

U.S. Department of Education

Washington, D.C. 20202-5335



APPLICATION FOR GRANTS UNDER THE

**CHARTER SCHOOLS PROGRAM NON-SEA PLANNING, PROGRAM DESIGN, AND
IMPLEMENTATION**

CFDA # 84.282B

PR/Award # U282B080014

Grants.gov Tracking#: GRANT10057761

Closing Date: JUL 31, 2008

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This application was generated using the PDF functionality. The PDF functionality automatically numbers the pages in this application. Some pages/sections of this application may contain 2 sets of page numbers, one set created by the applicant and the other set created by

e-Application's PDF functionality. Page numbers created by the e-Application PDF functionality will be preceded by the letter e (for example, e1, e2, e3, etc.).

Application for Federal Assistance SF-424

Version 02

* 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application		* 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision		* If Revision, select appropriate letter(s): <input type="text"/> * Other (Specify) <input type="text"/>	
* 3. Date Received: <input type="text" value="07/29/2008"/>		4. Applicant Identifier: <input type="text"/>			
5a. Federal Entity Identifier: <input type="text"/>			* 5b. Federal Award Identifier: <input type="text"/>		
State Use Only:					
6. Date Received by State: <input type="text"/>		7. State Application Identifier: <input type="text"/>			
8. APPLICANT INFORMATION:					
* a. Legal Name: <input type="text" value="Academy for Science and Design"/>					
* b. Employer/Taxpayer Identification Number (EIN/TIN): <input type="text" value="(b)(4)"/>			* c. Organizational DUNS: <input type="text" value="859506011"/>		
d. Address:					
* Street1:	<input type="text" value="316 Daniel Webster Highway"/>				
Street2:	<input type="text"/>				
* City:	<input type="text" value="Merrimack"/>				
County:	<input type="text"/>				
* State:	<input type="text" value="NH: New Hampshire"/>				
Province:	<input type="text"/>				
* Country:	<input type="text" value="USA: UNITED STATES"/>				
* Zip / Postal Code:	<input type="text" value="03054-4115"/>				
e. Organizational Unit:					
Department Name: <input type="text"/>			Division Name: <input type="text"/>		
f. Name and contact information of person to be contacted on matters involving this application:					
Prefix:	<input type="text" value="Mr."/>	* First Name:	<input type="text" value="Chris"/>		
Middle Name:	<input type="text"/>				
* Last Name:	<input type="text" value="Franklin"/>				
Suffix:	<input type="text"/>				
Title:	<input type="text" value="Director, Academy for Science and Design"/>				
Organizational Affiliation: <input type="text"/>					
* Telephone Number:	<input type="text" value="603-262-9162"/>	Fax Number:	<input type="text" value="603-262-9163"/>		
* Email:	<input type="text" value="franklin@asdnh.org"/>				

Application for Federal Assistance SF-424

Version 02

9. Type of Applicant 1: Select Applicant Type:

C: Independent School District

Type of Applicant 2: Select Applicant Type:

N: Nonprofit without 501C3 IRS Status (Other than Institution of Higher Education)

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.282

CFDA Title:

Charter Schools

*** 12. Funding Opportunity Number:**

ED-CRANTS-061608-001

* Title:

Charter Schools Program CFDA 84.282B (Planning, Program Design and Implementation

13. Competition Identification Number:

84-282B2008-1

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

State of NH - All.

*** 15. Descriptive Title of Applicant's Project:**

Academy for Science and Design Planning, Program Design and Implementation

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

* a. Applicant

NH-1

* b. Program/Project

NH-1

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date:

10/01/2008

* b. End Date:

09/30/2009

18. Estimated Funding (\$):

* a. Federal	305,000.00
* b. Applicant	0.00
* c. State	275,000.00
* d. Local	37,000.00
* e. Other	100,000.00
* f. Program Income	0.00
* g. TOTAL	717,000.00

* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?

 a. This application was made available to the State under the Executive Order 12372 Process for review on b. Program is subject to E.O. 12372 but has not been selected by the State for review. c. Program is not covered by E.O. 12372.

* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

 Yes No

Explanation

21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

 ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Mr. * First Name: Kent
Middle Name:
* Last Name: Glossop
Suffix:

* Title: Chairman, Academy for Science and Design

* Telephone Number: 603-262-9162

Fax Number: 603-262-9163

* Email: kent.glossop@asdnh.org

* Signature of Authorized Representative: Kent Glossop

* Date Signed: 07/29/2008

Application for Federal Assistance SF-424

Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.



U.S. DEPARTMENT OF EDUCATION
BUDGET INFORMATION
NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1890-0004

Expiration Date: 06/30/2005

Name of Institution/Organization:
 Academy for Science and Design

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION A - BUDGET SUMMARY
U.S. DEPARTMENT OF EDUCATION FUNDS

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	\$ 98,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 98,000
2. Fringe Benefits	\$ 9,263	\$ 0	\$ 0	\$ 0	\$ 0	\$ 9,263
3. Travel	\$ 11,150	\$ 0	\$ 0	\$ 0	\$ 0	\$ 11,150
4. Equipment	\$ 50,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 50,000
5. Supplies	\$ 81,587	\$ 0	\$ 0	\$ 0	\$ 0	\$ 81,587
6. Contractual	\$ 55,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 55,000
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
9. Total Direct Costs (lines 1-8)	\$ 305,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 305,000
10. Indirect Costs*	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 305,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 305,000

***Indirect Cost Information (To Be Completed by Your Business Office):**

If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government? Yes No

(2) If yes, please provide the following information:

Period Covered by the Indirect Cost Rate Agreement: From: ___/___/___ To: ___/___/___ (mm/dd/yyyy)

Approving Federal agency: ED Other (please specify): _____

(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

Is included in your approved Indirect Cost Rate Agreement? or, Complies with 34 CFR 76.564(e)(2)?



U.S. DEPARTMENT OF EDUCATION
BUDGET INFORMATION
NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1890-0004

Expiration Date: 06/30/2005

Name of Institution/Organization:
 Academy for Science and Design

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
2. Fringe Benefits	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
3. Travel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
4. Equipment	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
5. Supplies	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
6. Contractual	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
9. Total Direct Costs (lines 1-8)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
10. Indirect Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

<p>* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL</p> <p>Kent Glossop</p>	<p>* TITLE</p> <p>Chairman, Academy for Science and Design</p>
<p>* APPLICANT ORGANIZATION</p> <p>Academy for Science and Design</p>	<p>* DATE SUBMITTED</p> <p>07/29/2008</p>

Standard Form 424B (Rev. 7-97) Back

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

Approved by OMB
0348-0046

1. * Type of Federal Action: <input type="checkbox"/> a. contract <input checked="" type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	2. * Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input checked="" type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	3. * Report Type: <input checked="" type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change
4. Name and Address of Reporting Entity: <input checked="" type="checkbox"/> Prime <input type="checkbox"/> SubAwardee *Name: Academy for Science and Design *Street 1: 316 Daniel Webster Highway Street 2: *City: Merrimack State: NH: New Hampshire Zip: 03054 Congressional District, if known: NH 1		
5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:		
6. * Federal Department/Agency: Department of Education	7. * Federal Program Name/Description: Charter Schools CFDA Number, if applicable: 84.282	
8. Federal Action Number, if known:	9. Award Amount, if known: \$	
10. a. Name and Address of Lobbying Registrant: Prefix: *First Name: none Middle Name: *Last Name: none Suffix: *Street 1: Street 2: *City: State: Zip:		
b. Individual Performing Services (including address if different from No. 10a) Prefix: *First Name: none Middle Name: *Last Name: none Suffix: *Street 1: Street 2: *City: State: Zip:		
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure. * Signature: Ken. Glessop * Name: Prefix: Mr. *First Name: Ken. Middle Name: *Last Name: Glessop Suffix: Title: Chairman, Academy for Science and Design Telephone No.: 603 262 9162 Date: 07/29/2008		
Federal Use Only:		Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)

NOTICE TO ALL APPLICANTS

The purpose of this enclosure is to inform you about a new provision in the Department of Education's General Education Provisions Act (GEPA) that applies to applicants for new grant awards under Department programs. This provision is Section 427 of GEPA, enacted as part of the Improving America's Schools Act of 1994 (Public Law (P.L.) 103-382).

To Whom Does This Provision Apply?

Section 427 of GEPA affects applicants for new grant awards under this program. **ALL APPLICANTS FOR NEW AWARDS MUST INCLUDE INFORMATION IN THEIR APPLICATIONS TO ADDRESS THIS NEW PROVISION IN ORDER TO RECEIVE FUNDING UNDER THIS PROGRAM.**

(If this program is a State-formula grant program, a State needs to provide this description only for projects or activities that it carries out with funds reserved for State-level uses. In addition, local school districts or other eligible applicants that apply to the State for funding need to provide this description in their applications to the State for funding. The State would be responsible for ensuring that the school district or other local entity has submitted a sufficient section 427 statement as described below.)

What Does This Provision Require?

Section 427 requires each applicant for funds (other than an individual person) to include in its application a description of the steps the applicant proposes to take to ensure equitable access to, and participation in, its Federally-assisted program for students, teachers, and other program beneficiaries with special needs. This provision allows applicants discretion in developing the required description. The statute highlights six types of barriers that can impede equitable access or participation: gender, race, national origin, color, disability, or age. Based on local circumstances, you should determine whether these or other barriers may prevent your students, teachers, etc. from such access or participation in, the Federally-funded project or activity. The description in your application of steps to be taken to overcome these barriers need not be lengthy; you may provide a clear and succinct

description of how you plan to address those barriers that are applicable to your circumstances. In addition, the information may be provided in a single narrative, or, if appropriate, may be discussed in connection with related topics in the application.

Section 427 is not intended to duplicate the requirements of civil rights statutes, but rather to ensure that, in designing their projects, applicants for Federal funds address equity concerns that may affect the ability of certain potential beneficiaries to fully participate in the project and to achieve to high standards. Consistent with program requirements and its approved application, an applicant may use the Federal funds awarded to it to eliminate barriers it identifies.

What are Examples of How an Applicant Might Satisfy the Requirement of This Provision?

The following examples may help illustrate how an applicant may comply with Section 427.

(1) An applicant that proposes to carry out an adult literacy project serving, among others, adults with limited English proficiency, might describe in its application how it intends to distribute a brochure about the proposed project to such potential participants in their native language.

(2) An applicant that proposes to develop instructional materials for classroom use might describe how it will make the materials available on audio tape or in braille for students who are blind.

(3) An applicant that proposes to carry out a model science program for secondary students and is concerned that girls may be less likely than boys to enroll in the course, might indicate how it intends to conduct "outreach" efforts to girls, to encourage their enrollment.

We recognize that many applicants may already be implementing effective steps to ensure equity of access and participation in their grant programs, and we appreciate your cooperation in responding to the requirements of this provision.

Estimated Burden Statement for GEPA Requirements

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is **1890-0007**. The time required to complete this information collection is estimated to average 1.5 hours per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. **If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to:** Director, Grants Policy and Oversight Staff, U.S. Department of Education, 400 Maryland Avenue, SW (Room 3652, GSA Regional Office Building No. 3), Washington, DC 20202-4248.

Optional - You may attach 1 file to this page.

ASD 2008 ED GEPA 427.doc

Add Attachment

Delete Attachment

View Attachment

**Academy for Science and Design
GEPA Section 427 Narrative**

An essential aspect of assisting educationally disadvantaged students is providing services for children with identified special needs. The Academy for Science and Design (ASD) has accepted two students for the 2007-8 school year who have Asperger's Syndrome and per their Individual Education Plans, will require paraeducational aides. The grade transcripts, letters of recommendation, algebra assessment screenings, and interviews for both of these students indicated they are both academically well suited to take advantage of the ASD's unique curriculum.

One of the students has confirmed they will be attending the ASD, and consequently the ASD's School Director has met regularly with the Special Education Director from the student's resident school district, as well as with the Guidance Counselor from the student's school, to arrange scheduling for an aide and determine what other accommodations the student will require at the ASD. The ASD's nurse's office will be made available as a quiet area for the student if needed, and the ASD also has a self-contained instructional space that may be used for special education services. The student's LEA and the ASD have developed a very productive working and mutually respectful relationship, as illustrated by the student's Guidance Counselor taking informational brochures about the ASD back to her school office for distribution.

A decision by the other student's parents was still pending at the time of this writing; should that student also decide to attend the ASD the student will be accorded the same efforts and attention.

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

* APPLICANT'S ORGANIZATION	
Academy for Science and Design	
* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
Prefix: <input style="width: 100px;" type="text" value="Mr."/>	* First Name: <input style="width: 200px;" type="text" value="Kent"/> Middle Name: <input style="width: 150px;" type="text"/>
* Last Name: <input style="width: 300px;" type="text" value="Glossop"/>	Suffix: <input style="width: 80px;" type="text"/>
* Title: <input style="width: 250px;" type="text" value="Chairman, Academy for Science and Design"/>	
* SIGNATURE: <input style="width: 300px;" type="text" value="Kent Glossop"/>	* DATE: <input style="width: 150px;" type="text" value="07/29/2008"/>

Close Form

SUPPLEMENTAL INFORMATION
REQUIRED FOR
DEPARTMENT OF EDUCATION GRANTS

1. Project Director:

Prefix:	* First Name:	Middle Name:	* Last Name:	Suffix:
Mr.	Chris		Franklin	

Address:

* Street1:	316 Daniel Webster Highway
Street2:	
* City:	Merrimack
County:	
* State:	NH: New Hampshire
* Zip Code:	03054-4115
* Country:	USA: UNITED STATES

* Phone Number (give area code) Fax Number (give area code)

603-262-9162	603-262-9163
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Email Address:

franklin@asdnh.org

2. Applicant Experience:

Novice Applicant Yes No Not applicable to this program

3. Human Subjects Research

Are any research activities involving human subjects planned at any time during the proposed project Period?

Yes No

Are ALL the research activities proposed designated to be exempt from the regulations?

Yes Provide Exemption(s) #:

No Provide Assurance #, if available:

Please attach an explanation Narrative:

	Add Attachment	Delete Attachment	View Attachment
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Project Narrative

Abstract Narrative

Attachment 1:

Title: Pages: Uploaded File: 1235-ASD 2008 Abstract.doc

Academy for Science and Design Charter School
CFDA 84.282B - Abstract

The Academy for Science and Design (ASD) opened in September 2007 with a mission to provide the best possible introduction and immersion in the sciences and mathematics for motivated students in New Hampshire. Numerous studies indicate US students tend to fall behind their global counterparts in STEM (Science, Technology, Engineering and Mathematics) areas starting in middle school. To address this issue effectively New Hampshire, as a small, relatively rural state, has pooled its resources to offer its first statewide chartered public school for this purpose for grades 7-12.

ASD's unique and innovative curriculum exceeds New Hampshire State standards and strives to be globally competitive. Algebra, physics, chemistry, and biology are taught beginning in 7th grade, technology is integrated throughout the curriculum, student projects emphasize research skills and engineering, and Mandarin Chinese is offered as the initial foreign language. First year school-wide gains in mathematics achievement using NWEA assessment tests were significant and impressive, suggesting ASD is on the right track. Furthermore, ASD's student body is diverse - for 2008-9, 54 students, primarily 7th-9th graders, will come from 22 New Hampshire communities, ranging from small rural towns to urban cities, with 20% of students from international backgrounds and 39% of students female, in keeping with ASD's goal to recruit females and students from under-represented groups.

New Hampshire's state-authorized chartered public schools are self-governed and independent from local school districts. As a public, non-district school ASD provides opportunities to New Hampshire students that would not otherwise be available. ASD has consequently attracted substantial community and parental support. Heads of local colleges have been extremely supportive, with several serving on ASD's Board of Trustees and offering space, equipment, courses, and personnel to assist ASD. Local businesses have generously donated money, materials, and expertise, including seminars on space science and architecture presented by local professionals. Finally, ASD parents have volunteered vast amounts of time and labor to ensure the school's success. ASD is truly an excellent example of a community cooperating to achieve educational goals.

To help more New Hampshire students improve their abilities in science and mathematics ASD is requesting aid under CFDA 84.242B. ASD opened with an approved multi-year start-up grant, but when New Hampshire lost its ability to distribute start-up funding, ASD's grant was terminated after the first year. Additional funding is needed to complete start-up planning and development. The requested \$305,000 in funds will be used to 1) execute necessary curriculum planning as grades are added and STEM focus areas are expanded into advanced courses, 2) procure additional equipment, software, textbooks, and furniture related to startup growth, 3) provide professional development for faculty, and 4) fund technical enhancements to improve a variety of school processes, including paperless operation and web presence.

Starting an ambitious school like ASD requires significant financial resources. NH's legislature has recognized chartered public schools are one of the state's most important new programs, and has increased per student funding by approximately \$1400, which is encouraging but still not enough to complete start-up. Therefore ASD has initiated an active outreach effort to fund selected projects through philanthropic support, focusing in particular on local businesses in high technology.

Approval of this grant at this crucial stage in ASD's development will further state and national goals to improve our competitive standing in a global economy. Without this grant, it will be significantly more difficult for the school and its students to realize their full potential.

Academy for Science and Design
316 Daniel Webster Highway
Merrimack, NH 03054

Contact: Chris Franklin
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Project Narrative

Project Narrative

Attachment 1:

Title: Pages: Uploaded File: 1247-ASD 2008 Project Narrative.doc

Academy for Science and Design Charter School

CFDA 84.282B - Project Narrative

Application Requirements

(i) Describe the educational program to be implemented by the proposed charter school, including how the program will enable all students to meet challenging State student academic achievement standards, the grade levels or ages of students to be served, and the curriculum and instructional practices to be used;

See Selection Criteria section (i)

(ii) Describe how the charter school will be managed;

See Selection Criteria section (ii)

(iii) Describe the objectives of the charter school and the methods by which the charter school will determine its progress toward achieving those objectives;

See Selection Criteria section (iv, v, and vi)

(iv) Describe the administrative relationship between the charter school and the authorized public chartering agency;

See Selection Criteria section (ii)

(v) Describe how parents and other members of the community will be involved in the planning, program design, and implementation of the charter school;

See Selection Criteria section (iii & vii)

(vi) Describe how the authorized public chartering agency will provide for continued operation of the charter school once the Federal grant has expired, if that agency determines that the charter school has met its objectives;

See Selection Criteria section (vi)

(vii) If the charter school desires the Secretary to consider waivers under the authority of the CSP, include a request and justification for waivers of any Federal statutory or regulatory provisions that the applicant believes are necessary for the successful operation of the charter school and a description of any State or local rules, generally applicable to public schools, that will be waived for, or otherwise not apply to, the school;

The Grant Applicant requests a waiver of Section 5201(d)(1) of the ESEA Act, Title V, Part B, Subpart 1 which states, "A charter school may not receive more than one grant for activities described in subparagraphs (A) and (B) of subsection (c)(2)." The Applicant, The Academy for Science and Design (ASD) was awarded a 36 month Federal start-up grant on January 8, 2007. The first funds from that grant were received by ASD in February 2007. The State of NH lost its ability to distribute the approved second year of funding. The state of New Hampshire Department of Education was unsuccessful in 2007 and 2008 obtaining a second state charter school grant. The existing Federal funds for Charter School Start-up through the SEA were only available through September 30, 2007. ASD has, thus, only had one year of its 36-month start-up funding and was relying on that grant for implementation. Our new charter school is applying for start-up funding through the Federal CSP Planning and Initial Implementation grant as a Non-SEA eligible applicant. If successful, this grant would be our second 12-months of startup funding.

ASD opened on September 15, 2007. In this second year (2008-2009) our student body will nearly double in size, as planned, and our class offerings will also increase by nearly 100%. The continuation of start-up funds will be critical to our success. Subsequent growth in both of these areas will be more moderate after these critical start-up years. The 36

month start-up grant program acknowledges that startup costs for any school go beyond the first year of implementation, and this has been our experience entering the second school year.

(viii) Describe how the grant funds will be used, including how these funds will be used in conjunction with other Federal programs administered by the Secretary;

See Selection Criteria section (iv)

(ix) Describe how students in the community will be informed about the charter school and be given an equal opportunity to attend the charter school;

See Selection Criteria section (iii and ix)

(x) Describe how a charter school that is considered an LEA under State law, or an LEA in which a charter school is located, will comply with sections 613(a)(5) and 613(e)(1)(B) of the Individuals with Disabilities Education Act;

See Selection Criteria section (ix)

(xi) if the eligible applicant desires to use grant funds for dissemination activities under section 5202(c)(2)(C) of ESEA, describe those activities and how those activities will involve charter schools and other public schools;

Not applicable

Selection Criteria

(i) The quality of the proposed curriculum and instructional practices (20 points).

Numerous studies indicate that specialty mathematics and science high schools are a powerful tool for producing high school graduates with a deep knowledge and strong passion for science and mathematics, which translates into much higher rates of college attendance and

graduation in scientific fields. Other reports have shown that middle school is where increasingly well documented stagnation or slumps in reading and mathematics occur. As a public chartered school for grades 7 through 12 specializing in science, mathematics, engineering and design, the Academy for Science and Design Charter School (ASD) aims to nurture and motivate students through early adolescence and help them develop their interests in scientific and technical pursuits. ASD has the potential to add much value to the educational offerings in New Hampshire, and has made impressive gains in its inaugural year.

ASD is an open enrollment, publicly chartered New Hampshire school whose mission is:

- To create an internationally competitive middle/high school recognized for its outstanding academic program in science, mathematics, engineering, and design,
- To graduate well-rounded students with the capacity for high achievement and leadership in their colleges, careers, and society who have in-depth subject mastery; hands-on, real world laboratory experiences; and an understanding of technical and social issues inherent in applications of science and engineering at local, national, and global levels.

Biology, chemistry, physics and algebra are taught beginning in the seventh grade. This accelerated pace will allow ASD students to take advanced courses much earlier than would normally be the case. Qualified students may also take additional courses at local colleges, tuition free with priority enrollment. Finally, through partnerships with these colleges and local businesses and organizations in technical fields, ASD is chartered to offer stewardships, apprenticeships, and mentorships in areas reflecting these partners' fields of expertise and specialization.

The development of these courses, prerequisite classes, associated fieldwork, and internship requirements will be a major focus of this grant. One likely area of specialization is expected to

be aeronautics and aviation, which will be developed in partnership with our charter sponsor, Daniel Webster College (DWC), whose respected collegiate aviation program is already nationally known.

Other tentative areas of specialization are anticipated to be architecture and engineering; chemistry and bio-medicine; computer science, system design, and simulation; environmental science and sustainability; mathematics and physics; and space science, astronomy, and astronautics, with cross-pollination between areas of study actively encouraged.

Potential elective courses include advanced electronics, aeronautics, anatomy, anthropology, archaeology, aviation, biochemistry, botany, computational sciences, computer programming, design technology, environmental science, ethics in science, forensic science, forestry, history of science, marine biology, natural history, numerical modeling, oceanography, physiology, population biology, renewable energy, space science, sustainable agricultural science, and transportation science. These areas were selected during ASD's planning phase, and with approval of this grant will be re-evaluated and pursued for development.

CURRICULUM

ASD graduation requirements exceed New Hampshire state graduation requirements, requiring 25 credits for graduation as listed below. Areas which exceed NH requirements are marked with an '*'. ASD's definition of "credit" is completion of a year-long program with demonstrated content mastery, defined as a score of 80% or better.

- *Mathematics (4 credits)
- *Science & Engineering (5 credits - 4 required subjects: Biology, Chemistry, Physics and Engineering, & 1 credit of science electives)

- Information Technology/Computer Science (0.5 credit)
- English/Literature (4 credits),
- Social Science/History (2 credits)
- World Language and Cultural Studies (3 credits)
- Visual and Performing Arts (1 credit)
- Health and Fitness (2 credits)
- Electives (2 credits)
- *Stewardship Project (0.5 credits)
- *Junior Apprenticeship/Mentorship project (0.5 credits)
- *Senior Research Project (0.5 credit)

ASD students begin studying biology, chemistry, physics and algebra in the seventh grade. The course of study also requires English Language and Literature, social sciences and history, Mandarin Chinese, health and personal fitness, and fine arts. The school emphasizes critical thinking, research skills, and presentation techniques throughout its courses. ASD opened in September 2007 with 32 students in grades 7 through 10, with the majority of students in grades 7 and 8. The school currently offers the core courses listed below, and will expand its offerings as its student population progresses.

MATHEMATICS & SCIENCES

Mathematics - Algebra I and II, Geometry

A strong emphasis is placed on mastery of algebra to provide a solid foundation for further studies in mathematics, science, and engineering. Students are assigned to courses based on their assessed ability, as opposed to age or grade. The ASD program is unique because the

students who are taking Algebra I are 11, 12, and 13 years old and were not screened for Algebra readiness during the admissions process for 2007-2008. Additionally, regularly scheduled tutoring and help with homework assignments are an integral part of the program to maximize the number of students who achieve mastery. Last year, 5 of the 32 students had regularly scheduled tutoring in mathematics. For 2008-2009, three students from ASD will take Trigonometry and Pre-Calculus at Daniel Webster College, including one eighth grader.

Mathematics courses are taught at ASD using teacher-directed lessons with textbooks. The Carnegie Learning mathematics program, a computer-based curriculum is also available for supplemental instruction. For teacher-led sessions which introduce and explain topics, students are grouped based on previous knowledge and/or current skills. Students then have the opportunity to work at their own pace to practice concepts using the Carnegie program, an award winning software program developed at Carnegie Mellon University, and one of only two curricula selected by the What Works Clearinghouse, a project of the U.S. Department of Education, as meeting scientific evidence standards with proven success.

Students can complete mathematics courses in less than a year and go on to a more advanced level of mathematics, or take more than a year if needed. Students are continually introduced to new topics in addition to review of familiar ones. Problems involving application of the concepts are practiced. In order to achieve mastery, the importance of regular individual practice is stressed. Mathematics course standards from the State of California were used to develop the curriculum because these standards are in the highest rated category of state standards for mathematics as rated by the Thomas B. Fordham Institute.

This careful and rigorous approach to mathematics has led to impressive gains as evidenced by the NWEA (Northwest Evaluation Association) tests administered in October 2007

and May 2008. As shown in the data and chart below, 91.7% of Seventh grade students met the Growth Target for Mathematics, and the Mean Growth Score for Seventh grade students was 10.1, compared to the Mean Target Growth of 3.8, an improvement of 2 1/2 times above the NWEA specified targets. For Eighth grade students, 81.8% met the Growth Target for Mathematics and the Mean Growth Score for Eighth grade students was 8.3, compared to the Mean Target Growth of 4.2, an improvement that is two times greater than the NWEA specified targets. The results for Tenth graders are more difficult to interpret due to the small number of Tenth grade students.

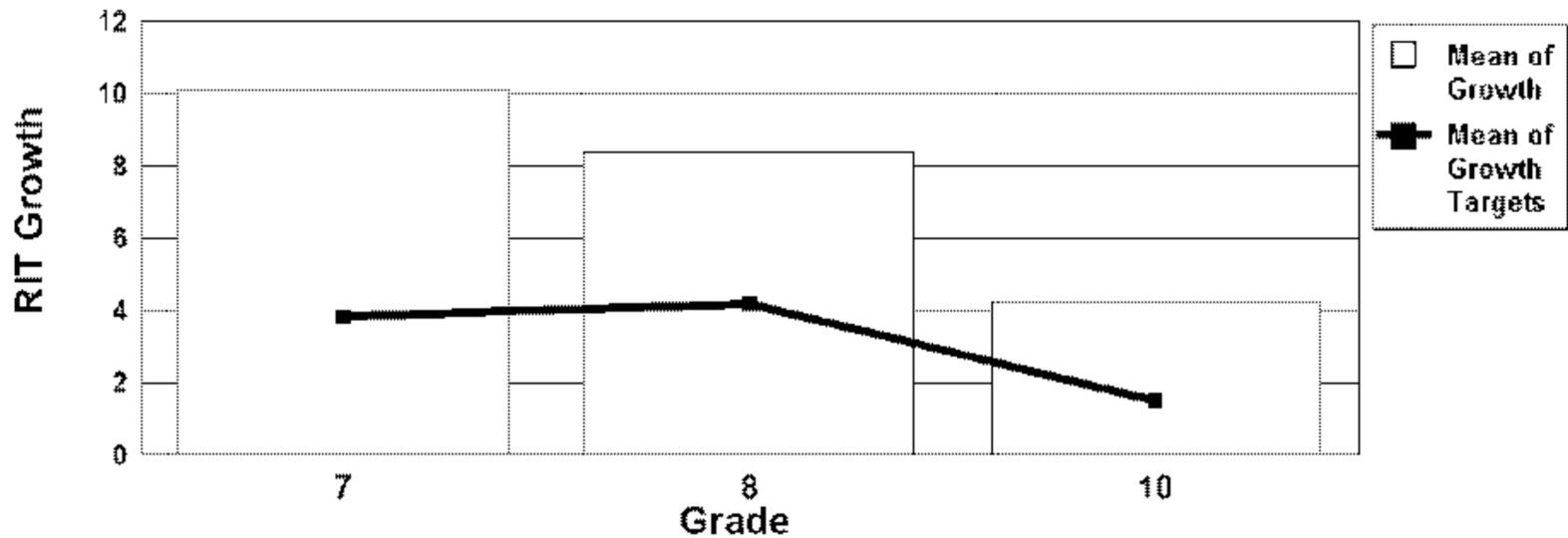
Student Growth Summary - Fall 2007 to Spring 2008

District: The Academy for Science and Design Charter School

*(Small Group Summary Display is OFF)

Mathematics	Count	Fall 2007		Spring 2008		Growth			Mean Growth Target **	Growth Index	Percent of Target	Count Meeting Growth Target	Percent Meeting Growth Target
		Mean RIT	Std Dev	Mean RIT	Std Dev	Mean	Std Dev	Std Error					
Grade 7	12	253.3	15.7	263.4	16.2	10.1	5.5	1.6	3.8	6.3	263.0	11	91.7
Grade 8	11	245.3	4.3	253.6	8.7	8.3	6.4	1.9	4.2	4.2	200.0	9	81.8
Grade 10	4	*	*	*	*	*	*	*	*	*	*	*	*

Mathematics



These school-wide gains were not only achieved in a single academic year (from October to May), but were achieved in the inaugural year of the school. The success of the ASD

mathematics program sets an example for the state and offers indisputable proof that younger students are able to learn algebra if given the opportunity in the proper setting.

The Algebra I course stresses notions of constants and variables in equations, reorganization of mathematical formulae to isolate subjects of an equation, manipulation of quotients, and familiarity with generalized algebraic descriptions of geometric structures such as a straight line, a circle and simple parent graph curves.

The Algebra II course provides a detailed treatment of the general polynomial equation allowing students to solidify the vital skill of expansion of bracketed expressions. The concept of exponents is emphasized along with detailed multiple repetitions of equations involving radicals. The natural extension to logarithms permits a deeper understanding of the utilization of exponents. Trigonometric identities are introduced and learned. An introduction to conic sections is included. The importance of complete facility and recall of all identities as a pre-requisite for pre-calculus is stressed.

In Geometry particular emphasis is placed on the introduction of the concept of the axiomatic proof. Students become familiar with the discipline required to define in formal mathematical terms concepts which may appear intuitively obvious. Once the foundations have been established the course continues through the study of the classical geometric shapes and theorems. The course includes a rigorous treatment of Pythagorean Theorem and an introduction to trigonometry. With approval of this grant Geometer's Sketchpad, a multiple award winning geometry software instructional program, will be used to supplement teacher led instruction.

Textbooks: Algebra 1 by Larson, Boswell, Kanold and Stiff; published by McDougal Littell
Algebra 2 by Larson, Boswell, Kanold and Stiff; published by McDougal Littell
Geometry by Larson, Boswell, Kanold and Stiff, published by McDougal Littell

Integrated Biology and Chemistry (IBC) I, II, and III

For the 2007-2008 school year ASD used the Chemistry lab and equipment at DWC since it did not have funds for construction of a chemistry laboratory. An anonymous donor has since stepped forward and given ASD a generous contribution to build a chemistry laboratory, which is currently being constructed for use during the 2008-2009 school year. Biology and Chemistry at ASD are taught as a combined course designed to reflect the connections between the two disciplines. Students learn material through a combination of traditional instruction, hands-on exploration, and applied problem-solving. In addition, students learn and practice methods of research, including collaboration and sharing results through written laboratory reports and oral presentations. Topics include: chemical composition, properties and changes; scientific measurement, properties of matter, organization and classification of living things, evolution and natural selection, interactions of organisms, cellular biology, homeostasis, and ecosystems.

Instruction focuses on subject mastery, with opportunity for students, either independently or as part of a group, to pursue advanced topics of special study when appropriate. The integrated biology and chemistry course has been designed as a three-year sequence; however, some students may complete the sequence in less time. Upon completion of the Integrated Biology and Chemistry material, students will have fulfilled the requirements of a high school honors-level Biology course and a high school honors-level Chemistry course, as determined by standards set in the New Hampshire Department of Education Curriculum Frameworks, and will be prepared for advanced study in these fields. The Fordham Institute's State of State Science Standards report was also guided the development of the IBC curriculum.

Textbooks: Prentice Hall Chemistry. Wilbraham, Staley, Matta and Waterman. 2008. Pearson Prentice Hall
Biology: Exploring Life. Campbell, Williamson, and Heyden. 2006. Pearson Prentice Hall

Physics I and II

Physics courses at ASD are designed to support the National Science Education Standards established by the National Research Council's National Committee on Science Education Standards and Assessment. Physics I introduces students to the study of physical science and the central concepts which provide a strong foundation for future study in engineering, medicine, space, architecture, humanities, technology, computer science, and almost every area of science. The goal is to provide ASD students with a firm foundation in the principles and methods of physics. A local firm, Kollsman, has generously offered the use of their state of the art optics laboratories for the students' studies in this area. (This is discussed further in Section *iii*.)

The companion course, Physics II, reviews and expands these same areas of study and pursues them in more depth. At the end of 2 years, students will be ready for courses that incorporate advanced understanding of both technical theory and practical techniques. Students who require higher level assignments in any topic will have this adjustment.

In both Physics I and II students first explore the extensive subfields of static and current electricity, magnetism, waves, sound, optics, heat, measurement, and mechanics. For each topic, scientific theory, concepts, and applications are pursued. Lab experiences enhance student understanding of basic physics concepts through direct observation of empirical evidence and hands-on learning. Labs introduce students to research basics: how to observe the physical world around them, recording, presenting, interpreting, and analyzing data. Students develop the capability of mapping observational data to mathematical structure.

The goals of the Physics courses are to identify questions and concepts that guide scientific investigations, design and conduct scientific investigations, use technology and mathematics to improve investigations and communications, formulate and revise scientific explanations and models using logic and evidence, recognize and analyze alternative explanations and models, and communicate and defend a scientific argument. In addition students are taught to apply Ohm's Law, the Law of Magnetic Poles, Newton's Laws of Motion, the Wave Equation, and the Density Formula and conduct experiments to investigate and illustrate them.

Textbook: Conceptual Physical Science by Hewitt, Schocki, Hewitt and Baird (Middle School)

Conceptual Physics by Paul G. Hewitt (High School)

Research and Internships

A program of electives and independent study will essentially provide 11th and 12th grade student with major and minor areas of specialization. By mid-11th grade, ASD students are chartered to select an area of specialization and produce a research project worth 0.5 credits to be approved and overseen by a faculty member. Students will also be required to spend one semester in a community service stewardship and one semester in a junior apprenticeship or mentorship related to their chosen area of specialization, ideally in conjunction with a local college, business or other community organization.

HUMANITIES

History (I, II, and III)

History is examined from a science and technology viewpoint, utilizing real and virtual tours of museums. A large portion of the course is taught using the Internet, taking advantage of the school laptop each student brings to class to visit selected websites, such as the British Museum, or the National Archives, and complete interactive lessons at the sites. Students learn and practice critical thinking skills, collaborative learning, and research techniques, including proper citation and website evaluation. History is taught at ASD as a three year course (I - Prehistory – 1600, II - 1600-1900, III - 1900-Present) following the recommendation of the National Commission on Social Studies in the Schools, which states that "study of United States history within the context of world history will help students make the important linkages between events on the national and world stage, and provide them with a global perspective." Textbook: Science and Technology in World History: An Introduction. McClellan and Dorn. John Hopkins University Press. (Winner of the 2000 World History Association Book Award)

English I, II and III

English I emphasizes critical reading for themes, as well as literary terms, self-selected vocabulary, and teacher-selected spelling. Assigned reading includes classic and contemporary works such as *The Epic of Gilgamesh*, *The Giver*, *Anthem*, *Jonathan Livingston Seagull*, and assorted short stories and poems. English II emphasizes critical analysis of readings, and essay writing; additional readings include *Animal Farm*, and assorted short stories and poems. Readings are discussed in relation to the student's lives, our world, and abstract concepts (e.g., love, justice, equality). English III focuses on advanced concepts in analyzing literature, critical

reading (for the SAT), and short essay-writing. Assigned reading includes classic and contemporary works such as *Sophie's World*, *The Great Gatsby*, *Canterbury Tales*, *Beowulf*, and *Grendel*. There will also be an emphasis on writing research papers and MLA formatting (including writing for publication). Time permitting, a play by William Shakespeare and philosophical writings from the Renaissance and Enlightenment are covered.

Mandarin Chinese (Intro, I, and II)

The three Mandarin courses taught at ASD are designed to develop students' ability to listen, introduce some aspects of Chinese culture and customs, provide a preliminary grasp of Chinese, with the focus on speaking and listening, present the Pinyin pronunciation system, introduces students to the writing system. Mandarin Chinese was chosen as ASD's core language on the advice of industry and academic leaders after significant research, as experts believe Mandarin Chinese will be an advantageous tool for successful business communication in the not too distant future.

Textbook: Integrated Chinese, Yao and Liu, Cheng and Tsai Company, Boston

Seminars:

For 2007-2008 a program of seminars and 'immersion' courses were taught by faculty and professionals from various technical fields to expose students to a variety of career and subject specialties, and enhance their appreciation of the breadth of opportunities and challenges that are available to them. Designed to allow young students to get a taste of these areas without overwhelming them with a full semester of coursework, some of these courses will be expanded into full length courses as we continue to grow in the years ahead. The 2007-2008 series

included seminars on Architecture, Computer Aided Design, Computer Programming in C#, Digital Art, Animation, Earth Science, Engineering, Research Skills, and Space Science.

ASD also offers a number of short 6 to 8 week afternoon elective courses intended to stimulate and broaden students' experience. These courses are taught by faculty, parents, and other community members with expertise in a variety of topics. Topics for 2007-2008 included Art, Art of Mask Making, Drama, Investing/Personal Finance, Movie Production, Photography, Study Skills, and Scottish Dance. In addition, as part of the Academy's commitment to develop student leadership abilities, faculty approved student-led short courses are offered; for 2007-2008 these included Duct Tape Design, Graphic Novels (Manga), Henna Designs, High Altitude Weather Ballooning, Macrame Knotting, Origami, and Video Game and Web Page Design.

Speakers and Field Trips

For 2007-2008 ASD offered a variety of speakers and field trips to support the curriculum, expose students to tentative areas of specialization, and introduce them to some of the social and political impacts of technical issues. ASD hosted speakers from the Andres Art Institute, the NH Higher Education Assistance Foundation, the NH State Limnologist (per a student's request), Nashua Mayor Bernie Streeter, NH State Representatives from the Environment, Energy and Economic Development Committee and the Science & Technology and Energy Committee discussing pending bills, two architects discussing general architectural design and green design, a DWC professor demonstrating integrated flight simulation software tools, and a visiting professor of philosophy discussing Esperanto.

Fields trips included visits to the Andres Art Institute, Boston Museum of Fine Arts, Boston Museum of Science, Higgins Arms and Armory - including a lecture and demonstration

on manufacture of medieval armor in conjunction with History classes on the Middle Ages, and the Seabrook Nuclear Power Plant. Students were also treated to a field trip to Crotched Mountain Ski Area with a lecture and tour of snow making operation, a holiday drama field trip, and a presentation by a magician, followed by student magician presentations.

Below is a sample Daily Schedule for an ASD student. There are longer class periods in the morning and shorter class periods in the afternoon. Fridays have more flexible scheduling for Seminars, Speakers and Field Trips. Students appreciated a longer lunch period for socializing. And, at the end of every school day, time was set aside for students to complete chores and share announcements about school activities.

Sample Daily Schedule for Academy for Science and Design Student 2007-2008

	Mon	Tue	Wed	Thu	Fri
AM Meeting 8:20 AM - 8:30 AM					
Period 1 8:30 AM – 10:00 AM	History (A)	Physics (A)	History (A)	Physics (A)	Academic Session (rotating subjects)
Period 2 10:10 AM – 11:40 AM	Integrated Biology/Chemistry	English II	Integrated Biology/Chemistry	English II	Intro to Architecture
Lunch 11:40 AM - 12:15 PM					
Period 5 12:15 PM - 1:00 PM	Future Problem Solvers	Mandarin I	Future Problem Solvers	Mandarin I	Intro to Space Science (Astronautics)

Period 6 1:00 PM - 1:45 PM	Algebra IA	Algebra IA	Algebra IA	Algebra IA	
Period 7 1:45 PM - 2:30 PM	Investing/Finance	Directed Study	Investing/Finance	Directed Study	Drama
Period 8 2:30 PM - 3:15 PM	Study Skills	CAD-Engineering	Study Skills	CAD-Engineering	
CHORES / E.O.D. Mtg 3:15 PM - 3:30 PM					

INSTRUCTIONAL PRACTICES

ASD's instructional philosophy guides its teaching style and school culture, giving teachers freedom to be creative in the classroom, while also stressing collaboration among and between faculty. Project-based learning (1st Annual ASD Science Fair), case studies (IBC Student Nutrition Diaries), real-world applications (Architecture Seminar student-built models of future school expansion), and hands-on projects (robots for Lego League and the Trinity College Home Fire Fighting Robot Contest), are emphasized to develop student interests and talents, as will student-selected stewardships, apprenticeships, and senior research projects in the coming years. ASD's instructional methods follow best practices, and in particular project-based learning enables the teacher to differentiate activities, products and processes of the classroom to meet the needs of all learners so that all students can meet or exceed academic standards (Tomlinson, 1999).

Students are assigned to courses based on their assessed level of content skill and mastery, as opposed to age or grade. Courses are taught using a mastery learning

philosophy allows students to re-study and retake assessments to reach a certain standard. Students who have difficulty are provided structured assistance.

Student assignments include written analysis of their own and others' work, reflective journals, quantitative and qualitative studies, products, and oral presentations. Flexibility in learning techniques allows individualization to accommodate students' different learning styles. For example, in 2007-8 two students who had difficulty with teacher led instruction for Mandarin were able to switch to an online learning system.

Students will also have a role in planning their educational program, with teachers and community business and technical leaders facilitating student pursuits of independent learning, and mentoring the student stewardships, apprenticeships, and senior research projects required for graduation. Digital portfolios will be kept to record each student's research project and internships for submission with college applications as warranted.

Provision for Acceleration

The school engages in preliminary and ongoing assessment of student knowledge and skills. The school also actively supports acceleration or accommodation as needed to assure enrolled students are challenged - students who complete courses prior to their classmates have opportunities to pursue independent study or other courses and subjects.

Provision for Supplemental Instruction

Students whose preliminary assessment, or later academic progress indicates they are in need of additional educational support may be scheduled for individual tutoring, a seminar in

Study Skills, class periods of monitored Directed Study, and/or switched from one method of instruction to another (teacher led or online training) as deemed beneficial by ASD faculty.

Technology

The Academy for Science and Design offers specific elective classes in computer science and graphic design and aims to integrate state-of-the-art information and communication technology through out the school, including a laptop for every student. The laptops are used for:

- Supplementary course materials provided on CD
- In-class research employing the Internet
- Carnegie Learning Cognitive Tutor program
- GoCourse Learning System, an award winning learning content management system
- Computer programming coursework
- Robotics programming
- Lab reports and calculations for physics, chemistry and biology
- Essays and papers for English and history
- Communication with ASD faculty and staff

Student Participation

Students are expected to participate in public exhibitions, performances, competitions, and demonstrations as individuals or in collaboration with others. The art of public speaking and presentation are included in the school's curriculum: the inaugural ASD Science Fair required every student to present a report on their science fair project, and during the school year students were given opportunities to make presentations during a Speakers Program on Fridays about

topics of personal interest such as family trips to Pakistan and India, and hobbies like magic, rocketry and origami, as well as perform in a semi-public talent show at a local restaurant. Students are also able to participate in Student Council, which during the 2007-2008 school year planned and hosted school activities such as a very successful Student Dance and end of year Ice Cream Social.

Students are also encouraged to participate in extracurricular academic teams. During ASD's first year, these extracurricular teams had very successful results. Every team fielded by ASD - Lego League, MATHCOUNTS®, Destination ImagiNation (DI), and Future Problem Solvers (FPS) - won a significant award at local competitions. Three of four teams were first place winners at their regional competitions, and two teams won state competitions and went on to represent New Hampshire at national events. The Destination Imagination team travelled to DI Global Finals at the University of Tennessee in Nashville and the Future Problem Solvers Team travelled to the International Competition at Michigan State University in East Lansing.

Students are also required to participate in daily chores at ASD, reducing maintenance costs and helping develop a sense of community service.

(ii) The degree of flexibility afforded by the SEA and, if applicable, the LEA to the charter school (10 points).

New Hampshire law extends an unprecedented degree of flexibility, autonomy, and privilege to charter schools. Charter School law starts out specifically stating:

“Except as expressly provided in this chapter, including but not limited to RSA 194-B:8, charter schools shall be fully exempt from state laws and rules which otherwise apply to public or nonpublic schools, or local school boards or districts. Notwithstanding the

foregoing, charter schools shall have all the rights and privileges of other public schools.” RSA 194B:3(I)(a).

As a public school, authorized under RSA 194-B in New Hampshire, a charter school is recognized as a government instrumentality authorized by the NH State Board of Education and independent of any LEA except in the area of special education.

Section 194-B:8 requires non-discrimination (I), compliance with state and federal health & safety laws (II), day & hours required for public schools (III) and academic assessment tests such as NECAP (V). These are basic requirements that any school agency should have, and do not cause any interference with the ability of a charter school to implement its teaching methods in any way.

Oversight of charter schools is done using financial reports, monthly progress reports, and an annual compliance report. The key oversight done by the state is in the areas of assessment with regard to implementation of the goals of the charter.

Finances are provided by the state using a per-pupil formula, and in the past few years supplemental grants of money have been issued to ensure a thriving and healthy charter school program. The state does not dictate how those funds are used, and does not limit a charter school from raising more funds from philanthropy or businesses. Public funds are spent using the triple check procedure required for any public funds expenditures. The state does require quarterly financial reporting, an independent annual audit, and an annual financial report form, the DOE-25. These reports are evaluated so the state can answer the following questions:

- Is the school making progress toward achieving its mission?
- Is the school responsibly using public funds?
- Is the school promoting student attainment of expected knowledge and skills?

- Is the school sustainable?

All public schools including charter schools in New Hampshire are now able to upload student attendance and personal administrative information online to the New Hampshire Department of Education to track students. This technological support has simplified procedures and eliminated many forms.

In accordance with RSA 194-B:5, the Academy for Science and Design is governed by a Board of Trustees that has general supervisory control and authority over the business and operations of the charter school. Specifically, it has the authority to set policy and make decisions that serve the mission and vision of the school and has oversight and authority to render final decisions on matters pertaining to:

- Approval and oversight of annual budget and fund-raising programs,
- Hiring of professional personnel,
- Setting policy,
- Appointment of board advisory members or committees,
- Delineation of educational priorities,
- Oversight for the school's growth plan,
- Establishing professional salary and compensation program,
- Reviewing and approving significant contracts, e.g., for facilities and benefit programs,
- Matters for which the Board serves as a hearing body for action or appeals,
- Any other matters that are not administrative in nature and/or that are prescribed in statute or rule.

ASD's budget and expenditures are approved by the Board of Trustees and managed on a daily basis by the school's director. Management of daily operation and personnel is the responsibility of the school's director, who will:

- Allow faculty and students to maximize achievements consistent with ASD's philosophy,
- Act as a public relations liaison, including working with the local school district,
- Assist faculty with all aspects of school as needed,
- Assume overall responsibility for supervision of staff and students,
- Follow all ASD, State and Federal administrative requirements and standards,
- Supervise and collaboratively evaluate the work of staff, and submit recommendations to appropriate staff members for promoting, retaining and dismissing members of ASD staff,
- Oversee schedules created in collaboration with all staff members,
- Research grant programs, write funding applications, and oversee student run entrepreneurial sources of revenue,
- Initiate and participate in consultation with teachers, parents, students and the community regarding the welfare of any student or other issues relative to ASD, and promote safety and good health practices by adherence to public codes/regulations and ASD standards.

(iii) The extent of community support for the application (20 points).

The charter school has had tremendous support from parents, businesses, and colleges within 100 miles of the school. The planning, design, opening, and operation of ASD has created many opportunities for community members interested in its development and future to step forward and become involved with ASD, with gratifying results.

ASD has been most fortunate to have Daniel Webster College (DWC) sponsor the charter application for ASD submitted to the New Hampshire State Board of Education. DWC has provided support in a variety of ways (See Attachments - Letter of Support from Dr. Michael Fishbein). DWC has generously provided personnel to assist ASD and equipment for ASD physics laboratory experiments. Finally, DWC has invited qualified ASD students to take DWC courses tuition free with priority enrollment, and allows the ASD Chemistry II class to use its laboratory facilities, for which ASD is most grateful and appreciative.

Nashua Community College (NCC) is also an exceptionally active partner of ASD. NCC continues to offer its courses, laboratories, and student guidance department for ASD's use, and for the 2008-2009 school year three ASD students will be taking courses at NCC.

The local education agency, Merrimack School District SAU #26, has also been very welcoming. Superintendent Marjorie Chiafery, New Hampshire's Superintendent of the Year for 2006-2007, has been very receptive to ASD, as Deb Wofflein, assistant superintendent, has gone so far as to provide her personal cell phone number to facilitate communication. Both have provided assistance and information to ASD numerous times, and looked for ways the schools could work together. In one instance Ms. Chiafery proposed a mutually beneficial partnership whereby ASD might share a well regarded music teacher with SAU #26, which could only afford to employ the teacher part-time, leading to concerns she might leave the district.

Local community and business leaders have also been extremely supportive. The mayor of Nashua, which neighbors Merrimack and is the second largest city in New Hampshire, came to speak to the students almost as soon as ASD opened. Two of the New Hampshire state representative on the New Hampshire State Senate Science and Technology committee also came and spoke about the bills before their Committee. In addition, Sheila Roberge, the state

senator for ASD's district, and several Merrimack town council representatives have all visited the school and offered their support.

The Nashua Chamber of Commerce requested a special meeting be held at the school with a presentation by ASD's director for its members on what a charter school is and what in particular ASD does. This meeting then led to an exciting invitation from a leading international firm headquartered in Merrimack, Kollsman (an Elbit Systems of America Company). This developer of commercial aviation systems and medical devices has generously offered to allow ASD students to use their state of the art optics laboratory on alternating Fridays for ASD Physics courses. Kollsman saw this as a great opportunity to contribute to ASD and its mission since it operates on a work schedule that gives Kollsman employees every other Friday off, and thus could make the laboratory available to ASD students and faculty.

Agilix Labs, an international educational software company, donated a copy of its award winning flagship course management product, GoCourse, for ASD's use on a trial basis in 2007-2008. Numerous local businesses have also offered the school discounts on items for school events. One local restaurant hosted the school's spring talent show, and another local restaurant hosted ASD students as part of an architectural walking tour of Nashua, providing free food for all of the students and chaperones. Local businesses have also made very generous cash donations to support two of the school's winning teams which traveled to out of state events to represent New Hampshire.

The New Hampshire High Technology Council (NHHTC) is a consortium of over 200 New Hampshire companies founded in 1983 in part to bring concerned high technology business owners, development specialists, and educators together to support educational programs that encourage innovative research and technology-based industrial development in NH. The

NHHTC has voiced interest and support for ASD, and ASD plans to pursue further connections with its member businesses in the coming years.

To increase awareness of ASD in surrounding communities and ensure that all New Hampshire students have equal opportunity to apply to the charter school, an extensive public relations effort has been and will continue to be mounted. The school has been featured in numerous local newspaper articles and maintains a professional relationship with local reporters. Prior to the school's opening advertisements were placed in newspapers and regional magazines, public information and planning meetings were held around the state, and radio & local cable TV broadcasts were used, in addition to the establishment of the school web site, asdnh.org. An informational brochure describing the school, its mission, and its approach to education was developed and distributed to prospective families (See attachments for ASD brochure).

Since the school's opening press releases about school activities and achievements have been regularly issued by the parent volunteer Outreach Committee to local newspapers and the School Director has done interviews for both local cable television stations and radio talk shows. The ASD Family and Friends Open House held in the fall had over 80 people attend. The two spring Community Open Houses were announced in two urban dailies, ten regional and small town weeklies, three statewide monthly publications, six local events websites, the local cable TV station, and on flyers posted in a number of public venues (libraries, grocery stores, YMCA), with resulting turnouts of over 100 people at each open house, including some from Massachusetts. A new informational brochure highlighting accomplishments of the school in its first year has been developed by parent volunteers and has been distributed to local public libraries, schools, and various

businesses in the area. Ads for the school have also been developed to run on local PEG TV announcement channels, and ASD will have publicity/fundraising booths at the Merrimack Business Expo and Milford Pumpkin Festival this fall.

ENROLLMENT, ADMISSION, AND LOTTERY POLICIES

Enrollment

As a state-sponsored charter school, ASD is an open enrollment public school of choice for students throughout New Hampshire. For state-sponsored student placements, ASD will comply with current statutory provisions whereby not more than 10% of the resident pupils in any grade shall be eligible to transfer to a charter school in any school year without the approval of the local school board. ASD accepts applications to the school on a continuous basis up to a pre-announced lottery date, at which point a lottery is held. It should be noted that prior to any student applications being accepted in the school's first year the inaugural board of trustees voted a lottery policy in conformance with state and federal guidelines. Names of applicants will be drawn randomly until all available openings are filled. The names of the remainder of the applicants will be drawn randomly in order to form a waiting list. Applications received on or after the lottery date will be placed after those on waiting list if there are no openings.

ASD enrolled thirty two students in its first year, with thirteen (40.6%) being female, eight (25%) Asian, eight (25%) identified as bilingual, eleven (32.4%) from urban cities, twenty (62.5%) from small towns, and one (3%) coming from a New Hampshire area qualifying for the Rural Education Achievement Program (REAP) for lower income communities. The majority of students come from the state's two largest cities (Nashua and Manchester) and from the

town of Merrimack—all school districts noted as not meeting AYP during the last two years.

For the 2008-2009 school year, twenty-eight students are returning, for a retention rate of 87.5%. This is excellent considering the financial difficulties facing the school, since it did not receive the second year of start-up funding. Twenty-six students have been accepted for the 2008-2009 school year. This is an increase in enrollment of 81%. Of the 54 students for 2008-2009, twenty-one (38.8%) are female, nine (16.7%) Asian, two (3.7%) Hispanic, three (5.6%) are not reporting, seventeen (31.5%) are from urban cities, thirty (55.5%) are from small towns, and seven (13%) are from REAP communities. These numbers indicate ASD's outreach to rural areas and educationally disadvantaged groups is making headway, especially in light of New Hampshire's limited ethnic diversity (95.8% white).

The Academy for Science and Design does not discriminate in the educational programs activities, or employment practices on the basis of race, color, national origin, age, sex, or handicap under the provisions of Title VI, of the Civil Rights Act of 1964, the Age Discrimination Act of 1967, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Education for All Handicapped Children Act of 1975. State laws require compliance to civil rights guidelines and the Board of Trustees complies with state law in its policies and programs.

Admissions

As an open enrollment public school any New Hampshire school student may apply for admission. There are four criteria for admission eligibility:

- 1) The applicant student has successfully completed the school year preceding admission

with credits/creditable work in all core subjects (verified by the sending school district).

- 2) The applicant student demonstrates interest in the sciences and academic study.
- 3) The applicant student and his/her parents/guardians agree to the mission of the school, its policies, program, and expectations.
- 4) The Admissions Committee agrees that the applicant is likely to benefit from this specific charter school program.

During the inaugural year's application process informational meetings were held throughout the state within 50 miles of the school. Students completed an interest inventory. Parents provided copies of prior school transcripts. The application process did not include testing that screened students out based on prior education experience but instead relied on discussions with students and families and letters of reference from at least one school faculty member recommending the student. Letters of intent to return are required from families prior to the end of each school year. This will determine the number of available spaces for the following school year. The Board of Trustees did vote a sibling preference policy which is allowed under New Hampshire charter school law and administrative rules.

If more students apply and are eligible than the number of spaces available in any grade or program, the Board of Trustees will conduct a lottery according to an established lottery policy. Eligible students who are not chosen in the lottery will be listed on a wait list in the order their names are drawn, according to grade or program. Should a selected student not attend or an opening otherwise occur, placement will be offered based on waiting list order. If a student offered admission from the wait list declines admission, students will be contacted in the order listed.

If an ASD student withdraws or otherwise leaves the school, the first person on the waiting list for this grade or program is contacted. If that student is no longer interested, the School Director will continue to contact students/parents in the order listed until a student is found to fill the opening.

Application Procedure

1. ASD makes available school information, application procedures, and application forms. The school maintains a web site with complete application procedures and forms available online.
2. Parents/legal guardians submit a completed application package provided by the school, including a personal document stating their interest in the school, and a completed student questionnaire. The student's parent/legal guardian also provide releases of information needed to obtain health, academic transcripts, and special records from prior schools and affidavit of residency.
3. A skill screening for mathematics is conducted by the mathematics teacher since ASD does not offer mathematics courses lower than Algebra I. Tutoring for students who need assistance with algebra readiness is offered.
4. Once the application is complete, the applying student is invited for a visit to the school and shadows an enrolled student for a day.
5. If a student is enrolled in a school district special education program, the respective special education department is notified of the student's request for admission.
6. The school then sets one or more dates for admissions decision-making and a lottery, if needed.
7. Once accepted, the student has an orientation.

For special education admissions, the student's home residence LEA's Evaluation and Placement Team is responsible for the IEP, and implementation of it. The LEA works closely with the charter school, providing the necessary support to make sure that all of the student's needs are met.

Lottery

If a lottery is to be conducted, the following guidelines will apply:

- The lottery will be conducted by an adult who is unaffiliated with the charter school and who has no child applying to attend.
- Applicants will receive confirmation of being in the lottery, with their lottery number, and the date, time and place of the lottery.
- On the day of the lottery, the lottery adult will check to assure that each applicant's lottery number is on a lottery device (e.g. small ball). All the objects with lottery ID numbers are placed in a container. Prior to drawing ID-numbered objects, the lottery adult will verify that all the lottery numbers have been double-checked and all eligible children are included. Only the lottery adult will draw ID-numbered objects from the lottery container.
- Personnel from the school will monitor selections to assure no one town or grade is oversubscribed (in accordance with NH statute).
- Any student from any town who is not chosen will go on a waiting list in order of draw from the lottery with the waiting list available for public inspection at all times.

- Should students be selected who require placement confirmation from their districts (students in special education or over exceeding the 10% rule), the school will contact the school to confirm approval. Should the student's enrollment not be authorized, the next eligible student on the wait list will be contacted for admission.
- As openings occur, students on the wait list will be contacted according to their order on the wait list and according to the grade level of opening.
- In the case of a sibling of an already enrolled child applying for admission to a grade level that is full, the sibling will be placed in the next available spot on a waitlist prior to a lottery.
- The wait list will be determined (at the time of the lottery) in the order that lottery numbers are drawn. Openings in the school will be offered to those on the waiting list in strict numerical order. An applicant may not defer an offer and keep his/her spot on the waiting list. If an offer is declined, that applicant will be removed from the waiting list and the opening will be offered to the next applicant.
- There are no time constraints on the waiting list. The waiting list "follows" the class year after year.
- Once admitted to the school, an eligible student will automatically qualify for enrollment in subsequent years without being subject to an additional lottery. If, however, a student withdraws from the school, then that student will be considered a new student for future admission purposes and may be subject to a lottery, depending upon vacancies.
- Parents that move to another part of the country for up to a year will be handled on a case-by-case basis as to whether or not they may reclaim a spot when they return. The

school staff will weigh issues such as length of absence and ability to stay in step with the curriculum, and any other issues deemed pertinent at the time.

(iv) The ambitiousness of the objectives for the charter school (10 points).

ASD has established ambitious academic goals with these chartered criteria and metrics:

- Measures of progress will demonstrate >75% of students proficient or advanced in science and mathematics from year to year
- Standardized assessments will demonstrate that >75% students are proficient or advanced in reading
- >90% of students will demonstrate mastery of the content of Algebra I and II
- 100% of students will have immersion experiences and opportunities in science with technical specialists, industry leaders and/or entrepreneurs
- 100% students will give public presentations
- 100% students will maintain digital portfolios
- 90% of students will plan to attend college

Specific ASD objectives supporting these goals are listed below, along with the planned uses of grant funds to support them. Please see the Budget Narrative for additional detailed descriptions of how grant funds will be used. At this time no other federal entitlements or competitive grants have been awarded for the 2008-2009 school year.

Objective 1 - Complete curriculum development: Grant funds will be used to employ a curriculum coordinator for one year for these critical tasks - 1) Determine specific elective courses in areas of specialization; 2) Establish relationships with local colleges, businesses, and

community organizations to facilitate arrangement of stewardships, apprenticeships, and mentorships for upper level students; and 3) Develop procedures and protocols for internships.

For the initial small number of upperclassmen, it is anticipated that the main source of advanced course offerings will be the courses and necessary prerequisites offered at local colleges partnering with ASD. However, for the 2009-2010 year ASD would like to begin offering its own courses in areas aligning with available community expertise and technical specialties as well as student interests.

Local businesses and community organizations which previously expressed an interest in ASD, but understandably were not willing to commit to participation in any partnerships until the school actually opened, now need to be contacted to develop the necessary relationships to establish student internships in coming years. The likelihood of achieving this objective is highly dependent on availability of funding to employ a curriculum coordinator for these tasks. In addition, ASD teachers will be required to do additional course development and integration work based on the curriculum coordinator's results, and will need to be compensated accordingly.

Objective 2 - Professional development: Grant funds will allow ASD faculty and staff to obtain information, training and development needed to keep abreast of national and international best practices in education relevant to ASD curriculum needs. Grant funds will be used for school personnel to attend the Project Directors' Meeting for this grant, the National Charter School Conference, and the National Education Computing Conference. Membership in the National Consortium for Specialized Secondary Schools of Mathematics, Science, and Technology will provide additional information, benefits, and exposure for ASD.

Objective 3 - Complete fit up of school: Grant funds will be used for purchasing furniture, equipment, software, and materials to support instructional requirements for higher level and advanced courses and expanded student body. The effectiveness and efficiency of the school will be highly impacted by the availability of funds for these needs.

Objective 4 - Provide needed technical support for ASD website development and computer infrastructure: Grant funds will be used to upgrade the primitive website initially set up for ASD and repair the ASD computer network, which is currently not configured for optimal performance or use by students.

(v) The quality of the strategy for assessing achievement of those objectives (20 points).

ASD's student assessment plan focuses on three goals: (1) help students learn, (2) inform teachers about student progress, and (3) include parents as partners in the assessment process. ASD assesses, evaluates, and reports student achievement by multiple methods: standardized testing, classroom records including highly detailed progress reports and report cards, and frequent parent/teacher/student conferences whenever needed. Additionally, teacher development, supervision and evaluation also contribute to on-going student success.

Assessment screenings for algebra readiness as well as reading and writing skills are administered prior to entrance. Upon admittance student achievement will be assessed using a variety of strategies including course material examinations, individualized skill reviews in literacy areas, portfolios of student projects, the aforementioned standards-based progress reports and report cards, and the following state and national standardized tests:

1) NECAP - Each October, New Hampshire tests all public school students in grades 3-10 using the New England Comprehensive Assessment Program (NECAP). The NECAP is a

this experience as well as science fair presentations to develop their public speaking skills. Finally, as chartered, a digital portfolio recording their progress and achievements as they progressed through ASD will be maintained. Guidance counseling for college planning has been arranged to be initially be handled by Nashua Community College.

Assessable outcomes of objectives stated in section *iv* and the timeframe for their achievement are outlined below.

Objective 1 - By end of 2008-2009 school year the curriculum coordinator will have: established connections with respective community entities holding meetings, presentations, and school visits where appropriate and culminating in a document recording personnel contacts and parameters for advanced course assistance and internships with each entity; created document(s) specifying planned advanced elective courses with educational goals clearly outlined; and developed the manual documenting protocols and procedures for ASD internships (stewardships, apprenticeships, and mentorships. Teachers will have researched and prepared documents for completion of curriculum outlining new course plans with learning objectives and goals clearly stated and integration of additional instructional techniques specified.

Objective 2 - ASD faculty and staff will have carried out research, obtained, and/or attended training and conferences by July 2, 2009 with findings documented for future referral.

Objective 3 - All equipment, furniture and materials will be purchased, installed, and in use as early as possible in 2008-2009 year.

Objective 4 - ASD will have a much more presentable website and an efficient computer network by the end of 2008-9, but hopefully much sooner in the school year.

(vi) The likelihood that the charter school will meet those objectives and improve educational results for students during and after the period of Federal financial assistance (10 points).

Improving Educational Results for Students

ASD will meet our educational objectives because our curriculum and instructional strategies represent best practices as defined by current educational research. While ambitious, ASD's objectives are also manageable, realistic and attainable. ASD faculty, staff, parents, and students are determined to meet these objectives and have made substantial progress in our first year of operation, as witnessed by our NWEA mathematics scores. Our students will build on the solid academic base that has been established with increasingly advanced courses that reflect and further their progress. Our success is also reflected in the increase in enrollment for our second year, 2008-2009, from 32 to 54 students from the previous year (with 28 of them returning students), in the academic performance of our students, and in the 100% return rate of faculty and staff for 2008-2009.

Anecdotally, parents of returning students have reported they are continuing because of the school's culture and atmosphere. When asked what appeals to them about the school, they cite the academic projects our students are involved in and the positive classroom climate. They clearly recognize—and value—that ASD has established a challenging hands-on standards-driven learning environment and a positive social atmosphere for science and mathematics oriented students. Charter schools such as ASD with excellent student to teacher ratios are also readily able to improve educational results for students because they can tailor instruction and assessment to the individual child following ASD instructional philosophies detailed in Selection Criteria *(i)*.

Fiscal Sustainability

Long-term fiscal sustainability will depend on a combination of state support for charter schools and fundraising efforts instituted through a focused strategic plan. ASD will utilize all available resources to establish its strategic plan for sustainability. Charter schools often raise up to 20 percent of their operating costs each year, a figure consistent with the fundraising goals of non-profit organizations in our region. ASD is in the process of forming a 501(c)(3) organization, the Academy for Science and Design Educational Foundation, as part of its fundraising strategy. This organization will be responsible for applying for corporate community grants, as well as traditional parent volunteer activities, while ASD will focus on governmental grants, and the courting of philanthropists and corporations for extended support. ASD has already received philanthropic gifts in excess of \$100,000 and has been promised further support.

Currently, three sources of New Hampshire state funding are available to charter schools:

- 1) Pupil funding (\$3700/pupil for 2007-8, \$5000/pupil for 2008-9, \$5400/pupil for 2009-10).
- 2) Supplemental Grants (for charter schools that have exhausted their federal start up grants).
- 3) Other matching grants (RSA 194B: 11, X)

The funds are distributed quarterly, with the first disbursement to be sent within 15 days of the receipt of an attendance report from the charter school. In addition NH State Law allows for the following:

RSA 194-B:11 IV. Any federal or other funding available in any year to a sending district shall, to the extent and in a manner acceptable to the funding source, be directed to a charter or open enrollment school in a receiving district on an eligible per pupil basis. This funding shall include,

but not be limited to, funding under federal Chapters I and II of Title II, and Drug-Free Schools, in whatever form the funding is available in any year.

RSA 194-B:11 IV-a. The commissioner of the department of education shall apply for all federal funding available to charter schools under the No Child Left Behind Act, Title I of the Elementary and Secondary Education Act, or other federal source of funds. The commissioner shall expend any such funds received in a manner acceptable to the funding source.

RSA 194-B:11 X. There shall be an appropriation in the fiscal year beginning on July 1, 2003 for the establishment of charter schools under this section. Charter schools which are eligible for grants under this program shall match funds provided by the state through private contributions in order to receive funding that exceeds the state's average per pupil cost for the grade level weight of the pupil. State funds shall be provided in addition to any other sums provided by the state. Grants under this section shall be administered and determined by the state board of education which shall have the authority to develop a grant application, written procedures and criteria used to determine eligibility for grants, and procedures for the administration of grants by recipients, including reporting requirements. The total grants provided under this program shall not exceed the amount of money appropriated in the budget, or transferred, or provided by gift or grant to the state for this purpose.

The 2008 Legislative session in New Hampshire witnessed the passing of House Bill 1642, increasing charter school funding for 2008-9 with a House floor vote of 198-91, and a State Senate vote of 18-5. Governor John Lynch, who had asked the Legislature not to send him any new spending bills to sign this year due to shortfalls in the state budget, did in fact sign HB 1642, along with one other bill dealing with local flood relief, and these were the only two spending bills he signed for 2008. Furthermore, charter school funding after 2008 has been

established with Senate Bill 539. With this clear support for charter schools from the New Hampshire legislative and executive branches, as well as the parental devotion detailed below, ASD is confident in its future and looks forward to the challenges yet to come.

(vii) The extent to which the proposed project encourages parental involvement (10 points).

In a school with 32 students where families provide their own transportation to and from school, parent input is a daily occurrence as parents gather before and after school, talk with teachers, consult with the director, and utilize the informal networks that contribute to the school culture. The formal school day begins at 8:20 and ends at 3:30, but students may come as early as 7:45 and stay until 4:30 with faculty supervision; this has created an atmosphere for informal, relaxed socializing among students, parents and staff before and after school which one student has characterized as 'her second family.'

As a small school ASD by necessity frequently turns to its parents for assistance, and many have stepped forward to help ASD open, run, and thrive. It must be noted that a number of families live some distance from the school in small towns and rural areas necessitating commutes of up to 65 miles each way, so the active participation of so many is particularly heartening. Parents at ASD have volunteered their assistance and leadership in many areas, including but not limited to:

- attending planning and strategy meetings held in different towns before the school opened
- serving on ASD Board as chairman, assistant treasurer, and international representative
- serving as the school's IT (information technology) person
- finding, purchasing, moving, and assembling partitions and furniture for the school

- setting up the school's accounting system
- setting up the school library and cataloging system
- setting up and stocking the school's nurse's office
- setting up and maintaining the school's website
- assisting with clerical work for the school office
- tutoring individual students in mathematics 4 days a week
- coaching extracurricular academic teams (Lego League, Destination ImagiNation, robotics)
- teaching short courses in fields of expertise (photography, movie making, financial education, space science)
- arranging for speakers of interest for students
- producing the Student Directory given to all ASD families
- producing the ASD Program of Studies and ASD Student Handbook
- monitoring morning and afternoon study halls
- chaperoning field and team trips
- doing publicity for school activities and achievements
- hosting school open houses
- applying for grants for ASD
- organizing school fundraisers (flea markets, store collections, telemarketing, fair booths)
- providing food, food, and more food for school events (munchies for open houses, pies for PI Day on 3/14, potluck for holiday WINEWY - When Is the NEW Year celebration, potluck for Teacher Appreciation Day, snacks for Student Council Dance, candy for school office, and treats on numerous other occasions)

A formal avenue for parental involvement has also been established with the formation of ASD Educational Foundation (ASDEF), a parent group dedicated to both traditional parent run events supporting school activities, and the task of applying for corporate community grants. ASDEF has already procured a lawyer to file its 501(c)(3) application pro bono, and is busy scheduling publicity and fundraising events, as well as searching for more grant opportunities. ASDEF's Friday hot lunch program will use 100% family participation.

(viii) The quality of the personnel who will carry out the proposed project. In determining the quality of project personnel, the Secretary considers the qualifications, including relevant training and experience, of the project director; and the extent to which the applicant encourages applications for employment from persons who are members of groups that have traditionally been underrepresented based on race, color, national origin, gender, age, or disability (10 points).

ASD has benefited tremendously from the guidance and oversight of its Board. Both Robert Myers, President of Daniel Webster College, and Michael Fishbein, Provost of DWC, have served as Chairman of the Board of Trustees. Michael Fishbein begins a new term this July after recovering from a heart attack, and ASD welcomes him back heartily. Lucille Jordan, President of Nashua Community College has served on ASD Board since its inception and is currently Treasurer.

From the University of New Hampshire, ASD has the Director for the Leitzl Center for Mathematics, Science and Engineering Education, Dr. Karen Graham, who has also served on ASD's Board since its inception, providing valuable counsel, expertise, recommendations, and contacts for the ASD. She serves currently as Vice Chairman. ASD is most appreciative of her

willingness to commute the hour plus in each direction necessary to attend ASD's monthly board meetings. Rounding out the founding Board members is Izuh Obinelo, PH.D., originally from Nigeria, who serves on the Board's Finance and Marketing subcommittees between his business travels as Director of the Center for Airflow and Thermal Technologies for Degree Controls.

Since the opening of ASD three parents have also joined the Board: Kent Glossop, Principal Engineer at Intel and current Board Chairman; Dr. Jennifer Starr, President of LegacyLinked and Assistant Treasurer; and Shanthi Nair, the ASD Board's International Representative and IT Manager, Degree Controls.

The quality of our staff has been a key factor in ASD's success and increasing enrollment. The project and school directors, Susan Hollins and Chris Franklin, have between them a wide range of experience and expertise from which ASD has greatly benefited. Susan Hollins, Ph.D., as Director of the New Hampshire Center for School Reform (NHCSR) with experience as a K-12 and college teacher, special education administrator, and superintendent, researched and wrote the ASD charter, curriculum, graduation requirements, and initial college connections, with input and assistance from numerous specialists in technical and educational areas. Dr. Hollins, who additionally has dealt with school program design, law, and management, also headed the monumental task of opening the school, leading the way through the maze of federal and state requirements and overseeing the location, planning and design of the school, before returning to the NHCSR to continue guiding the legislative needs of all New Hampshire charter schools.

Chris Franklin has continued the leadership of ASD, focusing on the technical needs of the school and the students. With a background in engineering (B.E., Stevens Institute of Technology, see attachments for Mr. Franklin's resume) and success in leading large technical

projects at numerous corporations - including his own successful startup company, RAIDcore, his experience collaborating with professionals from many different foreign and domestic companies while maintaining positive working relationships; managing large amounts of financial and technical data; designing, developing and implementing award winning computer software and hardware (with 11 patents in his name and 13 more pending), and overseeing expansions of company personnel and facilities while working within tight budgets, has directly contributed to his success as school director. In addition, by bringing business and technical expertise to ASD, Mr. Franklin has begun establishing fruitful partnerships with technical engineering firms in the area, such as Kollsman, and plans to seek out additional connections for ASD, in keeping with its charter.

School leadership events attended by Mr. Franklin include monthly professional development meetings for New Hampshire public school administrators, monthly New Hampshire Chartered Public School Association meetings, and monthly meetings with Special Education Directors to coordinate Special Education services between ASD and local districts. He manages weekly ASD staff meetings.

But, it is the faculty and staff hired for their unique combination of technical and educational skills, who truly make ASD an exciting and innovative school.

- Assistant Director Regina Rubery has a B.A. from Wheaton College and is a published researcher who has taught Special Education.
- Mathematics and Physics teacher Heather Evans graduated with combined degrees in Physics and Education from the University of York in England, and also has a post graduate certificate in education. She has taught mathematics and physics in both

public and private schools in the UK and the US, and is certified by the New Hampshire Department of Education.

- Integrated Biology and Chemistry teacher Ms. Jennifer Roberts has both a B.S. (Davidson College) and M.S. (East Carolina University) in Biology. A published researcher, she has studied population dynamics, genetics, and evolution, and has taught both at the middle school and community college levels. She is certified by the New Hampshire Department of Education.
- Computer Programming Professor Terrence Simkin has been teaching at the New Hampshire Technical Institute for almost 20 years and prior to that worked in a wide range of engineering and research fields. At NHTI he has led courses in C, C++, C#, Java, computer related technologies, and animation and graphic programming. He is also Technical Advisor for Moonset Studios, an elementary/middle school educational computer game development company based in New Hampshire, and is a Microsoft Certified Professional in Visual C++.
- Mandarin Instructor Weining Xu, a native speaker of Mandarin, has an M.S in computer science from Northwestern Polytechnic University (Shaanxi, China), and an M.S. in electrical engineering from Old Dominion University. She has worked as an engineer in the aerospace industry, and as a programmer/software analyst in the health care industry.
- History Teacher. MaKayla Holoubek has a B.A. in Political Science from Louisiana State University, an M.S.E.L. (Masters of Studies in Environmental Law) from Vermont Law School, an M.A. in History from Louisiana Tech University, has taught at the

high school level, lectured at the college level, and is certified by the New Hampshire Department of Education.

- English teacher Dianne Ramirez has a B.A. in English from the University of Florida, and is working on a Masters in Educational Psychology from the University of Connecticut. She has taught English at the high school level, and coached debate and Future Problem Solvers, with several winning teams and students. She is certified by the New Hampshire Department of Education.
- School Newspaper & Yearbook Instructor Mollie van Wagner has both a B.S. and Masters in Education from the University of New Hampshire, directs the Directed Study Program and the Newspaper and Yearbook Club and also teaches a Study Skills course. She is certified by the New Hampshire Department of Education.
- Artist in Residence: Darlene Olivo has a B.A. in Liberal Arts with a concentration in Visual Arts, as well as a M.F.A. in Creative Writing, both from Goddard College. Currently a faculty member at NHTI and NHCTC, she has thirty years of experience as a visual artist exhibiting in many media.

A summary of the ASD Personnel (Board of Directors, Personnel and ASD Education Foundation) are included as an Attachment.

All ASD teaching position advertisements include a statement of equal employment opportunity. Funds from this grant will enable ASD to broaden the scope of job advertising to newspapers that serve a more diverse ethnic population in regional urban areas such as the Boston Globe, Manchester NH Union Leader, Nashua Telegraph, and to join electronic job networks such as EdJobsNH.org that reach a broader job applicant pool.

(ix) The contribution the charter school will make in assisting educationally disadvantaged and other students to achieve to State academic content standards and State student academic achievement standards (20 points).

Per section (m) of the ASD charter The Academy for Science and Design shall not discriminate on the basis of race, color, religion, national or ethnic origin, age, sex, sexual orientation, disability or marital status in the selection of students or staff or in the administration of its educational programs or in any other way as is prohibited by law. ASD will discuss the school with any parent and will accept applications for review from any parent or student and has developed a school environment that fosters achievement for all learners, including disadvantaged students.

An essential aspect of assisting educationally disadvantaged students is providing services for children with identified special needs. The ASD facility, besides being fully ADA compliant, has included in its design a self-contained instructional space usable for special education services. ASD has also been fortunate to have the services of a parent, an MIT graduate, who actively tutors in school four days a week, working with students with lagging mathematics skills and learning disabilities. ASD further differentiates for all kinds of learners by providing multiple strategies for student assessment. State standardized testing, measures of academic progress, portfolios, and standards-based report cards contribute to a complete picture of what a student knows and is able to do.

For 2008-2009 ASD will have a student with Asperger's who scored very well on the mathematics screening assessment and periodically requires a paraeducational aide. The School Director has met repeatedly with the Special Education Director from the LEA

of the student to ensure the student's requirements and needs are met, and ASD will adhere to all statutes pertaining to special education students.

Under New Hampshire's charter school statute, RSA 194-B: 11, III, a student's local education agency (LEA) continues to be responsible for special education funding and decision-making regarding the student's individual education plan. ASD works with LEA's to develop a mutually agreeable plan for implementation, respecting the agencies' responsibility for handling special education decision-making. The LEA of residence for the student is responsible for providing a Free Appropriate Public Education (F.A.P.E.). The LEA and the charter school cooperate and share responsibility for the provision of F.A.P.E. The LEA holds the decision-making and financial responsibility for provision of services.

A memo dated January 11, 2007 (Fiscal Year 2007 Memo #14) states, "The New Hampshire Department of Education will ensure that FAPE is provided to students with disabilities by monitoring the LEA through the New Hampshire Special Education Program Approval and Improvement Process. The public charter schools will be monitored for their 'method of coordinating with a pupil's local education agency (LEA) responsible for matters pertaining to any required special education programs or services including method of compliance with all federal and state laws pertaining to educationally disabled pupils' as specified in RSA 194-B:3(n).

Charter schools are public schools of the LEA [of residence] and must serve children with disabilities attending those charter schools in the same manner as the LEA serves children with disabilities in its other schools, including providing supplementary and related services on site at the charter school to the same extent to which the LEA has a

policy or practice of providing such services on the site to its other public schools' per IDEA 04 regulation §300.209 (b)(1)(i). Therefore, charter schools as public schools of the LEA will be monitored at the same time and in a comparable manner as all the other schools that are part of the LEA."

The Academy for Science and Design Charter School finds itself at a crucial moment in its evolution. The inaugural 2007-2008 school year was exciting, challenging and rewarding, with 88% of students and 100% of staff returning for 2008-2009. We now have the opportunity to build on this foundation and fulfill our charter. With your support, the Academy for Science and Design Charter School will continue to grow and foster a continued interest in the pursuit of scientific and technical areas among the students of New Hampshire.

Project Narrative

Other Narrative

Attachment 1:

Title: Pages: Uploaded File: **1237-ChrisFranklin_Resume.doc**

Attachment 2:

Title: Pages: Uploaded File: **1238-ASD 2008 Addendum to Assurances.doc**

Attachment 3:

Title: Pages: Uploaded File: **1239-brochure proof outside 2 GRAYSCALE.pdf**

Attachment 4:

Title: Pages: Uploaded File: **1240-brochure proof inside 2 GRAYSCALE.pdf**

Attachment 5:

Title: Pages: Uploaded File: **1241-Michael Fishbein Letter.doc**

Attachment 6:

Title: Pages: Uploaded File: **1242-NH_CertificateOfCharterApproval.pdf**

Attachment 7:

Title: Pages: Uploaded File: **1243-ASD 2008 Personnel.doc**

Attachment 8:

Title: Pages: Uploaded File: **1244-SignedFormsForGrant.pdf**

Attachment 9:

Title: Pages: Uploaded File: **1245-ASDcharter.pdf**

Attachment 10:

Title: Pages: Uploaded File: **1246-ASD 2008 Bibliography.doc**

Chris Franklin
6 Dunloggin Drive
Merrimack, NH 03054
(603) 424-1018
franklin@asdnh.org

SUMMARY

Management: Director, Academy for Science and Design, Cofounder & President of RAIDCore for 3 years; Group Manager at Adaptec for 3 years.

Project Management: Managed hundreds of details in software projects for high-end RAID controllers, display controllers, and workstations.

Presentation: Wrote and presented dozens of slide shows, successfully selling products, getting a venture capital commitment of \$5,000,000, and selling RAIDCore to Broadcom.

Training: Oversaw and participated in training of engineers at Broadcom and Ciprico. Both engineering groups were effective in continuing software development efforts after training.

Writing: Wrote numerous technical, project, and business documents. Wrote 6 patents, 4 of which have been granted.

Technical: Software engineer and/or architect for support of hardware in operating systems, storage controllers, and video display controllers. Wrote software for user interfaces and application programming interfaces.

Patents: Inventor or co-inventor on 10 patents granted and several more pending.

EXPERIENCE

Academy for Science and Design, Merrimack, NH

Director

February 2008-Present

- Oversee all aspects of school operation, including management of staff, students, budget, and community outreach.

Business Manager

July 2007-September 2007

- Set up school accounting system and procedures, and produced reports for NH state charter school start up grant.

Ciprico, Inc., Plymouth, MN

Part-Time Consultant

2006-2007

- Organized and participated in training for RAIDCore software to Ciprico to allow Ciprico engineers to take over software. Ciprico has since announced 2 new products based on the RAIDCore software.

Broadcom, Inc., San Jose, CA (Nashua, NH site after buyout)

Principal Design Engineer

2004-2006

- Trained Broadcom engineers to use the RAIDCore software development environment so that they could implement support for new hardware being developed at Broadcom.
- Worked with Dell to get engineering requirements for RAID controller and translated them into an actionable engineering requirements document.
- Maintained and enhanced RAID BIOS. Reorganized RAID software to allow easier port to Linux and embedded platforms, and integrated various parts of the core to maximize common code.

RAIDCore, Inc., Nashua, NH

President, Treasurer, and Chief Technology Officer

2000-2003

- Executed all administrative duties, legal consultations and design meetings for first two years.
- Wrote slide shows and presented to Dell, HP, IBM, EMC, Sun, and more than a dozen other companies.

- Built organization including recruitment of CEO and other top positions.
- Successfully presented to VC's to attain commitment for \$5,000,000 in funding for RAIDCore.
- Successfully presented to Broadcom to sell company to Broadcom before we needed to take any of the committed venture capital money.
- Wrote the simulator support, PCI product BIOS, interface documentation, and 6 patent applications.

Adaptec Incorporated, Milpitas, CA (Nashua, NH site after buyout)

Manager

1996-2000

- Managed 8-person engineering group responsible for writing, maintaining, and enhancing the virtualization drivers, and the storage management user interfaces such as the GUI, CLI, SNMP, Remote management, API, and messaging. Wrote driver to do snapshot for the controller.
- Served as main liaison to HP for development of HP-specific storage controller. Communicated with HP to gather all requirements and worked with Adaptec team to make sure that our product was purchased by HP, and the features they required were implemented.

Data Kinesis Incorporated, Nashua, NH

Software Engineer

1995-1996

- Wrote API to allow generic configuration of file storage controller. Wrote end-user command line interpreter for product and the framework for the graphical user interface for storage management.

Korax Incorporated, Merrimack, NH (sole owner of C-Corporation)

President, As Consultant to Oki Advanced Products Division

1993-1995

- Wrote the 2D drivers for the TrianGL graphics adapter, including user and kernel mode portions. Also Wrote various demos for OKI COMDEX booth, using OLE and OpenGL 3D. Wrote 3D drivers to support the Microsoft 3D-DDI interface to OpenGL, working in Redmond with Microsoft engineers to design and implement 3D-DDI for TrianGL (driver was included as a sample driver in one Beta release of Windows-NT 3.51).
- Provided consulting services to Data Kinesis Inc., Nashua, NH (1994-1995) building tools for programming a specialized PCI I/O board. Ported the GNU C/C++ compiler to Windows-NT, wrote a Windows-NT user mode backend to Nucleus RTOS, and wrote a rudimentary SCSI driver for hardware.

Digital Equipment Corporation, Maynard, MA

Software Engineer

1987-1993

- Project Manager and Architect for hardware/software team designing and building the smallest and fastest graphics chip available in the PC market for the PCI bus at that time.
- Project Manager for VMS Software support on VAXstation 4000 Model 60 and VLC. Worked closely with hardware group to resolve software and hardware problems.
- Designed and implemented device dependent routines for X-Windows graphics servers on four different platforms including low level hardware support and design. Co-inventor on a patent for graphics operations to system virtual memory.
- Designed and implemented a program to convert software simulator test programs to run on the DECsim hardware simulator. Ensured availability of hardware and software test simulation results, verified the accuracy of the gate level design for the ASIC completely before a pass of the chip was ever done.

EDUCATION

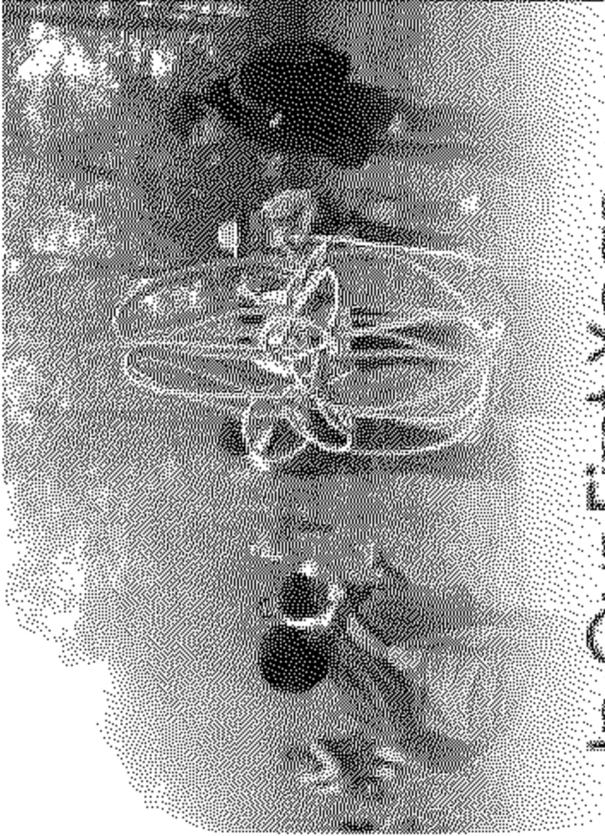
Bachelor of Engineering

Stevens Institute of Technology, Hoboken, NJ

Addendum to Assurances

Applicant Organization: Academy for Science and Design

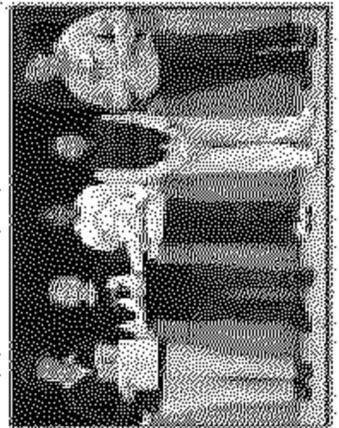
- (a) See signature on Charter Schools Program Assurances page.
- (b) See signature on Charter Schools Program Assurances page.
- (c) See signature on Charter Schools Program Assurances page.
- (d) See Application Narrative, section x., pages 47-50.
- (e) See fax of correspondence from the NH Department of Education. (attached as NH_CertificateOfCharterApproval.pdf)
- (f) See fax of registration with the NH Secretary of State regarding non-profit status. (same doc. as previous)
- (g) DUNS #: 859506011 TIN #: 41-220-4508
- (h) See request for waiver in Application Narrative, section vii, page 2.
- (i) See signature on Charter Schools Program Assurances page.
- (j) See signature on Charter Schools Program Assurances page.
- (k) See signature on Charter Schools Program Assurances page.



In Our First Year...

School Teams

- Regional 1st Place Winners: MATHCOUNTS®
- Destination Imagination
- Future Problem Solvers



Field Trips

- Andres Art Institute
- Seabrook Station Nuclear Power Plant
- Crotched Mountain Ski Resort
- Higgins Armory Museum
- Museum of Fine Arts, Boston
- Museum of Science



ACADEMY FOR SCIENCE AND DESIGN

Specializing in Science,
Mathematics, Engineering & Design

316 Daniel Webster Highway
Merrimack, NH 03054
Phone: 603 868-9162
Fax: 603 262-9163

asdnh.org

We do not charge tuition for
NH residents.

We are governed by a state-granted
charter and Board of Trustees.

We encourage parents to become
actively involved as volunteers,
instructors, and Board members.

We invite you to check out our
website, come to an open house,
and call and/or schedule a visit.



ACADEMY FOR SCIENCE AND DESIGN

316 Daniel Webster Highway
Merrimack, NH 03054
Phone: 603 868-9162
Fax: 603 262-9163

asdnh.org



ACADEMY FOR SCIENCE AND DESIGN

METHUEN/MA, NH

What is the ASD?

A chartered public school offering a math and science oriented curriculum for grades 7 through 12

Who can come?

Any NH student with a passion for math, science, technology and design

What makes the ASD special?

- Internationally competitive curriculum
- Guest lecturers & instructors in technical areas and topics of student interest
- Small school size
- Open concept facility

An Emphasis on Research

Research techniques and strategies are taught starting in 7th grade and culminating in a Senior research project

An Emphasis on Critical Thinking Skills

Critical thinking and problem solving skills are encouraged and nurtured through all possible avenues, from English to extracurricular activities

An Emphasis on Higher Learning

Partnerships with local colleges provide qualified ASD students with early college opportunities

Our Mission

- To graduate students with:
 - In-depth subject mastery
 - Real world laboratory experience
 - Globally competitive capabilities
 - Capacities for high achievement & leadership

From the President

Daniel Webster College was pleased to sponsor the New Hampshire charter school proposal for the Academy of Science and Design and its ultimate approval by the Department of Education.

As Provost and Vice President for Academic Affairs at DWC, I am pleased to lend my support and guidance to this innovative new school as Board President. Together with academic leaders from the area's leading colleges and universities as well as key industry leaders and committed parents, as a Board, we are dedicated to the school's mission, support and sustainability.

With the evolution of the Academy for Science and Design, New Hampshire is now the 42nd state in the union to emerge as a competitive science education state. We are encouraged by the federal initiatives currently underway pledging support for specialized math and science schools as they signify the change that is needed to help better prepare America's youth for a technological future.

The Academy has high standards and high expectations believing that if we set the bar high, our students will more than rise to the challenge. A partnership of motivated students, committed parents and supportive academic and industry leaders makes for a powerful synergy; one that will propel New Hampshire's youth into a future of opportunity!

A handwritten signature in black ink, appearing to read "Michael Fishbein". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael Fishbein, M.A., Ph.D., Board Chairperson



The State of New Hampshire
Public School Charter

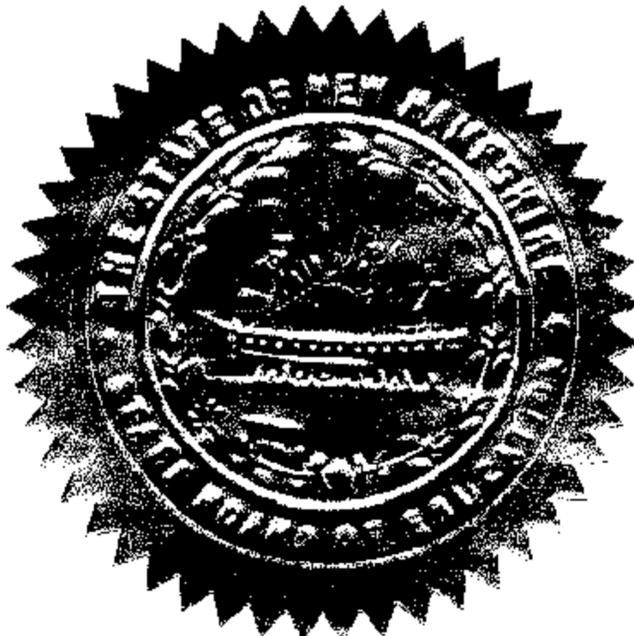
Academy for Science and Design Charter School

Pursuant to the authority vested in the State of New Hampshire Board of Education by RSA 194-B:3-a, the Board of Trustees of the Academy for Science and Design Charter School is hereby granted a charter to operate a New Hampshire State Charter School located in the town of Merrimack for the five-year period beginning March 14, 2006.

The Board of Trustees shall operate said Charter School in accordance with the provisions of RSA 194-B:3 and all other applicable state and federal laws and regulations and such conditions as the Commissioner may from time to time establish, all of which shall be deemed conditions of this charter.

The Board of Trustees shall operate said Charter School in accordance with the representations made in the Charter School Application submitted to and approved by the Board of Education, and in accordance with any approved written amendments to the Application. Specifically, but without limitation, the Board of Trustees shall supervise and control said Charter School in accordance with the admissions policy, educational program, evaluation plan, and governance structure set forth in such Application and in accordance with the by-laws established by the Board of Trustees, provided that said Board shall comply with all applicable federal and state laws. No material changes in the terms of this charter or in the terms of operation of the charter school shall be made without the approval of the Board of Education.

Pursuant to RSA 194-B:16 and the procedures and guidelines established by the Board of Education, this charter may be revoked or suspended for failure to comply with any of the terms and conditions of this charter, or renewed for such term as the Board may determine.

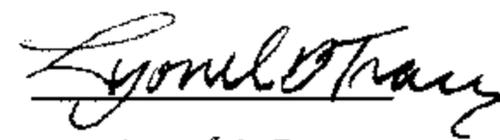


Executed and Presented by the
Commissioner and Secretary

to the

Board of Education

on this 12th Day of December, 2007


Lyonel B. Tracy

Academy for Science and Design Charter School Personnel

<i>Staff</i>		
Chris Franklin	Interim Director / Business Manager	Engineer and Experienced Business Developer/Manager. Founder of RAIDcore. B.S. Stevens Institute of Technology
Regina Rubery	Assistant Director	B.A., Wheaton College; Special Ed. Experience
Heather Evans	Teacher - physics, mathematics	HQT: Certified in physics and mathematics. Combined degrees in Physics and Education from University of York, England. Post graduate certificate in Education. Teaching experience in both England and the US.
Makayla Houlobek	Teacher – history	HQT: Certified in history. Masters In Environmental Law and History. Vermont Law School and Louisiana Tech University
Darlene Olivo	Artist in residence	MFA, Goddard College. Practicing visual artist. Faculty member at New Hampshire Technical Institute and Nashua Community College
Dianne Ramirez	Teacher – English	HQT: Certified in English. B.A. English, University of Florida. Working on Masters in Educational Psychology, University of Connecticut
Jennifer Roberts	Teacher - biology, chemistry	HQT: Certified in biology. M.S. in Biology, East Carolina University. Published researcher.
Terrence Simkin	Teacher - computer science	Professor, New Hampshire Technical Institute (20 years) Computer programming, animation and graphics
Mollie Von Wagner	Teacher - English, directed study	HQT: Certified in English. M.S. Education, University of New Hampshire.
Weining Wu	Teacher - Mandarin Chinese	Native Chinese speaker, M.S. Computer Science, Northwestern Polytechnic, Shaanxi, China. M.S. Electrical Engineering, Old Dominion University

<i>Board of Directors</i>		
Kent Glossop	Chairman (parent)	Principal Engineer, Intel Corporation
Dr. Michael Fishbein	Founding member	Vice President for Academic Affairs and Provost, Daniel Webster College; (DWC is charter sponsor)
Dr. Karen Graham	Vice Chairman	Director, Leitzel Center for Math, Science and Engineering Education, University of New Hampshire
Patricia Humphrey	Secretary	President, New Hampshire Foundation for Innovation; M.S. Ed. Experienced school administrator.
Lucille Jordan	Treasurer	President, Nashua Community College
Shanthi Nair	(parent)	Director, Information Technology, Degree Controls, Inc.
Dr. Izuh Obinelo		Director, Center for Airflow and Thermal Technologies, Degree Controls, Inc.
Dr. Jennifer Starr	Assistant Treasurer (parent)	President, LegacyLinked
<i>Others involved</i>		<i>General notes</i>
Dr. Susan Hollins	Founding board member	Founder, NH Center for School Reform; strong charter school advocate; ASD founder and former board member
<i>ASDNH Educational Foundation</i>		<i>General notes</i>
Rose Padfield	President (parent)	Business owner
Mary Mattingly	Vice President (parent)	Business background
Peter Freeman	Secretary (parent)	Engineer
Lorinda Franklin	Treasurer (parent)	Engineer / Business owner

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

Note: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management, and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. . . . 4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. . . . 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. . . . 794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. . . . 6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) . . . 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. . . . 290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. . . . 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with the provisions of the Hatch Act (5 U.S.C. . . . 1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

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Prescribed by OMB Circular A-102

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. . . 276a to 276a-7), the Copeland Act (40 U.S.C. . 276c and 18 U.S.C. . . 874) and the Contract Work Hours and Safety Standards Act (40 U.S.C. . . 327-333), regarding labor standards for federally assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. . . 1451 et seq.); (f) conformity of Federal actions to State (Clear Air) Implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. . . 7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. . . 1721 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. . 470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. . . 469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. . . 2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. . . 4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL <i>Chris Hopkins</i>	TITLE <i>DIRECTOR</i>
APPLICANT ORGANIZATION <i>ACADEMY FOR SCIENCE & DESIGN</i>	DATE SUBMITTED <i>7/21/08</i>

Standard Form 424B (Rev. 7-97) Back

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

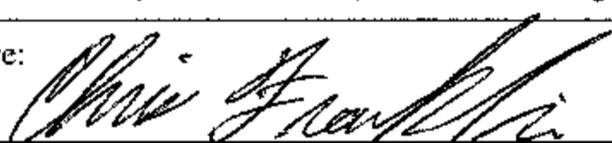
(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-L.L., "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-L.L.L., "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Applicant's Organization:	ACADEMY FOR SCIENCE & DESIGN	
Printed Name and Title of Authorized Representative:	CHRIS FRANKLIN, DIRECTOR	
Signature:		Date: 7/21/08

CHARTER SCHOOLS PROGRAM ASSURANCES

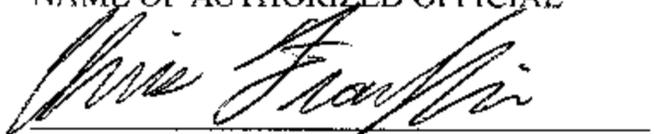
NON-SEA APPLICANTS FOR PLANNING, PROGRAM DESIGN, AND IMPLEMENTATION

Pursuant to Section 5202(b) of the ESEA, an applicant for CSP funds that is not a State educational agency (SEA) must provide the following assurances.

As the duly authorized representative of the applicant, I certify that the applicant will submit to the Secretary:

- (a) All items described in the application requirements;
- (b) An assurance that the eligible applicant will annually provide the Secretary such information as may be required to determine if the charter school is making satisfactory progress toward achieving the objectives described in section 5203(b)(3)(C)(i) of the ESEA;
- (c) An assurance that the applicant will cooperate with the Secretary in evaluating the program assisted under this subpart;
- (d) A description of how a charter school that is considered a local educational agency under State law, or a local educational agency in which a charter school is located, will comply with sections 613(a)(5) and 613(e)(1)(B) of the Individuals with Disabilities Education Act;
- (e) Proof that the applicant has applied to an authorized public chartering authority to operate a charter school and provided to that authority adequate and timely notice, and a copy, of this application; or an assurance that this application is for a precharter planning grant and the authorized public chartering authority to which a charter school proposal will be submitted has not been determined;
- (f) A copy of proof of applicant's non-profit status;
- (g) The applicants' DUNS and TIN numbers;
- (h) A statement as to whether or not an applicant for planning and implementation funding has previously received funding for this program either through a State subgrant or directly from the Department;
- (i) Such other information and assurances as the Secretary may require;
- (j) An assurance that the eligible applicant will use the funds to plan and implement a charter school in accordance with the Charter Schools Program; and
- (k) Assurances that the State educational agency will (i) grant, or will obtain, waivers of State statutory or regulatory requirements; and (ii) will assist each subgrantee in the State in receiving a waiver under section 5204(e) of the ESEA.

CHRIS FRANKLEN
NAME OF AUTHORIZED OFFICIAL


SIGNATURE OF AUTHORIZED OFFICIAL

ACADEMY FOR SCIENCE & DESIGN
APPLICANT ORGANIZATION

DIRECTOR
TITLE

7/21/08
DATE

7/21/08
DATE SUBMITTED

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitations for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Included prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503

Lyonel B. Tracy
Commissioner of Education
Tel. 603-271-3144

Mary S. Heath
Deputy Commissioner
Tel. 603-271-7301



**STATE OF NEW HAMPSHIRE
DEPARTMENT OF EDUCATION
101 Pleasant Street
Concord, N.H. 03301
FAX 603-271-1953
Citizens Services Line 1-800-339-9900**

July 22, 2008

Mr. Dean Kern
United States Department of Education
Office of Innovation and Improvement
Public Charter School Program
400 Maryland Avenue, S.W.
Washington, DC 20202-5961

Dear Dean:

As New Hampshire Commissioner of Education, I am pleased to support the CFDA 84.282B application of The Academy of Science and Design Charter School. The State Board of Education authorized The Academy for Science and Design Charter School. Charter Schools are a component of the Department's "Follow The Child" initiative and part of NH's ongoing desire to acknowledge that, when it comes to schools, one size does not fit all students.

The Goal of Follow The Child is to improve the personal, social, physical and academic well being of each child and to keep each child in school until graduation. One of the ways we seek to accomplish this task is by encouraging choice options.

The Academy for Science and Design Charter School is geared toward students in grades 7-12 who are interested in pursuing careers in the math and sciences. Students in their junior and senior years will be able to major in a subject as they would in college. Among the choices are aeronautics and aviation, chemistry and biomedicine, and space, astronomy, and astronautics.

The United States Department of Education funding is vital to enabling The Academy for Science and Design Charter School to meet its goals.

I strongly support this application and I look forward to working closely with the grant partners throughout the coming years.

Sincerely,

A handwritten signature in cursive script that reads "Lyonel B. Tracy".

Lyonel B. Tracy
Commissioner of Education

TDD Access: Relay NH 711
EQUAL OPPORTUNITY EMPLOYER- EQUAL EDUCATIONAL OPPORTUNITIES

**Academy for Science and Design Charter School
Merrimack, New Hampshire**

CFDA 84.282B - Bibliography

Atkinson, Dr. Robert D., et al. *Addressing the STEM Challenge by Expanding Specialty Math and Science High Schools*. February, 2007. ITIF Innovation and Technology Foundation.

Gross, Paul et al. The State of State Science Standards 2005. Thomas B. Fordham Institute.

New Hampshire Department of Education Curriculum Frameworks
<http://www.ed.state.nh.us/education/doe/organization/curriculum/CurriculumFrameworks/CurriculumFrameworks.htm>

<http://quickfacts.census.gov/qfd/states/33000.html> Retrieved 7/16/2008

National Research Council, National Committee on Science Education Standards and Assessment. (1994, November). *National Science Education Standards*. (Draft). Washington, DC

Social Studies for the 21st Century: Recommendations of the National Commission on Social Studies in the Schools, November 1990.

Tomlinson, C. *The Differentiated Classroom: Responding to the Needs of All Learners*. 1999. Alexandria, VA: Association for Supervision and Curriculum Development.

Budget Narrative

Budget Narrative

Attachment 1:

Title: Pages: Uploaded File: 1234-ASD 2008 Budget Narrative.doc

Academy for Science and Design

CFDA 84.282B - Budget Narrative

New Hampshire Charter School Law requires an annual public accounting audit and compliance with Generally Accepted Accounting Principles (GAAP) guidelines. ASD will follow public school accounting guidelines and will put in place internal accounting controls necessary to safeguard its assets, maintain accurate financial records in accordance with GAPP for non-profit corporations, and engage an independent, certified public accountant to audit ASD's financial records and produce an annual financial report.

<u>Budget Category #1</u>	Budget Detail	
Personnel	(Oct. 1, 2008-Sep. 30, 2009)	
Curriculum Developer	Finalize full curriculum for all Grades 7-12; specify prerequisites, sequences, options, and credits for Grade 9-12.	\$80,000
Teacher Stipends	Course planning and integration of advanced electives and internships	\$18,000
Total		\$98,000

Personnel Justification: An experienced curriculum developer is imperative for this new science school to achieve its ambitious goals. The school is establishing courses and curriculum that are not present in New Hampshire, and that are unusual in the nation. The planning of curriculum for the full grade 7-12 sequence of ASD's program will take at least one year of full-

time effort. The 2008-2009 initiative will provide the research, standards and outlines for all courses from which others can make adaptations as the school implements its courses, working with specialists in each field of study. The curriculum developer would be a highly qualified individual, knowledgeable in state, national and industry standards in specialized fields of study and familiar with best practice for curriculum documentation.

Because ASD now has a full complement of 7th, 8th, and 9th graders the time is critical for the full school curriculum to be defined. As these classes move into grades 10, 11, and 12, they will need to plan all of their remaining high school class work, credits, and college strategies. This work should not be done in a piecemeal fashion year-by-year, and without this coordinator, that would likely be the case. The curriculum coordinator will be responsible for the following tasks during the 2008-2009 school year:

- 1) Research high school offerings to make sure ASD's classes are internationally competitive.
- 2) Research college requirements to make sure ASD students matriculate with the work necessary to be accepted to the colleges of their choice.
- 3) Research the types of advanced elective science and technology courses that could be offered at ASD utilizing the specialized expertise and resources of local colleges, businesses, and community organizations who partner with ASD, including independent studies, research projects for credit, and virtual courses.
- 4) Complete the ASD Program of Studies, listing classes that are offered now, and classes that will be planned for grades 10, 11, and 12.

- 5) Finalize the credit system for ASD as a 6 year school. This is a particularly interesting challenge since in the first 2 years (grades 7 and 8) students take high school level courses.
- 6) Establish the framework for the internship programs (stewardship, apprenticeship, and mentorship) including the necessary protocols and procedures for work with local colleges, businesses, and community organizations who partner with ASD.

Teachers working in the school will also have work to do planning for these future courses, above and beyond the normal course load and teaching they are doing this coming year.

Specifically, if this grant is approved, teachers will earn stipends for the following:

- 1) Research and outline future course development, including uses of new equipment, software, and instructional techniques.
- 2) Map out integration of coursework for future years and future teachers of grade 10, 11, & 12 to provide leadership offerings in the 7 STEM (science, technology, engineering, mathematics) focus areas.

<u>Budget Category #2</u>	Budget Detail	
Required Fringe Benefits	(Oct. 1, 2008-Sep. 30, 2009)	
FICA/Medicare	Required Employer Contribution for salaries described above	\$7,497
Unemployment	Required Employer Contribution for salaries described above	\$1,666
Total		\$9,263

Fringe Benefits Justification: The benefits listed here are the mandatory contributions of the school for the personnel described above. These contributions are as follows:

- 1) 7.65% of salary for employer contribution of FICA/Medicare
- 2) 1.7% of salary for employer contribution of unemployment

These benefit amounts will vary depending on the actual personnel salaries listed in the previous section of this budget narrative.

<u>Budget Category #3</u>	Budget Detail	
Travel , Training and Memberships	(Oct. 1, 2008-Sep. 30, 2009)	
Project Directors Meeting	December 2008 3 attendees	\$3,000
National Charter School Conference	June 20-23,2009 2 attendees	\$2,000
National Education Computing Conference	June 28-July 1, 2009 2 attendees	\$2,000
NCSSSMST	1 year membership	\$150
NCSSSMST annual meeting	1 attendee	\$1,000
Visits to 2-3 top rated similar charter schools	1-2 attendees/trip	\$3,000
Total		\$11,150

Travel Justification: Three attendees from ASD will travel to the annual Project Directors meeting. Two attendees from ASD will travel to the annual National Charter School Conference and annual National Education Computing Conference, all being held in Washington, D.C. Each attendee will need airfare, hotel, and other minor travel expenses. The National Consortium of Specialized Secondary Schools for Mathematics, Science, and Technology offers valuable information that will help keep ASD staff abreast of current issues of concern and the exposure for the ASD will also provide an opportunity for ASD to begin integrating into the existing school and professional community.

<u>Budget Category #4</u>	Budget Detail	
Equipment	(Oct. 1, 2008-Sep. 30, 2009)	
Laptops	32 additional laptops	\$30,000
Charging Station	Storage and charging station for laptops above	\$2,500
Teacher lab bench	Moveable Teaching Lab bench for class demonstration	\$2,500
Copy Machine	High-speed duplex copying machine	\$8,000
Furniture	Additional tables, chairs, shelves and storage cabinets	\$7,000
Total		\$50,000

Equipment Justification: ASD will be adding at least 26 new students and one full time teacher this year. Because we are a technology school we rely heavily on computer systems, and the school has a policy of having one laptop for every student and many of the faculty also use them.

If new students are added during the year, or one or more laptops has problems, extra backups will be needed. The request for 32 computers includes 26 required for new students, 1 for the new faculty member, and 5 spares for new students or emergency backup. In addition, ASD currently has 2 charging stations that can each hold 28 laptops, with 38 of those bays are being used. Adding one more charging/storage station will increase the capacity to 84 bays, which will be enough to hold all the old and new laptops. Without additional laptops students will be forced to double up and some courses may have to go forego the use of computers due to scheduling conflicts.

This summer ASD is renovating its facility to add a new science lab which will allow ASD students do physics and chemistry lab work on campus. To equip the lab properly, the school architect recommended lab benches with chemical hardened surfaces and movable unit for teacher demonstrations and instruction. Since this unit is mobile it is not considered part of the renovation to the building.

Copying is a necessity in any school, and currently ASD only has a multi-function laser printer that prints and/or copies on one side of a page, resulting in much wasted paper and time. A dedicated duplex copier will be beneficial to the school for years to come, and in keeping with the green philosophy of the ASD. Finally, with the addition of 26 new students ASD will need more desks, tables, shelves, storage cabinets, and other furniture.

<u>Budget Category #5</u>	Budget Detail	
Supplies	(Oct. 1, 2008-Sep. 30, 2009)	
Textbooks	Curriculum texts for 30 additional students	\$23,700

NWEA Testing Software	Student Assessment Software, used to monitor baseline and mid-line stated from which individual goals are determined	\$3,600
Geometers Sketchpad	Software to enhance geometry curriculum	\$1,000
Course management Software	Online learning system for paperless homework assignments	\$3,500
Class Scheduling Software	Master schedule builder	\$9,000
Physics	Various apparatus used for physics instruction	\$21,837
Chemistry/Biology	Various apparatus used for chemistry/biology instruction	\$10,050
Robotics	Lego NXT kits and VEX kits for robotics classes	\$10,000
Total		\$81,587

Supplies Justification: ASD will be adding a new grade level this year and its majority population of 7 & 8 grade students has graduated to grades 8 & 9, doubling the academic course load. New textbooks are therefore required for the following new classes: History Level 2, Physics Level 2, Integrated Biology & Chemistry 2, English 2, and Programming.

Because this federal grant requires tracking of student progress, a battery of tests is needed to comply with this requirement. Last year we selected the Northwest Evaluation Association Test Suite, and we will use that again this year for student assessment.

Geometers Sketchpad has been identified as software that will allow students to better visualize concepts in Geometry class and we believe this direct learning software will also help in learning math and science in other classes as well. In 2007-8 the school also began trying new software, GoCourse, that allows students to receive assignments and submit their homework online without the use of paper. GoCourse also does grade management which can be shared with students and parents. Similar in concept to the free open source software package Moodle, GoCourse was selected because we do not have the staff to maintain an open source solution such as Moodle. In the future, GoCourse will use the common cartridge model, which will allow ASD to easily move to Moodle if that becomes the preferred solution.

For 2007-8 the class scheduling process for the student body of 32 was done by hand. With a small number of students and classes this is manageable. Hand scheduling was also done for the first quarter of 2008-9 with 54 students and twice as many courses, but the scheduling of teachers, students, classes, and rooms became almost impossible. Handling the rest of this year manually will be extremely difficult, and with an anticipated increase to possibly 90-100 students next year, it will be imperative to migrate to master schedule builder system.

As a science and technology school physics and chemistry are core areas which require substantial amounts of equipment to effectively demonstrate concepts. The equipment requested by the physics, chemistry and biology teachers is very detailed and totals to the amounts shown.

ASD participated in both the FIRST Lego League competition and the Trinity College Home Robot Firefighting Contest in 2007-8 as co-curricular activities. Limited access to necessary equipment resulted in a number of problems. Additional robotics hardware would solve this problem and allow the ASD to continue to offer this valuable option which illustrates mechanical, electrical, and computer software and hardware engineering principles in a hands-

on, project-based real world application, as well as developing mathematical and team building skills.

<u>Budget Category #6</u>	Budget Detail	
Contractual	(Oct. 1, 2008-Sep. 30, 2009)	
Technology Administrator	Technology infrastructure development, including enhanced web presence and paperless operations	\$40,000
IT Setup	Set up new laptops and software	\$15,000
Total		\$55,000

Contractual Services Justification: Today a key aspect of any thriving organization is its utilization of technology and presence on the Internet. A Technology Administrator will enable ASD to develop the technological infrastructure and a presence on the web to support student coursework, efficient school operations and extensive outreach to the community. The Technology Administrator will work with staff and students to facilitate online learning and administration. In addition, the Technology Administrator will develop automated and paperless central office operations. Finally, by improving the school's web site, the Technology Administrator will enhance ASD's ability to expand its state-wide outreach to potential students and families and business partners as well as further dissemination opportunities to area mathematics and science teachers and public schools. The improved web site would include features such as forms distribution and submission, information account management, and secure

online donation. Once the initial implementation of a new school website is completed, volunteers and administrators will be able to easily post and remove items. Without this grant, the technology initiatives at ASD may be gradually enhanced by volunteers, but only over a much longer period of time.

The second consultant will be used to set up the school's servers and laptops. Currently the implementation of the schools network and computers is not optimal. Someone with a strong IT background would correct errors in the current architecture of the school's computer/network, so administrative management of the systems would be easier in future years.