizational

Communication

Cooperation

Respect

PROBLEM OR COMMENDATION:

STUDENT RESPONSE:

IMPROVEMENT PLAN:

Date of Review Session:

(Review may be scheduled for mid-term, or at any other designated time.)

Instructor

Student

**OUTCOME OF REVIEW SESSION:** 

Points to be added or deleted, if any, from the Global Professional Standards Evaluation Form:

Exceeds Expectations (+1)

Need Improvement (-1)

Unacceptable (-2)

Attendance

Character

**Teamwork** 

Appearance

Attitude

Productivity

Organizational

Communication

Cooperation

Respect

Skills

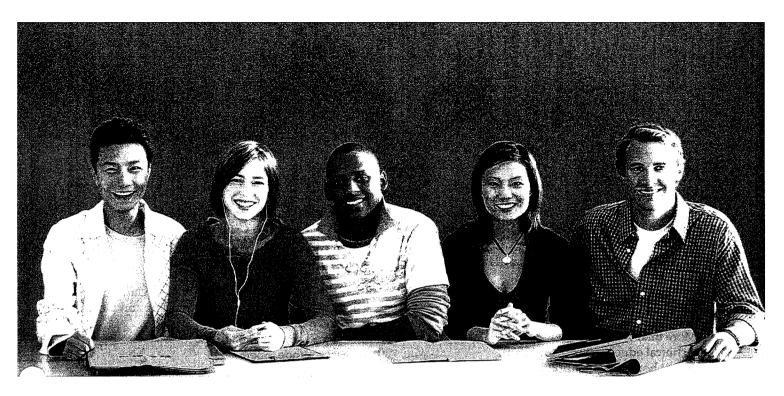
Student

Instructor

Implementation date 8/10/09/









Mission Statement

The mission of Wiehita Area Technical College is to provide relevant, technical education and training that meets the needs of learners, the community, and industry while instilling a positive work ethic and desire for lifetong learning.



#### Overview

Wichita Area Technical College (WATC) serves a large urban area with a population of 592,126. This area consists of four counties, Butler, Harvey, Sedgwick, and Sumner, which make up the Wichita Metropolitan Service Area. The primary recruiting area encompasses all of the city of Wichita plus many outlying communities. While WATC is not restricted to a specific recruiting area, its primary region includes Sedgwick County, where WATC is located, and the six surrounding counties of Butler, Cowley, Harper, Harvey, Kingman, and Sumner. WATC has provided quality, hands-on technical education to more than 200,000 students for more than 44 years.

In academic year 2007–2008, WATC served approximately 3,309 credit students:

- More than 90 percent were in career and technical education courses (CTE).
- Credit hours totaled approximately 26,000, with an estimated 24,500 in credit CTE.
- Of the 700 credit course sections, approximately 680 were credit CTE courses.



#### Governance

The Sedgwick County Technical Education and Training Authority is the governing board for WATC. This 11-member board consists of executives who represent the aircraft industry, financial services, health care, skilled trades, and city and county entities.

#### **Board Members**

- Jim Walters (Chair), Cessna Aircraft Company
- Jeff Turner (Vice Chair), Spirit Aerosystems
- Dan Dymarkowski (Treasurer)
- John Dieker, Bombardier Learjet
- Sharon Fearey,
   Former Councilwoman, City of Wichita
- Ray Frederick, Frederick Plumbing and Heating, Inc.
- Cindy Hoover, Spirit Aerosystems
- Kim Shank, Wichita Clinic
- Scott Strode, Boeing IDS
- David Unruh,
   Sedgwick County Board of County Commissioners
- Lyndon Wells, Intrust Bank

#### **Outcomes-Based Learning**

WATC's outcomes-based learning is designed to support its mission by providing multiple avenues for learners to achieve their desired goals. Credit courses are offered and sequenced to result in associate of applied science (AAS) degrees, technical certificates, and certificates of completion in a career-technical education field, and, where appropriate, baccalaureate transfer education. Students can pursue a wide range of educational goals through programs of study: 21 AAS degrees, 27 technical certificates, and 39 certificates of completion.

### **Customized Training**

Workforce education and training needs are addressed through customized training courses, skills update and certification endorsement courses, and apprenticeship partnerships.















#### Constituents and Business Partnerships

- wATC's constituent groups include current and potential students, instructors, staff, administrators, business and industry partners, governing board members, program advisory committees, and the public at large. WATC actively seeks and maintains collaborative partnerships to participate in a variety of ways. Feedback from the community is solicited to ensure that programs are developed in alignment with community needs and priorities. Constituents represent many different cultures, economic classes, countries, and religions.
- Twenty program advisory committees engage approximately 250 representatives from industry, business, and professional fields. These members are recognized and respected in their fields, and WATC seeks their input on current and future industry needs and requirements, strategic planning initiatives, curriculum development, and program competencies. Input from these committees is very important to the college, as it ensures that the education and training students receive is relevant to their chosen fields of study.
- WATC has traditional classrooms, but alternative delivery methods, such as online courses, hybrid courses, internships, and extended-campus courses have been implemented to give students additional learning opportunities. While participating in program-specific internships, externships, clinical or laboratory experiences, students gain a real-world perspective of job duties and explore alternative practices through observation and practical application.
- Instructor contacts with area business and industry allow for efficient upgrading and revising program objectives and competencies.
- Ongoing program assessment: Processes have been implemented to assess learning across various levels to document student learning, improve academic offerings, promote program quality and increase the value of education.

• Many programs are accredited by professional groups or accrediting bodies. State, regional, and national accreditations are based on standards established by business and industry. Guidance and guidelines for curriculum development are provided by the WATC Board and the Kansas Board of Regents. Many other groups, including national accrediting agencies, program advisory committees, and other educational institutions, also provide input into the development and approval stages for proposed curriculum.

Wichita Area Technical College is fully accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools.

# Business and Industry Partnerships and Affiliations

- Accrediting agencies and affiliations for most programs
- The Boeing Company
- Bombardier Aerospace/Learjet
- Cessna Aircraft Company
- Clinical affiliations for Health Sciences programs
- Garmin International
- Haas Automation, Inc.
- Hawker Beechcraft
- Kansas Cooling Contractors Association
- Rockwell Collins
- Spirit AeroSystems





#### **Work Ethics Curriculum**

A work ethics curriculum was introduced in August 2007. This curriculum organizes workplace ethics into ten characteristic groups and provides instructors with a consistent methodology for teaching and assessing these character traits. In addition, it provides a competency list for workplace skills that is independent of technical skills, reinforcing the importance of workplace skills to students, instructors and prospective employers.

	Work Ethics Traits
Characteristic	Description
Attendance	Attends class, arrives/leaves on time and notifies instructor in advance of planned absences.
Character	Displays loyalty, honesty, trustworthiness, dependability, reliability, initiative, self-discipline and self-responsibility.
Teamwork	Respects the rights of others; respects confidentiality; is a team worker, cooperative, assertive and displays a customer service attitude; seeks opportunities for continuous learning; and demonstrates mannerly behavior.
Appearance	Displays appropriate dress, grooming, hygiene and etiquette.
Attitude	Demonstrates a positive attitude and appears self-confident and has realistic expectations of self.
Productivity	Follows safety practices, conserves materials, keeps work area neat and clean, follows directions and procedures, makes up assignments punctually and participates.
Organizational Skills	Manifests skill in prioritizing and managing time and stress and demonstrates flexibility in handling change.
Communication	Displays appropriate nonverbal (eye contact, body language) and oral (listening, telephone etiquette, grammar) skills.
Cooperation	Displays leadership skills; appropriately handles criticism, conflicts and complaints; demonstrates problem-solving capabilities; maintains appropriate relationships with supervisors and peers; follows chain of command.
Respect	Deals appropriately with cultural/racial diversity and does not engage in harassment of any kind.













#### **Learning Opportunities**

- Programs of study:
  - 21 associate of applied science degrees (minimum of 60 credit hours)
  - 27 technical certificates (16–59 credit hours)
  - 39 certificates of completion (0–15 credit hours)
- General education
- Virtual college (online classes)
- Customized training (at WATC or on-site at business/industry)
- ► High school partnerships:
  - Wichita High School–Northeast Magnet
  - Wichita High School–Northwest
  - Wichita High School–West
- Articulation or memorandum agreements with four-year colleges and universities:
  - Embry-Riddle Aeronautical University
  - Kansas State University of Salina
  - Southwestern College Professional Studies
  - University of Phoenix
  - Washburn University
  - Wichita State University

#### **Preparatory Courses**

Academic Success, Adult Literacy, and General Educational Development (GED) preparatory courses provide developmental instruction to assist individuals in acquiring the skills necessary to enter, retain, or improve workforce employment options; achieve high school credentials; meet college admission requirements; and perform successfully in technical education programs.



# **Programs of Study**

General Education Classes are fully accredited and transferrable to other colleges and universities.

#### **AVIATION**

## ASSOCIATE OF APPLIED SCIENCE DEGREE

- · Applied Science of Aviation Manufacturing
- Aviation Maintenance Technology
- · Avionics Technology
- · Nondestructive Testing

#### TECHNICAL CERTIFICATE

- · Aerospace Quality Control
- Aviation Maintenance Technology
   Airframe
- Aviation Maintenance Technology— Powerplant
- · Avionics Technology
- · Composite Technology
- · Nondestructive Testing

#### CERTIFICATE OF COMPLETION

- Advanced Aerostructures
- · Composite Fabrication
- · Composite Repair
- Data Cable Installation
- Introduction to Nondestructive Testing
- · Advanced Nondestructive Testing
- · Lean Manufacturing

# BUSINESS AND TECHNOLOGY

## ASSOCIATE OF APPLIED SCIENCE DEGREE

- · Administrative Office Technology-Online
- · Business Administration
- Entrepreneurship

#### TECHNICAL CERTIFICATE

- Accounting
- Banking and Finance
- · Operations Management
- Six Sigma
- Entrepreneurship

#### CERTIFICATE OF COMPLETION

- E-Marketing
- Operations Management
- Six Sigma
- Entrepreneurship

#### **HEALTH SCIENCES**

# ASSOCIATE OF APPLIED SCIENCE DEGREE

- Dental Assistant
- · Medical Assistant
- Medical Laboratory Technician (partnership w/ Seward County Community College / Area Technical School)
- Personal Training
- · Surgical Technology

#### **TECHNICAL CERTIFICATE**

- Dental Assistant
- Medical Assistant
- Personal Training
- Practical Nurse
- Surgical Technology

#### **CERTIFICATE OF COMPLETION**

- Activity Director/Social Services Designee
- Certified Medication Aide
- Certified Nursing Aide
- Dietary Manager
- EMT-Basic
- · Home Health Aide
- IV Therapy
- Medical Coding
- Medical Laboratory Applications (partnership w/ Seward County Community College / Area Technical School)
- Medication Aide
- Phlebotomy
- · Rehabilitative Aide

#### **MANUFACTURING**

# ASSOCIATE OF APPLIED SCIENCE DEGREE

- · Architectural Design Technology
- Engineering Design Technology
- Industrial Systems Technology
- Machining Technology
- Manufacturing Engineering Technology
- Welding

#### TECHNICAL CERTIFICATE

- · Architectural Design Technology
- Mechanical Design Technology
- · Mechanical Engineering Design
- · Industrial Systems Technology
- Machining Technology
- Manufacturing Engineering Technology
- Welding



20% tuition discount for military families.

#### MANUFACTURING (CONTINUED)

### CERTIFICATE OF COMPLETION

- · Chief Architect
- AutoCAD
- CATIA Machining Technology
- CATIA Mechanical Design
- · CNC Lathe Machining
- · CNC Mill Machining
- · Manual Lathe Machining
- · Manual Mill Machining
- · Gas Metal Arc Welding
- Gas Tungsten Arc Welding
- Shielded Metal Arc Welding

#### **SKILLED TRADES**

# ASSOCIATE OF APPLIED SCIENCE DEGREE

- · Air Conditioning Technology
- · Interior Design

#### **TECHNICAL CERTIFICATE**

- Air Conditioning Technology
- Kitchen & Bath Design

#### CERTIFICATE OF COMPLETION

- Air Conditioning Technology
- Energy Auditing
- Floral Design
- Painted & Faux Finishes

#### **TRANSPORTATION**

# ASSOCIATE OF APPLIED SCIENCE DEGREE

Automotive Service Technology

#### TECHNICAL CERTIFICATE

- · Auto Collision Repair
- Automotive Service Technology

#### CERTIFICATE OF COMPLETION

Automotive Transmission/Transaxle

#### ADDITIONAL PROGRAMS

- Academic Success
- Adult Literacy
- Customized Training
- General Education
- · High School Partnerships
- Virtual College (online classes)



#### Career Placement and Services

Wichita Area Technical College conducts a one-year follow-up study of postsecondary program graduates and early leavers each year.

In fall 2008, WATC was able to contact 1038 of 1148 former students who were eligible for follow-up. Program graduates and students completing a significant portion of a full-time postsecondary program were contacted to determine their employment status.

#### **Airport Center**

2021 S. Eisenhower Wichita, KS 67209-2848



#### **Aviation Tech Center**

7603 E. Pawnee Wichita, KS 67207-3025



#### **Comotara Center**

3639 N. Comotara Wichita, KS 67226-1304



#### **Main Campus**

301 S. Grove Wichita, KS 67211-2099



#### ► Employer perceptions:

93% of employers rate WATC graduates' overall job preparation very good or good.

#### ▶ Career Services:

Among other career services, WATC offers students, graduates and alumni career placement assistance.

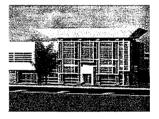
#### ▶ Career Placement:

- 96% of WATC's 2007-2008 graduates are employed or are continuing their education within six months of graduation.
- 89% of WATC's 2007-2008 graduates have jobs in a field that is directly related to their training.
- 87% of WATC's 2007-2008 graduates were satisfied with the education they received at WATC.

## **WATC Locations**

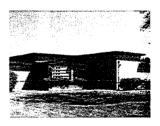
#### **National Center for Aviation Training**

4004 N. Webb Rd. Wichita, KS 67226



#### **Schweiter Center**

1400 S. George Washington Dr. Wichita, KS 67211-3992



#### **Southside Education Center**

4501 E. 47th St. South Wichita, KS 67210-1651

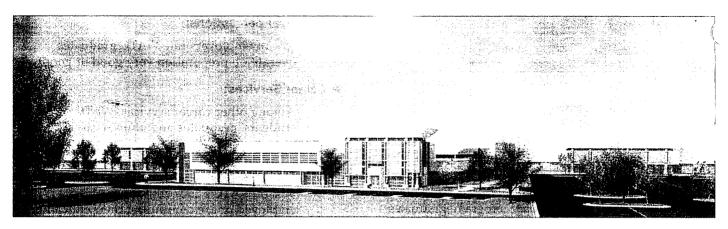


Wichita Area Technical College does not discriminate with regard to race, religion, color, sex, disability, national origin or ancestry, age or gender in its admissions, progress or activities. Persons having inquiries may contact the Human Resources director, 301 S. Grove, Wichita, KS 67211-2099, 316.677.9400. @Wichita Area Technical College 07-21-09







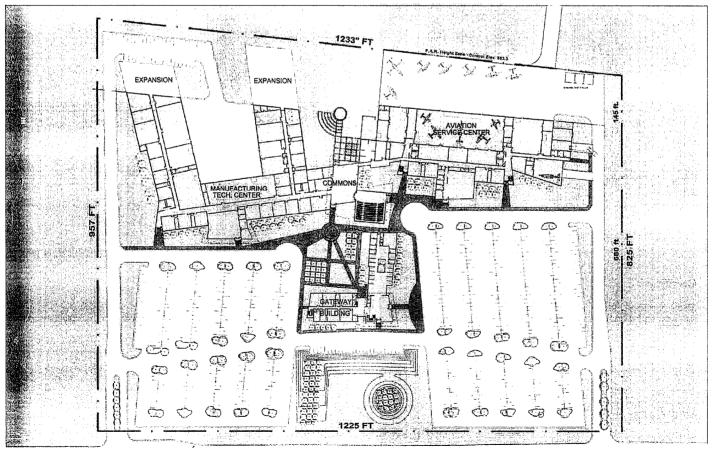


# NATIONAL CENTER for AVIATION TRAINING JABARA CAMPUS



### **New Facility**

Sedgwick County Board of County Commissioners has committed \$54 million for a new facility to be located in northeast Wichita. WATC has been appointed the managing partner for this technical education training facility to be completed by 2010.



WEBB ROAD

@Wichita Area Technical College 07-21-09

# Wichita Area Technical College Community Impact Study

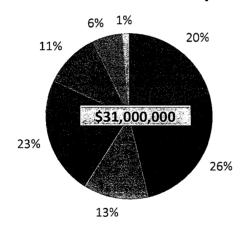
#### Section 1: Economic Impact for FY2008

awmakers and local constituencies often wonder about the return on the investment in higher education. While assuming the rate is high for colleges and universities, the value of technical and community colleges has been often overlooked. In fiscal year 2007-2008, the state appropriated \$7.4 million dollars and Sedgwick County added \$1.0 million dollars to fund Wichita Area Technical College (WATC). The figures presented below represents the direct investment of dollars into the local economy by WATC.

Area of Economic Impact	Direct Investment in Local Economy
College Expenditures	\$3,440,794
Employee Expenditures	\$4,302,851
Student Expenditures	\$2,154,240
WATC Graduate's Contributions	\$3,837,480
WATC Adult Literacy Contributions	\$1,808,800
Business and Industry Training	\$1,000,662
Visitor Expenditures	\$212,500
TOTAL	\$16,757,327

However, research has shown that for each dollar spent in the local economy, there is a larger effect on economic activity. This impact results in a multiplier effect. For Wichita, the multiplier is 1.85 or for every dollar invested there is an additional \$.85 indirectly added to the economy due to the investment of WATC dollars. The multiplier for Wichita was generated by examining many factors including type of industry, industry spending, cost of living, and other economic factors. This multiplier, like the other numbers generated by this report, is conservative.

# **Total Economic Impact**



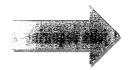
- College Expenditures
- **■** Employee Expenditures
- Student Expenditures
- WATC Graduate's Contributions
- WATC Adult Literacy Contributions
- Business and Industry Training
- Visitor Expenditures

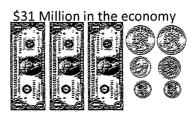
Comparing FY2008 state and local appropriations, which equaled \$8.4 million, to the \$31 million dollars directly and indirectly put into the local economy by WATC, taxpayers were rewarded with a return on investment of \$3.67 for every dollar appropriated.

\$8.4 Million appropriated



\$1.00

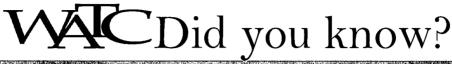




. \$3.67

#### **Section 2: Meeting Community Needs in 2008**

WATC plays a vital role in its service region educating citizens of south central Kansas to lead more productive lives. As a result of their study at WATC, students obtain jobs, refine professional skills, transfer to senior colleges and universities, and acquire knowledge that enriches every aspect of their personal and professional development. In addition to serving individual students, the college provides technical training for regional businesses and industries, supports the economic development of local businesses and government, and hosts various events and seminars.



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What is the number of WATC programs graduating students in 2008?

#### 81.1%

What is the highest job placement percentage for WATC in seven years?

#### 96.4%

What is the total percentage of 2008 graduates employed or continuing education?

#### 1,032

What is the total number of WATC graduates employed or continuing their education in 2008?

#### 1% & 3%

What are differences in WATC's 2008 graduate unemployment rate (3.6%) compared to Wichita (4.8%) and the United States (6.8%) in November 2008?

#### **Aviation Manufacturing**

According to a recent report, 36,500 individuals directly work in the Wichita aviation sector. Of these, 65% or 23,725 are perceived to be employed in blue-collar jobs. In 2008, WATC graduated 394 students who entered the aviation workforce. In addition, WATC re-trained 680 individuals already employed in the aviation workforce. Combined these two groups accounted for 4.5% of the total blue collar aviation workforce. This is substantial considering the following:

- Over half of all U.S. general aviation is manufactured in Kansas
- Aviation accounts for 22% of the state tax revenue, yet only accounts for 2.8% of all jobs
- Each aviation job generates an additional 2.9 jobs; 94.6% of all Kansas aircraft workers are in WATC's service area

#### Health Care

In 2008 there were 37,091individuals employed in health care careers in Sedgwick County. During the same year, WATC trained or graduated 726 students. Like aviation, these numbers demonstrate WATC's impact on the health care industry in the local area. Health Care Support careers are expected to experience the fastest growth in the state, increasing at a rate of 25% through 2014.

- WATC offers the three fastest growing health occupations: Medical Assistant (47.4%), Home Health Aide (43.1%), and Dental Assistant (41.7%).
- 65,000 health jobs are expected in Kansas for all jobs requiring an Associate degree or less by 2014
- The health care cluster supplied more than 18.8 percent of all employees and more than 19.5 percent of all wages in the state of Kansas in 2006.

#### Sec 3: WATC's Growth in 2009

For FY2009, the state appropriated an additional \$5 million to WATC to enhance aviation training. WATC has used this funding to increase the viability of the college to future students once the National Center for Aviation Training opens. Even prior to 2009, there were signs that WATC was on the rise. So much so, that in *Community College Week*, WATC was ranked the 12<sup>th</sup> fastest growing college among two-year colleges with enrolment less than 2,500. To follow-up this growth, WATC had the largest FTE enrollment increase from fall 2008 to fall 2009 of any college and university in the state.

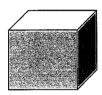


#### Student enrollment increased in fall 2008 by 811 FTE students from 2007

Fall 2008		1416
Fall 2007	605	



50 Programs have been added over the past 12 months for a total of 115



WATC maintains over 350,000 square feet of facilities, which will increase to 450,000 with the addition of NCAT.



**Employs 426 individuals** 

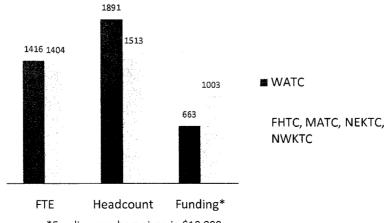
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WATC is now the ninth largest two-year college in the state-2009.

#### Compared to other Kansas technical colleges

In fall 2008, WATC's FTE was the equivalent of four other Kansas Technical Colleges (Flint Hills, Manhattan, Northeast Kansas, and Northwest Kansas). Additionally, WATC's total headcount was over 300 students more than the four other colleges. However, the four other schools combined received \$3.4 million more than WATC in FY09 state appropriations.

#### Fall 2008 Enrollment



\*Funding numbers given in \$10,000s

# J. C. J

# AY2009

 Cost per FTE for State Tax Payers		Cost per FTE for Local Tax Payers		Cost per FTE for all Tax Payers			
8,528.59	Northwest Kansas Technical College	\$	9,842.83	Seward County Community College	\$	11,683.69	Seward County CC and Area Tech Sch
\$ 7,113.06	North Central Kansas Technical College	\$	8,025.22	Dodge City Community College	\$	11,092.60	Hutchinson Community College
\$ 6,670.93	Flint Hills Technical College	\$	7,690.21	Kansas City Kansas Community Col	\$	10,534.29	Dodge City Community College
\$ 6,386.74	Manhattan Area Technical College	\$	7,672.07	Garden City Community College	\$	9,808.41	Garden City Community College
\$ 4,684.39	Wichita Area Technical College	\$	7,140.94	Johnson County Community College	\$	9,709.04	Kansas City Kansas Community College
\$ 4,601.71	Hutchinson Community College	\$	6,490.88	Hutchinson Community College	\$	9,567.27	Johnson County Community College
\$ 4,312.05	Cowley County Community College	\$	6,043.46	Independence Community College	\$	9,003.44	Labette Community College
\$ 3,869.46	Barton County Community College	\$	5,898.16	Labette Community College	\$	8,537.61	Independence Community College
\$ 3,717.81	Cloud County Community College	\$	4,666.30	Pratt Community College	\$	8,528.59	Northwest Kansas Technical College
\$ 3,160.61	Butler Community College	\$	4,428.24	Coffeyville Community College	\$	7,350.87	Barton County Community College
\$ 3,105.28	Labette Community College	\$	3,839.11	Neosho County Community College	\$	7,280.43	Pratt Community College
\$ 2,900.18	Fort Scott Community College	\$	3,481.41	Barton County Community College	\$	7,113.06	North Central Kansas Technical College
\$ 2,830.63	Allen County Community College	\$	2,872.46	Colby Community College	\$	6,793.68	Flint Hills Technical College
\$ 2,824.89	Colby Community College	\$	2,804.99	Cloud County Community College	\$	6,522.80	Cloud County Community College
\$ 2,776.42	Highland Community College	\$	1,944.73	Fort Scott Community College	\$	6,428.64	Coffeyville Community College
\$ 2,614.13	Pratt Community College	\$	1,929.70	Butler Community College	\$	6,386.74	Manhattan Area Technical College
\$ 2,509.07	Dodge City Community College	\$	1,824.14	Cowley County Community College	\$	6,281.79	Neosho County Community College
\$ 2,494.15	Independence Community College	\$	1,050.82	Allen County Community College	\$	6,136.19	Cowley County Community College
\$ 2,442.67	Neosho County Community College	\$	706.21	Wichita Area Technical College	\$	5,697.34	Colby Community College
\$ 2,426.33	Johnson County Community College	\$	662.24	Highland Community College	\$	5,390.60	Wichita Area Technical College
\$ 2,136.34	Garden City Community College	\$	122.75	Flint Hills Technical College	\$	5,090.31	Butler Community College
\$ 2,018.83	Kansas City Kansas Community College	\$	-	Manhattan Area Technical College	\$	4,844.91	Fort Scott Community College
\$ 2,000.40	Coffeyville Community College	\$	-	North Central Kansas Technical Col	\$	3,881.45	Allen County Community College
\$ 1,840.85	Seward County Community College and A	\$	-	Northwest Kansas Technical College	\$	3,438.67	Highland Community College

Uses Average 06-07/07-08 Appropriations versus Fall 2008 Enrollment; assumes little variation in appropriations

## AY2008

Cost per FTE for State Tax Payers		Cost p	er FTE for Local Tax Payers		Co	st per FTE for all Tax Payers	
	٠0,963.79	Wichita Area Technical College	\$ 9,703.87	Seward County Community College	\$ :	12,616.68	Wichita Area Technical College
\$	9,237.20	Northwest Kansas Technical College	\$ 7,876.05	Kansas City Kansas Community Col	\$ :	11,465.11	Seward County CC and Area Tech Sch
\$	7,928.85	Flint Hills Technical College	\$ 7,773.83	Dodge City Community College	\$ :	10,212.87	Dodge City Community College
\$	7,566.76	North Central Kansas Technical College	\$ 7,721.69	Garden City Community College	\$ :	10,094.92	Kansas City Kansas Community College
\$	6,406.19	Manhattan Area Technical College	\$ 7,380.20	Johnson County Community College	\$	9,951.53	Johnson County Community College
\$	4,581.62	Allen County Community College	\$ 6,089.55	Coffeyville Community College	\$	9,810.95	Garden City Community College
\$	4,501.31	Barton County Community College	\$ 5,875.93	Labette Community College	\$	9,237.20	Northwest Kansas Technical College
\$	3,463.73	Cowley County Community College	\$ 5,769.80	Independence Community College	\$	8,942.65	Labette Community College
\$	3,274.62	Butler Community College	\$ 4,864.60	Pratt Community College	\$	8,716.34	Barton County Community College
\$	3,200.43	Cloud County Community College	\$ 4,741.25	Neosho County Community College	\$	8,512.22	Independence Community College
\$	3,147.97	Fort Scott Community College	\$ 4,575.17	Hutchinson Community College	\$	8,458.93	Coffeyville Community College
\$	3,124.88	Hutchinson Community College	\$ 4,215.03	Barton County Community College	\$	8,196.44	Flint Hills Technical College
\$	3,066.71	Labette Community College	\$ 2,850.45	Colby Community College	\$	7,774.51	Neosho County Community College
\$	3,033.26	Neosho County Community College	\$ 2,510.53	Cloud County Community College	\$	7,700.06	Hutchinson Community College
\$	2,968.88	Colby Community College	\$ 2,093.01	Fort Scott Community College	\$	7,669.90	Pratt Community College
\$	2,910.35	Highland Community College	\$ 2,085.80	Butler Community College	\$	7,566.76	North Central Kansas Technical College
\$	2,805.31	Pratt Community College	\$ 1,652.89	Wichita Area Technical College	\$	6,406.19	Manhattan Area Technical College
\$	2,742.42	Independence Community College	\$ 1,442.18	Allen County Community College	\$	6,023.80	Allen County Community College
\$	2,571.33	Johnson County Community College	\$ 1,412.44	Cowley County Community College	\$	5,819.32	Colby Community College
\$	2,439.04	Dodge City Community College	\$ 682.33	Highland Community College	\$	5,710.95	Cloud County Community College
\$	2,369.38	Coffeyville Community College	\$ 267.58	Flint Hills Technical College	\$	5,360.42	Butler Community College
\$	2,218.87	Kansas City Kansas Community College	\$ -	Manhattan Area Technical College	\$	5,240.98	Fort Scott Community College
\$	2,089.26	Garden City Community College	\$ -	North Central Kansas Technical Col	\$	4,876.17	Cowley County Community College
\$	1,761.24	Seward County Community College and A	\$ -	Northwest Kansas Technical College	\$	3,592.68	Highland Community College

Uses 07-08 Appropriations versus Fall 2007 Enrollment;

# 6.73

# AY2007

	Cost per FTE for State Tax Payers			Cost per FTE for Local Tax Payers			Cost per FTE for all Tax Payers		
- : - : <b>T</b> .:	13,620.31	Wichita Area Technical College	\$	9,058.81	Seward County Community College	\$	15,673.70	Wichita Area Technical College	
\$	9,697.62	Northwest Kansas Technical College	\$	8,060.69	Kansas City Kansas Community Col	\$ :	10,806.84	Seward County CC and Area Tech Sch	
\$	7,930.90	Flint Hills Technical College	\$	7,411.11	Garden City Community College	\$ :	10,015.20	Kansas City Kansas Community College	
\$	7,325.29	Manhattan Area Technical College	\$	7,195.95	Dodge City Community College	\$	9,697.62	Northwest Kansas Technical College	
\$	6,780.91	North Central Kansas Technical College	\$	7,109.34	Johnson County Community College	\$	9,533.71	Garden City Community College	
\$	4,146.79	Barton County Community College	\$	6,079.42	Labette Community College	\$	9,462.16	Johnson County Community College	
\$	3,317.87	Cloud County Community College	\$	5,623.24	Independence Community College	\$	9,437.58	Dodge City Community College	
\$	3,229.32	Labette Community College	\$	4,792.79	Neosho County Community College	\$	9,308.73	Labette Community College	
\$	3,137.65	Hutchinson Community College	\$	4,580.47	Pratt Community College	\$	7,930.90	Flint Hills Technical College	
\$	3,122.57	Cowley County Community College	\$	4,262.25	Hutchinson Community College	\$	7,826.30	Neosho County Community College	
\$	3,033.50	Neosho County Community College	\$	3,572.23	Barton County Community College	\$	7,719.02	Barton County Community College	
\$	3,031.93	Highland Community College	\$	3,567.70	Coffeyville Community College	\$	7,560.80	Independence Community College	
\$	3,001.31	Butler Community College	\$	2,658.22	Colby Community College	\$	7,399.90	Hutchinson Community College	
\$	2,885.30	Fort Scott Community College	\$	2,405.10	Cloud County Community College	\$	7,325.29	Manhattan Area Technical College	
\$	2,615.08	Allen County Community College	\$	2,053.39	Wichita Area Technical College	\$	7,066.19	Pratt Community College	
\$	2,485.72	Pratt Community College	\$	1,951.51	Fort Scott Community College	\$	6,780.91	North Central Kansas Technical College	
\$	2,455.86	Colby Community College	\$	1,748.22	Butler Community College	\$	5,722.98	Cloud County Community College	
\$	2,352.82	Johnson County Community College	\$	1,372.17	Cowley County Community College	\$	5,525.62	Coffeyville Community College	
\$	2,241.62	Dodge City Community College	\$	1,154.85	Allen County Community College	\$	5,114.09	Colby Community College	
\$	2,122.60	Garden City Community College	\$	735.78	Highland Community College	\$	4,836.81	Fort Scott Community College	
\$	1,957.92	Coffeyville Community College	\$	-	Flint Hills Technical College	\$	4,749.53	Butler Community College	
\$	1,954.51	Kansas City Kansas Community College	\$	-	Manhattan Area Technical College	\$	4,494.74	Cowley County Community College	
\$	1,937.56	Independence Community College	\$	-	North Central Kansas Technical Col		•	Allen County Community College	
\$	1,748.03	Seward County Community College and A	\$	-	Northwest Kansas Technical College	\$	3,767.71	Highland Community College	
Us	Uses 06-07 Appropriations versus Fall 2006 Enrollment								

AY10 forecast										
		State		Local	Total					
t per FTE د	\$	3,675.09	\$	628.54	\$	4,303.63				

FA09 estimated 1600-1650

#### Fall 2008 FTE

- 10850 Johnson County Community College
- 5193 Butler Community College
- 3373 Kansas City Kansas Community College
- 2390 Cowley County Community College
- 2136 Barton County Community College
- 1988 Hutchinson Community College
- 1702 Allen County Community College
- 1624 Highland Community College
- 1416 Wichita Area Technical College
- 1412 Coffeyville Community College
- 1293 Garden City Community College
- 1195 Fort Scott Community College
- 1140 Neosho County Community College
- 1135 Cloud County Community College
- 1046 Pratt Community College
- 1041 Colby Community College
- 984 Dodge City Community College
- 865 Seward County CC and Area Tech Sch
- 822 Labette Community College
- 719 Independence Community College
- 515 North Central Kansas Technical College
- 412 Manhattan Area Technical College
- 400 Flint Hills Technical College
- 365 Northwest Kansas Technical College



## Washington State Visit to Wichita

### September 8-10 Washington State Participant List

Name	Organization	Position
Aaron Reardon	Snohomish County	County Executive
Cyndi Schaeffer	Edmonds Community College	Executive Director – Business &
•	,	Training Center
Dale Peinecke	Snohomish County Workforce	President of Board,
	Development Council	,
Donna Ambrose	Snohomish County Government	Economic Development Program Mgr
Emily Yim	Edmonds Community College	Trustee
Graham Evans	Washington Technology Center	Director, Research and program
		Operations
Jack Oharah	Edmonds Community College	President
Jeanette Wood	Edmonds Community College	Trustee
Jerrilee Mosier	Edmonds Community College	Vice President – Workforce
		Development & Training
Jim Crabbe	WA State Board for Community &	Director – Workforce Development
	Technical Colleges	
John Bonner	Everett Community College	Executive Director for Corporate
/		Training and Continuing Education
Larry Brown	Aerospace Machinist 751	Legislative and Political Director
Linda Lanham	Washington Aerospace Futures	Executive Director
	Alliance	
Mary Kaye Bredeson	Edmonds Community	Director – Center of Excellence for
•	College/Everett Community	Aerospace and Advanced Materials
	College	Manufacturing
Mike Sells	WA State 38 <sup>th</sup> District,	State Representative
Pete Mills	Rep. Jay Inslee's Office	Community Liaison
Rosemary Brester	Aerospace Futures Alliance (AFA) /	AFA board member /
	Hobart Machined Products	Hobart President/CEO
Russell Coombs	The New Excellence	Instructor Lean Six Sigma
Sally Hintz	Senator Maria Cantwell's Office	Northwest Washington Director
Sharon Buck	Everett Community College	Dean - Business and Workforce
		Education
Sue Ambler	Snohomish County Workforce	President/CEO
BA C	Development Council	
Matt Smith	Economic Development Council of	Vice President
	Snohomish County	



# **Edmonds Community College News**

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#### College signs agreement to create aerospace training center

Release Date: August 26th. 2009

Lynnwood, WA--Edmonds Community College signed an agreement today with the Aerospace Futures Alliance of Washington to establish a statewide aerospace training center at Paine Field, 3008 100th SW, Everett.

The center will coordinate and facilitate training to help serve the approximately 650 aerospace firms in Washington state that are reliant on workers who possess manufacturing skills, and will assist in the preparation of the needed workforce as technology and materials change and improve. These firms employ 120,000 workers and the industry accounts for 7 percent of statewide employment.

Edmonds Community College will coordinate the delivery of training to serve the aerospace industry, working with Spokane Community College, Everett Community College, and other key educational partners across the state. The Aerospace Futures Alliance (AFA) will provide center oversight, help connect the center's activities to industry and advocate for additional resources as needed to aid in its success.

"The ability to respond to the economic needs of the day and build a stronger workforce, maintaining and prowing high-paying jobs, is a community college strength," said Edmonds Community College President Jack Dharah. "What's new with this training center is how closely and quickly we'll be working with partners and listening to industry to teach particular procedures and skills that are needed now."

According to the operating agreement, the AFA will work with Snohomish County to provide the facility, while the college will be responsible for supplying people, equipment, and materials. The next steps will be to refurbish the building, install computer labs and equipment, and deliver basic training. The first training could take place during late fall.

In September, a group of more than 20 leaders plan to tour a similar training center in Wichita, Kan. — the National Center for Aviation Training — to see how it connects with industry. That center was also established by a collaborative effort of leaders in government, business, and education and, to date, has received more than \$49 million from federal, state, and county governments as well as private industry to support the training, research and development, facilities, and equipment.

The idea is to create a coordinated point of entry for needed training for aerospace and advanced manufacturing. This step is critical, according to a June report commissioned by Edmonds Community College and the AFA from EMTECH of Boston, which examines the state's skills gaps and outlines how to respond to an aging workforce and address industry's changing technical needs. It concludes that educational institutions must work with industry to anticipate the skills that will be needed and maintain up-to-date curriculum, equipment, materials, and labs.

"It's been the highest priority for the aerospace companies across the state to have a one-stop center that will keep us competitive across the country," said Linda Lanham, Executive Director of the AFA. "We are very excited that this is the first step to ensuring that we have a solid statewide training program."

The establishment of the aerospace training center is the culmination of ongoing work to advocate and secure funding for support of Washington's aerospace industry by the AFA, key elected officials, and partners in Snohomish County including Everett Community College, the Workforce Development Council, and the Economic Development Council.

8.76

"W II been working together to ensure that our state has a strong workforce that is prepared to do the that industry needs," said Edmonds Community College Vice President for Workforce Development and Training, Jerrilee Mosier. "We look forward to collaborating with community colleges across the state."

###

#### Find out more

Phone: 425.640.1489

Web: Aerospace Futures Alliance of Washington

질문있으세요?

• ¿Preguntas? • Вы спрашиваете? • Câu Hỏi?

Last updated: 08/28/07

#### Snohomish County leads aerospace training efforts

#### Joint effort allows for statewide workforce development

Looking to address the state's aerospace workforce concerns, Snohomish County announced Tuesday that it has joined the Aerospace Futures Alliance and a consortium of community colleges and educational facilities to create a new, statewide aerospace institute offering training, research and development.

Together, the partners will work to create new curriculum for cutting-edge technologies as well as offer opportunities to aerospace providers such as the Boeing Co. and Aviation Technical Services (ATS) for advanced employee training. The institute will coordinate training among a statewide consortium of schools and programs that provide aerospace workforce education and training.

Specifically, the Aerospace Futures Alliance (AFA) will lease from Snohomish County a 30,000-square-foot facility at Paine Field Airport to be operated as a centralized training center. A similar center will be located at the Spokane International Airport, bringing the east and west together to create a statewide aerospace training program.

"This creates new and needed opportunities for our aerospace workers to keep their skill sets well ahead of our competition," Snohomish County Executive Aaron Reardon said. "This also helps our leading businesses such as Boeing stay competitive by maintaining a strong core of skilled workers well into the future."

"This is a way of keeping up with the needs of the aerospace industry," said Linda Lanham, AFA's executive director. "We have to start now because we're already competing with five other states that have such training facilities. We're losing our edge for skilled aerospace workers."

The educational consortium allows for the rapid development of training programs that don't currently exist in Washington state but are needed to remain competitive in today's aerospace industry. Training will be offered throughout the state at different colleges to suit the needs and locations of individual aerospace companies. A strong focus will be on "training the trainers," officials said.

For instance, ATS has identified the need for more sheet metal structures training and support, as well as the future need for composites training. The consortium will have the chance to collaborate on a curriculum that addresses those needs, then offer that back to ATS, community colleges and other educational facilities teaching aerospace classes.

"We share the concerns of the future of aerospace manufacturing in the state of Washington," said Jack Oharah, Edmonds Community College president. "We look forward to working with

the Aerospace Futures Alliance and our education partners in addressing the training needs of the aerospace industry from a statewide perspective."

Said Mike Mires, Spokane Community College's dean of instruction for technical education: "With our position clearly defined as the national leader in jobs within the aerospace industry, Washington state needs to also be a leader in readying the next generation of aerospace employees. A statewide initiative with facilities on the west side and east side will ensure that we reach the highest number of interested and qualified prospects, and provide a well-trained and skilled workforce for years to come."

Improvements to the Snohomish County building will be made during the summer and at no cost to the county. Federal funding may also be available to cover necessary training equipment. Classes and curriculum development will be available this fall and will be paid for by the companies requesting training assistance.

"As a vehicle to promote the improvement of business growth and visibility within the aerospace industry in Washington state, the Aerospace Futures Alliance looks forward to this collaboration with the county, our partners in private industry and the academic sector," said Michael Zubovic, vice president of finance and administration at ATS and chairman of the Aerospace Futures Alliance. "We intend to work hard to ensure the vision of the county can become a reality and serve as a model within the state."

"It is clear that Washington State is in a competition with other states such as South Carolina for the second line of the 787 and perhaps the future of commercial aerospace." Reardon said. "We owe it to the thousands of aerospace employees in our state to do everything we can to remain competitive and keep future jobs in Washington."