The President’s FY 2016 Budget: A Detailed Look

Introduction

On February 2, President Barack Obama unveiled a $4 trillion federal budget for fiscal year (FY) 2016. The release sets in motion this year’s appropriations process; congressional appropriations subcommittees will soon begin to hold related hearings in hopes of passing each of the 12 annual appropriations bills by the October 1 start of the new fiscal year.

Below, you’ll find a detailed breakdown of how the federal agencies and programs of particular interest to ASTC and its members fared.

Reorganization of Federal STEM Education Programs

Two years ago (for FY 2014), the President proposed a major—and unprecedented—consolidation of federal science, technology, engineering, and mathematics (STEM) education programs. The proposal, which was followed by the release of the Committee on STEM Education’s (CoSTEM’s) 5-Year Federal STEM Education Strategic Plan, was touted as a way to reduce waste and to end programs that were “laudable, but not essential.” If approved by Congress, the President’s plan would have resulted in the termination and consolidation of 90 STEM (and environmental and health) education programs across 11 different agencies and, at least according to the Administration, “the realignment of ongoing STEM education activities to improve the delivery, impact, and visibility of STEM efforts.” Nearly $180 million from the programs in question—including the Competitive Education Grants (CEG)/Environmental Literacy Grants (ELG) and Bay-Watershed Education and Training (B-WET) Regional Programs at the National Oceanic and Atmospheric Administration (NOAA), the Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers Plus Other Opportunities (CP4SMP+) at the National Aeronautics and Space Administration (NASA), and the Science Education Partnership Award (SEPA) program at the National Institutes of Health (NIH)—would have been redirected to the Department of Education, National Science Foundation, and Smithsonian Institution. ASTC and other STEM education stakeholders expressed serious concerns with the proposal, and Congress agreed; in the end, it was not enacted.

In the FY 2015 budget that was released last year, the Administration offered a “fresh reorganization” proposal that “reduces fragmentation of STEM education programs across government, and focuses on efforts around the five key areas identified by the Federal STEM Education Five-Year Strategic Plan: K-12 instruction; undergraduate education, graduate education, broadening participation in STEM education and careers by women and minorities traditionally underrepresented in these fields; and education activities that typically take place outside the classroom.” Unlike in its predecessor, however, the Administration did not request a transfer of funding between agencies. As a result, programs like SEPA had funding reinstated compared with the FY 2014 proposal, though CEG/ELG, B-WET, and CP4SMP+ were all, once again, zeroed out in the FY 2015 request. And, once again, Congress restored some funding.

In the FY 2016 request, the President offers the following:
Over the past two years, the Administration has made considerable progress toward creating a more cohesive framework for delivering STEM education. Guided by the Federal STEM Education Five-Year Strategic Plan and a significant reorganization of programs, agencies are increasing coordination, strengthening partnerships, and identifying ways to leverage existing resources to improve the reach of agency assets. The number of different STEM programs has been cut from over 220 to just under 140. The Budget builds on these efforts and continues to reduce fragmentation, ensuring that investments are aligned with the Strategic Plan and support effective programs with strategic approaches to evaluation. The Budget invests $3 billion in 113 programs including $200 million for K-12 education at the Department of Education’s Math and Science Partnerships, $338 million for graduate fellowships, $62 million for graduate traineeships, and $135 million for improving undergraduate education at the NSF.

While the consolidation proposal continues to evolve, it should be noted that NOAA’s ELG program and NASA’s CP4SMP+ program would be terminated under the President’s FY 2016 budget.

### Department of Education

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(in millions of dollars; numbers rounded)

The Department of Education (ED) would receive $70.7 billion in overall discretionary funding for FY 2016 under the President’s request, $3.6 billion more than the FY 2015 level.

**Investing in Innovation Fund**

For FY 2016, ED proposes the continuation of the Investing in Innovation (i3) program; the budget request includes $300 million for i3, $180 million more than the FY 2015 level. i3 has made competitive awards to develop and expand innovative strategies and practices that have been shown to be effective in improving educational outcomes for students. According to ED, the funding would:

...significantly expand support for a program that has demonstrated considerable success in identifying, validating, and scaling up evidence-based interventions and practices with great promise for helping to meet the toughest challenges in the American education system. In particular, the increase would support the greater numbers of Scale-Up grants that the Department expects to make based on the successful outcomes of Development and Validation grants made in previous years, bringing the benefits of proven interventions to more students and schools and addressing the growing demand from States, districts, and school leaders for effective tools and strategies that can help close achievement gaps and improve student outcomes.

The request also proposes allowing Federal, State, or local public funds to be used as matching funds, rather than limiting matching funds to private sources, to create an incentive to leverage existing education funding, including Federal formula funding, in support of evidence-based practices.

**Mathematics and Science Partnerships**

The Administration proposes $202.7 million for the Mathematics and Science Partnerships (MSP) program for FY 2016, $50 million more than the FY 2015 enacted level. From the budget request:
The Administration proposes a strengthened Mathematics and Science Partnerships program that would promote reforms in science, technology, engineering, and mathematics (STEM) education that are more cohesive than under current law and can better leverage local STEM assets, be more responsive to local STEM industry needs, and reach more students. Funds would be used for formula grants to States, which would be authorized to reserve a portion of their grants to support comprehensive State STEM education improvement plans in prekindergarten through grade 12. States would use remaining funds to make subgrants to eligible partnerships for an expanded range of allowable activities, including developing and increasing the use of evidence-based practices and providing students with opportunities for authentic STEM experiences in formal and informal settings.

The Department would be permitted to reserve up to $25 million to make competitive grants directly to eligible partnerships that leverage local and regional resources and assets to carry out the expanded activities above, which could also include rigorous programs of STEM study that involve inquiry-, project-, and work-based learning as well as advanced coursework, including dual enrollment and other options for high school students to earn credit toward a postsecondary certificate or degree. The Department would also reserve up to 5 percent of funds for national activities, including a STEM Virtual Learning Network to accelerate identification and adoption of effective STEM education practices.

21st Century Community Learning Centers

The 21st Century Community Learning Centers (21st CCLC) afterschool program would receive $1.15 billion in funding under the FY 2016 request, the same amount available for FY 2015. ED states that the funding would:

...support State and local efforts to implement in-school and out-of-school strategies for providing students (and, where appropriate, teachers and family members), particularly those in high-need schools, the additional time, support, and enrichment activities needed to improve student achievement. The Administration’s proposal would continue to allow funds to be used for before- and after-school programs, summer enrichment programs, and summer school programs, and would also permit States and eligible local entities to use funds to support expanded-learning-time programs during school hours.

Institute of Museum and Library Services

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(in thousands of dollars; numbers rounded)

The Institute of Museum and Library Services (IMLS) would receive an increase in overall funding under the FY 2016 request; the $237.4 million proposed for the agency is $9.6 million more than the amount available for FY 2015. Funding for library grant programs authorized by the Library Services and Technology Act would also increase (by $5.7 million compared with the FY 2015 level), and funding for museum grant programs authorized by the Museum Services Act would increase by nearly $5 million compared with the FY 2015 level.

Museums for America

The FY 2016 budget calls for $21.5 million in funding for Museums for America, the
agency’s largest grant program for museums; this amount is $1.3 million more than the amount available for FY 2015. According to IMLS:

*Museums for America* grants are available to museums of all kinds and sizes, providing diverse populations enriching and educational exhibits, school services, public programs, and lifelong learning experiences. Museums for America grants assist museums in achieving institutional goals and objectives in order to better serve their communities. In FY 2016, IMLS will award grants ranging from $5,000-$150,000. Applicants requesting $25,000 or less will not be required to include cost share. These “no match” awards have proven to be effective in reaching small museums throughout the nation. The increase of $1.3 million over the 2015 enacted level would support a 6 percent increase in the number of awards (from 196 in 2015 to 208 in 2016) and expand access to the “no match” opportunity for small museums.

**National Leadership Grants for Museums**

The FY 2016 budget includes $11.2 million for National Leadership Grants for Museums, $3.6 million more than the amount available for FY 2015. According to IMLS:

National Leadership Grants for museums provide funding for projects that improve and advance professional practices for the nation’s 35,000 museums. Grants support research, professional development, models, and new tools that can be widely used throughout the field. The increase of $3.6 million over the FY 2015 level would increase the number of museums with access to digital services provided by regional hubs in a national digital platform.

It should be noted that the Sparks! Ignition Grants for Museums program, which offers small grants that are designed to encourage museums to prototype and evaluate specific innovations in their current practice, is typically funded through the National Leadership Grants for Museums account.

**Native American/Native Hawaiian Museum Services**

The FY 2016 budget includes $972 million for Native American/Native Hawaiian Museum Services, $48,000 more than the amount available for FY 2015. According to IMLS:

This program provides grants to federally recognized tribes and organizations that serve Native Hawaiians for museum-related cultural services and programs for their members and the public. Many of these programs involve the preservation, care, and interpretation of significant objects and traditions unique to Native American culture. This program helps these communities learn from their common experiences and challenges.

**Museum Grants for African American History and Culture**

The FY 2016 budget includes $1.48 million for Museum Grants for African American History and Culture, $74,000 more than the amount available for FY 2015. According to IMLS:

Museum Grants for African American History and Culture support projects that improve the operations, care of collections, and development of professional management at African American museums.

**Strategic Focus: National Digital Platform for Library and Museum Services**

For FY 2016, the agency proposes the expansion and further development of a national digital platform using $8.8 million in federal funds and $3 million from the private sector. From the request:

*IMLS will expand its support for the creation of a national digital platform by funding state and/or regional service hubs serving libraries, museums, and archives, supporting development of innovative open source tools that support discovery, inquiry and research of digital collections and data, data curation practices, and museum and library workforce training. The national digital platform helps museums and libraries share their material resources electronically with other
institutions, researchers, and most importantly, the public.

Strategic Focus: Skills-Based Learning in Libraries and Museums

IMLS continues to support activities that promote the development of 21st century skills for both the public and museum and library professionals. From the request:

In FY 2014, IMLS funded the Children’s Museum of Pittsburgh to develop a Maker Framework so that other institutions can learn from early adopters. IMLS is identifying private and nonprofit partners to build on the federal investment in makerspaces. In order to extend the maker movement into rural and small libraries and museums, IMLS plans to hold a national competition in 2016 that would fund several $5,000-$15,000 (up to $250,000 total) maker installations at rural and small institutions.

Ongoing Strategic Initiatives: STEM Education and Makerspaces

In the FY 2014 Budget Request, IMLS identified the improvement of STEM learning skills for children and young adults as an agency priority and indicated that they planned to create a "funding priority" for projects that developed new programming models to teach STEM skills to at-risk youth. Last year, the agency included "Museums, Libraries, and STEM Learning" as a "Strategic Focus." In this year’s request, the agency states:

IMLS has helped libraries and museums to deliver 21st century skills. IMLS funded $23 million in 140 STEM-related projects in FY 2013-2014. Activities focused on STEM learning for at-risk youth remain a priority for FY 2015 discretionary funding. In FY 2015, in partnership with the Children’s Museum of Pittsburgh, IMLS will launch a freely accessible toolkit for all museums and libraries to use to create makerspaces and programs. In both FY 2015 and FY 2016, the agency plans to maintain these funding levels. IMLS and the National Writing Project support the Learning Labs Community of Practice, a community of educators committed to adapting, extending, and contributing to the curricula, program models, digital tools, and other prototypes tested/developed in YOUmedia/Learning Labs, a collaboration of IMLS and the MacArthur Foundation.

National Aeronautics and Space Administration

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(The President’s budget includes an increase in overall funding for the National Aeronautics and Space Administration. If enacted, the agency would receive $18.5 billion for FY 2016, $519 million more than the amount available for FY 2015.

Education and STEM Education and Accountability

Under the request, the NASA education account would see a large, $30.1 million reduction, from $119 million in FY 2015 to $88.9 million in the upcoming fiscal year. A similar reduction was proposed in the FY 2015 request. Furthermore, funding for the STEM Education and Accountability (SEA) program would also likely be reduced in FY 2016; $55.9 million is proposed, $2.7 million less than the amount available for FY 2014 (the agency has not yet released its FY 2015 spending plan). A sub-category of that account, STEM Education and Accountability Projects, would absorb the entirety of the $2.7 million cut, as $25.9 million is requested for FY 2016 compared with the $28.6
million available for FY 2014. In its request, NASA states that:

The SEA program provides unique NASA assets, including people, resources, and facilities to support the Nation’s STEM education priorities; leveraging programs from the ED, NSF, and the Smithsonian Institution. Through the competitive award of federal domestic assistance funds and collaboration with other federal agencies, the program provides students and educators with access to NASA assets and content. It connects NASA’s partners, including higher education institutions, minority-serving institutions, community colleges, NASA visitor centers, museums, and planetariums to the exciting and compelling content emanating from NASA’s scientific discoveries, aeronautics research, and exploration endeavors.

and

NASA continues to integrate and consolidate its STEM Education projects and activities into a more focused portfolio, consistent with Congressional and Administration direction to streamline and consolidate STEM education programs within NASA. Specifically, NASA continues internal consolidation of education functions, assets, and efforts of the Mission Directorates into the coordinated SEAP. SEAP-funded assets are critical and unique components that NASA can make available to the NSF, Smithsonian Institution, and ED, on a reimbursable basis, as they facilitate federal STEM education activities through the Administration’s Committee on STEM process for agency coordination.

Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers

The Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers Plus Other Opportunities (CP4SMP+), which saw roughly $7 million in annual funding in recent fiscal years, was not included in the FY 2016 request. The following language addresses the program’s past and future:

NASA’s FY 2013 CP4SMP+ received nearly 70 proposals from informal education institutions and NASA visitor centers requesting support for teacher professional development, exhibits, planetarium shows, and STEM engagement programming. There were a total of 12 final selections, using FY 2014 funds, for awards at children’s museums, NASA visitor centers, a planetarium and science center based in a public school system, and science museums. Thirty-six institutions that had active projects from prior awards during FY 2014 attended a reverse site visit co-hosted at Marshall Space Flight Center’s visitor center, the U.S. Space and Rocket Center in Alabama, the NASA Shared Services Center, and Jet Propulsion Laboratory.

and

NASA has begun an internal criteria-based competition across the Mission Directorates and NASA Centers to identify the most meritorious education activities eligible for SEAP funds. Potential applicants and recipients for this funding include: (1) Informal STEM Education and roughly 40 other NASA activities reported as part of the March 2014 “Progress Report on Coordinating Federal STEM (CoSTEM) Education”; (2) Projects and activities not previously funded in prior years and would be new in FY 2015; and (3) Projects and activities that awarded multi-year grants, cooperative agreements, or contracts in a prior year seeking to continue another year of funding for previously competitively selected grantees or contract awardees.

National Space Grant College and Fellowship Project

The FY 2016 request includes $24 million in funding for NASA’s National Space Grant College and Fellowship Project, a $16 million decrease from the FY 2015 level of $40 million. According to the agency:

Space Grant is a competitive grant opportunity that enables the active involvement of 52 consortia in 50 States, the District of Columbia, and the Commonwealth of Puerto Rico. Space Grant supports and enhances science and engineering education, and research efforts for educators and learners by leveraging the resource capabilities and technologies of over 900 affiliates from universities,
colleges, industry, museums, science centers, and State and local agencies. Training grants with each consortium align their work with the Nation’s STEM education priorities and the annual performance goals of the agency.

Science Mission Directorate Funding
The FY 2016 request includes an additional $20 million in education funding within NASA’s Science Mission Directorate to “compete and fund meritorious science educational activities that meet the Nation’s STEM education goals.”

National Institutes of Health

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(in millions of dollars; numbers rounded)

The National Institutes of Health would receive $31.3 billion in funding for FY 2016 under the President’s proposal, $1 billion more than the FY 2015 enacted level. Of that total amount, NIH’s Office of the Director (OD)—which has overseen the Science Education Partnership Award (SEPA) program since the dissolution of the National Center for Research Resources—is slated to receive $1.44 billion, $28.9 million more than the amount available for FY 2015.

Science Education Partnership Award
Once again, level funding is proposed for the SEPA program—a positive sign given that the program was targeted for elimination as part of the Administration’s initial STEM education consolidation effort as put forth in the FY 2014 request. The Administration also sought—and received—level funding of $18.5 million in the FY 2015 request. From this year’s request:

The SEPA program supports NIH’s mission to enhance health, lengthen life, and reduce illness and disability as well as support of the early pipeline of workforce development. SEPA’s P-12 STEM education projects provide information and resources pertaining to health-related career opportunities for students and teachers in minority, underserved, and rural communities. In FY 2016, the SEPA Program will continue to be coordinated with the Department of Education to ensure that program activities and commercialized products are aligned with ongoing P-12 reform efforts. SEPA provides a unique funding source at the NIH for health-related informal science education exhibits and health-related outreach activities at science centers and museums. These interactive exhibits educate the community on the important relationship between lifestyle and health. Through community education SEPA supports NIH’s role in improving the health of the nation. Many SEPA grantees have partnered with the nearby Institutional Development Award (IDeA) programs so that students “graduate” from SEPA activities to fill the undergraduate pipeline at IDeA institutions. These partnerships contribute to NIH workforce diversity efforts such as the Common Fund initiative “Enhancing the Diversity of the NIH-Funded Workforce.”

National Oceanic and Atmospheric Administration

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(in millions of dollars; numbers rounded)
The National Oceanic and Atmospheric Administration would receive nearly $6 billion in overall funding under the President’s FY 2016 request, an increase of $534 million over the FY 2015 enacted level.

**Education Program and Competitive Education Grants**

NOAA’s Office of Education is, once again, slated for a drastic cut under the FY 2016 budget request; the proposed level of $16.4 million in funding is $11.2 million less than the amount available for FY 2015. In addition, **neither the Competitive Education Grant Program nor the Bay-Watershed Education and Training (B-WET) Regional Programs receive support in the President’s request—termination is, once again, proposed for both.** With regard to the terminations, the agency suggests that they will continue to provide students with watershed educational experiences through other programs—including those within the National Marine Sanctuaries and National Estuarine Research Reserves—and offers the following (now familiar) language:

*In 2014, the President’s Budget proposed a government-wide STEM reorganization to create a coherent framework for delivering STEM education to more students and teachers more effectively while reducing fragmentation. To support that proposal, the Administration published a Five-Year Federal Strategic Plan on STEM Education to help align the reorganization with key goals and strategies. The areas of priority for this plan include improving pre-kindergarten-through-grade-twelve (pre-K-12) instruction; increasing and sustaining youth and public engagement with STEM; enhancing undergraduate STEM education; creating a national strategy around graduate fellowships; and better serving groups historically underrepresented in STEM.*

Over the past two years, agencies have made considerable progress towards a stronger and more cohesive infrastructure for delivering STEM education. For example, in implementing the Strategic Plan, mission agencies have increased coordination with the lead agencies (the Department of Education, the National Science Foundation, and the Smithsonian Institution) and are identifying ways to leverage existing resources to improve the reach of agency assets.

*The 2016 budget builds on these efforts by proposing a fresh reorganization with targeted adjustments to enable more strategic investment in STEM education with a focus on building and using evidence-based practices and finding new models for leveraging assets and expertise.*

*While the Competitive Education Grants will be terminated in accordance with the Administration’s STEM initiative, NOAA will still support teacher development and formal and informal education initiatives through the existing grant periods (3-5 years) due to the multi-year nature of prior year awards.*

### National Science Foundation

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*(in millions of dollars; numbers rounded)*

The National Science Foundation would receive a $379.1 million increase under the President’s FY 2016 budget request; the agency is slated to receive $7.723 billion. **The Directorate for Education and Human Resources (EHR) and the Division of Research on Learning in Formal and Informal Settings (DRL) would also see increases over their FY 2015 levels; EHR would see an additional $96.6 million and DRL would see an additional $31.6 million.** According to the Budget Request:
The Division of Research on Learning in Formal and Informal Settings (DRL) manages its investments in foundational research to advance understanding about STEM learning and teaching. The DRL portfolio also includes the design, implementation, and study of learning environments, models, and technologies intended to engage and enable STEM learning for all students, particularly those who have been underrepresented in STEM, through both formal and informal STEM activities. DRL provides direction for the EHR portfolio in techniques for measurement and assessment of learning outcomes, and for the development of indicator tools that would enable the tracking of systemic improvement. The results of DRL-funded projects are a resource for establishing renewed and new partnerships with other directorates, NSF-funded facilities, other federal agencies, and the private sector for complementary investments in discipline- and practice-based approaches to STEM education.

DRL is the administrative home and provides intellectual leadership for: EHR’s Core Research (ECR) portfolio; the EHR-wide emphasis on cyberlearning; collaborations with other directorates on big data, data science, and privacy related to learning data; agency-wide participation in citizen science and maker movement investments; a partnership with the Wellcome Trust for research on informal STEM learning; an ongoing set of efforts related to K-12 STEM education; and the NSF Einstein Fellows program.

Advancing Informal STEM Learning

Though the President’s FY 2014 Budget Request included only $47.8 million in funding for the Advancing Informal STEM Learning (AISL) program (formerly known as Informal Science Education), Congress expressed its support for the program by including $55 million in the FY 2014 Omnibus Appropriations Bill. Last year (FY 2015), the President proposed level funding of $55 million—a positive development. That positive trend continues, as the President’s FY 2016 request includes $60 million for AISL, a $5 million increase over the FY 2015 enacted level. According to NSF, the funding will:

...provide resources to support design, adaptation, implementation, and research on innovative modes of learning in the informal environment, including emphases on citizen science, making, and cyberlearning. In addition to drawing on the resources of the informal STEM learning community to create a “bold vision” as part of INCLUDES, AISL will partner with the LSAMP program to develop a pilot for empowering middle-school aged youth in STEM. AISL will continue to encourage projects that utilize informal learning environments in novel ways to engage students from groups traditionally underrepresented in STEM and continue with Phase 2 of the Wellcome Trust Science Learning+ collaboration, which are the partnership grants supporting joint U.S. and United Kingdom initiatives.

With regard to the aforementioned Inclusion Across the Nation of Communities of Learners that Have Been Underrepresented for Diversity in Engineering and Science (NSF INCLUDES) and Louis Stokes Alliances for Minority Participation (LSAMP) programs, the agency offers the following details:

The LSAMP program will partner with DRL’s AISL program in the development of the NSF INCLUDES: Empowering All Youth for STEM pilot program. The goal of this pilot is to build, implement, and assess models that are intended to fuel the demand for STEM learning by directly engaging the youth community at the middle grades level. Investments will focus on catalyzing innate curiosity, generating excitement, and engaging learners in relevant science and technology. Research indicates that students who develop “science identities” by the end of middle school have greater potential for their continued engagement in STEM.

$15 million in total FY 2016 funding is requested for NSF INCLUDES, with each NSF directorate contributing to that amount; EHR would provide $3 million.