Request for Proposals

June 2013
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Introduction

To improve the competitiveness of the U.S. economy by dramatically increasing the number of students who complete degrees in science, technology, engineering, and mathematics (STEM) fields, Complete College America, with funding support from the Leona M. and Harry B. Helmsley Charitable Trust invites states to nominate two to four of their public postsecondary institutions to participate in an initiative to develop Guided Pathways to Success (GPS) systems that result in higher numbers of college graduates in STEM disciplines. GPS systems, which are organized around structured programs of study, degree maps with milestone courses, and robust, technology-assisted advising and student support, have been shown to significantly improve student progression and degree completion on the campuses where they have been implemented, particularly for students from underserved groups.

Complete College America will select up to five states from its Alliance of States, each of which will enlist two to four campuses that will deploy GPS systems in their associate’s and bachelor’s degree STEM programs. In return, Complete College America will provide participating states and institutions in-depth technical assistance that will include:

- Customized labor market analysis using current job-postings information from Burning Glass International and current degree production information from state colleges and universities to compare STEM credential production with current STEM labor market demands and to strengthen curricula by identifying emerging skill requirements in key occupations;
- Participation in a three-day, multi-state GPS completion academy;
- An in-state institute for teams of state and campus leaders and STEM faculty;

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1 For the purposes of this initiative, STEM disciplines include programs classified by the Institute of Education Sciences as agriculture and related sciences, natural resources and conservation, communications technologies/technicians, computer and information sciences and support services, engineering, engineering technologies, biological and biomedical sciences, mathematics and statistics, physical sciences, science technologies/technicians, mechanic and repair technologies, precision production, as well as health programs that lead to professions classified by the Bureau of Labor Statistics as Healthcare Practitioners and Technical Occupations. Programs that lead to professions classified as Healthcare Support Occupations are not eligible at this time. Additional information on eligible CIP and occupation codes can be found in footnote 3 on page 7 of this RFP
• Individualized support from national experts with experience in implementing GPS strategies; and
• Participation in a national network of GPS in STEM Careers states and institutions.

Technical assistance will be provided between September 2013 and March 2015, and selected states and campuses must commit to implement GPS systems in their STEM programs no later than fall 2015. In addition, selected states and campuses must commit to the following:

• Articulate STEM degree production goals at the state and/or campus levels;
• Commit to develop, implement and evaluate GPS systems in order to sustain them after the completion of the initiative.
• Scale the GPS system to additional academic programs and institutions through state or system policy.
• Create program goals and pathway design at the STEM program level through the examination of current student completion data consistent with CCA’s college completion metrics;
• Create academic degree maps with milestone courses aligned with STEM degree production goals;
• Jointly engage four-year institutions and community and technical colleges in program development to create seamless transfer pathways to baccalaureate degrees;
• Engage businesses and other implementation partners in program design;
• Assemble an appropriately broad and empowered leadership team, including the Office of the Governor, to develop the proposal and drive implementation of proposed work.

**Principles and Practices of Guided Pathways to Success**

Successful applicants for the Guided Pathways to Success in STEM Careers initiative will implement all aspects of the Guided Pathway to Success (GPS) model on their campuses to increase graduation rates and decrease time to degree. The GPS in STEM Careers model includes the following principles and practices:

• Academic programs are tightly aligned with high demand STEM workforce needs and include partnerships with employers to transition students into high demand jobs in their chosen field.
• Academic programs should require no more than 60 credits for an associate’s degree and 120 for a bachelor’s degree unless required by an external accrediting body.
• Institutions will utilize predictive analytics (high school performance, entrance exam performance, stated college and career goals and other non-cognitive attributes) to advise students of potential aptitude in STEM fields.

• New entering students who are committed to a STEM field immediately enroll in a broad program of study, or “meta-major,” that includes an initial set of essential courses for pursuing a degree in any STEM program or major.

• Upon selecting a STEM program, students follow a default pathway of courses that count toward a STEM degree. Students are not allowed to change their pathways or enroll in courses outside their pathways before meeting with their academic advisors. While some course-taking outside one’s chosen pathway is allowed, such exploration is highly structured as part of the pathway and all courses count toward one’s chosen degree. In this way, excess credits are eliminated.

• Each semester, students must enroll in required milestone courses that are essential to successful progress in a STEM field.2 The institution guarantees that the courses will be available to all students who need them in order to complete the prescribed sequence of courses and to maintain progress on their pathways.

• Students are required to enroll in at least 15 credits each semester or at least 30 credits each year in order to ensure on-time completion. Ideally, student course schedules are constructed as “blocks” of courses that take place on the same days and times, semester to semester to help students balance work and school.

• Utilizing “early warning” tracking systems, institutions will provide intrusive advising on a just-in-time basis in order to target interventions effectively and efficiently to students who struggle over the course of the semester or do not make adequate progress toward a credential each semester.

• Technology enables the efficient management of student progress along chosen pathways, ensures students remain on pathways, signals to students in real-time their pathway locations and provides early alerts to advisors when students need assistance—such as missing class, missing assignments—that are early indicators of student failure.

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2 Milestone courses are critical major requirements that must be completed by specific points in time in order to progress toward a degree. A fully implemented GPS system will ensure that all milestone courses are available to students when they are needed in order to accomplish their prescribed course sequences and make timely progress toward their degrees.
Complete College America Services

States selected to participate in the GPS in STEM Careers project will receive the following services from Complete College America:

**Phase I: Support for State and Campus Goal Setting**

- CCA will partner with the selected states to conduct a thorough state labor market analysis, using real-time job postings data collected by Burning Glass International, that identifies the degrees and skills that are in greatest demand by in-state employers and the academic program pathways that supply those degrees and skills.
- CCA will work with states to apply the CCA common completion metrics to STEM associate’s and bachelor’s degree programs to analyze productivity and pipeline issues related to the degrees.
- CCA will work with states to establish specific STEM associate’s and bachelor’s degree production targets.

**Phase II: Program Design and Implementation**

- CCA will convene a three-day GPS in STEM Careers Completion Academy for teams of state and campus leaders. The Academy will include dedicated facilitators for each team and national experts who will guide teams in the development of GPS in STEM Careers action plans to reach their state STEM degree production targets. All travel and meeting costs will be paid by CCA.
- CCA will convene GPS in STEM Careers Institutes in each state that will bring together campus-level teams of administrators, student services staff, local employers, and STEM faculty members to develop campus implementation strategies, assign responsibilities, and establish timelines. CCA will provide national experts to work with each campus team to develop their actionable plans.
- CCA will provide individualized technical assistance to states and campuses throughout the design and implementation phases. National experts will be available to states and campuses throughout the project outside of the formal meetings on an as-needed basis.
- CCA will facilitate a national network of GPS in STEM Careers states and campuses to share best practices
State and Institutional Commitments

In order to be eligible for participation in the GPS in STEM Careers initiative, states must:

- Respond to the RFP and agree to project commitments.

- Assemble a team with the authority and capacity to articulate degree production goals and program enhancements for STEM disciplines at the state and institutional levels, including:
  
  - A representative of the Governor
  - A representative from the legislature
  - The state postsecondary system leader
  - The presidents of the participating campuses
  - STEM faculty from the participating campuses
  - Student services administrators from participating campuses
  - Corporate partner representatives

- Commit to set and adopt STEM associate’s and bachelor’s degree production goals at the state and campus levels that are responsive to and driven by economic growth data and predictions.³ Competitive proposals will also describe how proposed work will increase STEM degrees awarded to low-income and underrepresented student populations.

- Commit to articulate program learning goals that will guide the creation of academic maps that prescribe semester by semester, 15-credit hour course schedules and include milestone courses aligned with STEM degree production goals.

³ For CIP code details, please see [http://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55](http://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55). The following CIP codes are eligible: 01, 03, 10, 11, 14, 15, 26, 27, 40, 41, 47, 48 and 51 (except for subcodes 51.06-51.08, 51.18, 51.26, 51.33-51.37, and 51.39)

Commit to design default academic pathways and incorporate GPS tools and practices that will be necessary for success. These tools and practices MUST include: STEM meta-majors for entering students, 60 and 120 credit hour credit caps for degree programs, default academic maps with guaranteed milestone courses, and technology-enhanced intrusive advising and early warning systems. Preference will be given to proposals that also include block scheduling and incentives for students and institutions to graduate more STEM students on time.

Commit to scale the GPS system to additional academic programs and institutions through state or system policy.

Commit to evaluate the effectiveness of GPS in STEM Careers implementation in terms of STEM enrollment, retention, time and credits to degree, graduation, and employment in STEM industries or enrollment in graduate programs.

How Proposals Will Be Evaluated

Proposals will be evaluated by a panel of experts on applying GPS principles on and across campuses and on developing state policies to increase STEM degree production.

Strong proposals will include most of the following elements:

- Gubernatorial, postsecondary, and STEM employer commitment to increase STEM degree production.
- Partnerships with STEM-related industries with headquarters or facilities in the state.
- Demonstrated unmet demand for qualified candidates for STEM jobs.
- Commitment of state and postsecondary leaders to work with STEM employers to identify program learning goals that will maintain the highest academic standards and meet the needs of STEM employers.
- A postsecondary system with the capacity to dramatically increase the number of STEM associate’s and bachelor’s degrees in a short period of time.
- A commitment to increase STEM degrees awarded to low-income and underrepresented student populations.
• A commitment to extend the common college completion metrics to the STEM program level for the purposes of understanding STEM enrollment, progression, and graduation patterns.

• Public financing of postsecondary education that funds institutions on their ability to increase the number of students graduating. States with financial incentives to produce more STEM graduates will receive extra consideration.

• State and/or postsecondary system policies and practices that are positively aligned with college completion, including remedial education embedded into college-level courses, 60 and 120 credit hour caps on associate’s and bachelor’s degrees, structured academic programs that utilize block scheduling, student and institutional incentives to encourage full-time enrollment, articulated degree maps, and technology-enhanced student advising systems.

• Benchmarks sufficiently detailed to demonstrate timely progress on program implementation.

• Evaluation plans that will integrate qualitative data on state, institutional, and employer assessment of policy changes, quality of student learning, and technology implementation with program-level CCA common college completion metrics demonstrating the effects of GPS policies and practices on STEM enrollment, progression, and graduation.

Proposal Process and Instructions

How to Apply
All CCA Alliance States are invited to apply. All application materials must be submitted electronically to bvandal@completecollege.org on or before July 31, 2013. Questions about the initiative and/or the RFP may be directed to CCA Vice President Bruce Vandal at bvandal@completecollege.org or 303-483-8522.

Proposal Materials
To respond completely to the RFP, states must provide the following:

• Proposal Narrative. Applicants must submit a proposal narrative not to exceed 12 pages that responds to all questions included in Appendix I.
• **Complete College America/NGA Common Completion Metrics.** Applicants must have submitted 2013 state- and campus-level CCA/NGA Common Completion Metrics to the CCA/SHEEO data collection system by July 31, 2013.

• **Memoranda of understanding.** Memoranda of understanding (MOUs) outlining responsibilities of both parties will be executed between the governor’s office and each of its implementation partners. (See Appendix III for a template.)

All proposals and supporting materials will become the property of Complete College America and may be shared with the Leona M. and Harry B. Helmsley Charitable Trust to further the Trust’s interest in identifying and understanding best practices for increasing the number of STEM graduates in the United States.

**Key Dates for Applicants**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>June 19, 2013</td>
<td>RFP announced</td>
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<tr>
<td>July 31, 2013</td>
<td>Proposals due to CCA</td>
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<tr>
<td>August 30, 2013</td>
<td>Selected states announced</td>
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**Reporting Requirements for Successful Applicants**

Once selected, grantees must report on their progress toward full implementation of GPS to STEM Careers. Grantees will:

• **Submit an interim report in March 2014.** States will report their state and campus STEM completion goals, lessons learned about the value and completeness of labor market data used in developing GPS to STEM Careers programs, and submit the detailed state implementation plans developed at the GPS to STEM Careers Completion Academy.

• **Submit a final report in March 2015.** States will submit a comprehensive report that includes progress toward full implementation at the state and campus levels; data on STEM program enrollments and student progress in the new STEM pathways; and lessons learned about GPS implementation including state policymaker input, structured pathway design, technology implementation, sustainability and scalability.
• **Participate in a GPS in STEM Careers network meeting in February 2015.** State teams will convene to share the status of their GPS to STEM Careers implementations in order to discern best practices and to inform the broader project of implementing GPS across campuses and states.

**Key Dates for Successful Applicants**

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Activity Description</th>
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<tbody>
<tr>
<td>September – December 2013</td>
<td>State and campus goal development; program-level completion metrics and state labor market analysis</td>
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<tr>
<td>January – February 2014</td>
<td>GPS to STEM Careers Completion Academy</td>
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<tr>
<td>March 2014</td>
<td>Interim report due</td>
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<tr>
<td>April – July 2014</td>
<td>In-State Institutes</td>
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<tr>
<td>August 2014 – March 2015</td>
<td>Implementation and ongoing technical assistance</td>
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<tr>
<td>March 2015</td>
<td>Final reports due</td>
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**Appendix I: Proposal Narrative Statements**

Applicants must address all of the following points in their proposals. Visuals are welcome.

1) **Membership and Expectations of the State’s GPS to STEM Careers Implementation Team**  
[Suggested length: 500 words]

- Please list your state team members and indicate how they meet the requirements that the following be offices and positions be represented:
  - A representative of the Governor
  - A representative from the legislature
  - The state postsecondary system leader
  - The presidents of the participating campuses
  - STEM faculty from the participating campuses
  - Student services administrators from participating campuses
  - Employer/industry partner representatives

- Describe the roles and input of these collaborators in the development of this proposal and your expectations for continuing participation – including
collaboration between employers and faculty on program design -- by state team members over the course of the initiative.

2) STEM-Related Industries and Workforce Needs [Suggested length: 500 words]

- What are the major STEM industries in your state?
- Which STEM companies have headquarters or facilities in your state?
- What proportion of your state workforce is currently employed in STEM occupations?
- Have you identified shortages of STEM workers in your state? If so, in which industries? What are the sizes of the shortages, and which majors and degrees (associate’s or bachelor’s) are most in demand? What evidence supports the contention that there is a shortage of STEM workers in your state?
- Is your state currently involved in related STEM degree initiatives? If so, please list and explain how this STEM GPS can complement ongoing initiatives.
- How do your colleges and universities communicate with STEM employers in your state to determine the number of graduates that is needed to meet demand?
- How do your colleges and universities communicate with STEM employers about the quality of recent graduates and the success of STEM programs in imparting the knowledge and skills needed by employers?

3) State and Campus Capacity to Increase STEM Graduates [Suggested length: 750 words]

- Which campuses will participate in the GPS to STEM Careers initiative?
- How were the campuses chosen?
- In which STEM fields will the campuses focus their efforts?
- What current state and campus policies and practices related to enrollment, advising, tuition and financial aid, degree program requirements, and learning goals have you identified as significant candidates for change in the GPS to STEM Careers initiative?
- Describe the commitment and capacity at the state and campus levels to undertake the tasks necessary to successfully implement GPS to STEM Careers. Please address faculty support for the project as well as support from academic and student services administrators.
- Describe the anticipated membership of your campus teams and the anticipated roles of the campus teams in the development and implementation of GPS on their campuses. Be sure to address the need to include employer representation on campus teams as well as state teams.
- Describe your implementation timeline at the state and campus levels.
4) **Current Implementation of Game Changer Policies.** [Suggested length: 500 words]

- Has your state aligned public financing for postsecondary education with efforts to increase college completions? If so, please describe how this is accomplished.
- Does your state use specific financial incentives to increase the number of STEM degrees awarded? If so, please describe how this is accomplished.
- To what extent, at the state and campus levels, have you implemented the following policies and practices that have been demonstrated to increase degree completion?
  - Remedial education embedded into college-level courses;
  - Credit caps on degree programs;
  - Structured academic programs that utilize block scheduling;
  - Student and institutional incentives to encourage full-time enrollment;
  - Articulated degree maps; and
  - Technology-enhanced student advising systems.

5) **State’s use of metrics.** [Suggested length: 250 words]

- Report state’s Complete College America/National Governors Association Common Completion Metrics at the state and campus levels through the SHEEO/CCA metrics collection website. If the state is unable to report a specific metric with its proposal, the state must provide an explanation and timeframe in its proposal for reporting missing metrics.
- Describe how common completion metrics were used to inform this proposal.
- Describe how the state is currently using and will continue to use Complete College America/National Governors Association Common Completion Metrics.
- Describe how the state will apply the CCA/NGA Common Completion Metrics at the campus degree program level, including current capacity to generate and analyze the metrics at this level.

6) **Benchmarks and Evaluation** [Suggested length: 250 words]

- Provide ambitious and realistic 6-month, 12-month, and 18-month, 24-month, and 36-month benchmarks for the proposed activities.
- Provide a three-year outline for sustaining work that explains how the proposed actions will be scaled to other academic programs and institutions.
- Describe the implementation team’s plan and process for assessing which changes in STEM completions are attributable to work implemented through the GPS to STEM Careers project.
Appendix II: Guidelines for Memoranda of Understanding

States must submit a memorandum of understanding from each partner agency or institution involved in implementing the proposed work (“implementation partners”). States should modify and add to the Roles and Commitments section as appropriate.

Memorandum of Understanding Template

This Memorandum of Understanding (“MOU”) is entered into by and between___________________ (State agency or system leading the project) and ____________________ (Implementation Partner) to establish an agreement for collaboration and to articulate roles and commitments in support of the implementation of a selected Guided Pathways to STEM Careers proposal.

Roles and Commitments

The State Lead Agency is the state agency or system office designated by the Governor as the key leader and manager of the implementation.

I. State Lead Agency: In planning for and implementing the proposed GPS to STEM Careers plan, the State Lead Agency will:

   a. Manage and oversee the implementation of the proposed plan as selected by Complete College America.
   b. Participate in all relevant convenings, meetings or events that are organized or sponsored by the GPS to STEM Careers Initiative.

II. Implementation Partner Commitments: In planning for and implementing the proposed GPS to STEM Careers Initiative, the Implementation Partner will:

   a. Support the state in implementation of institution-, campus-, system- or agency-level elements of the selected plan.

III. Joint Commitments: In planning for and implementing the proposed GPS to STEM Careers plan, the State Lead Agency and Implementation partner will both and together:

   a. Set and adopt associate’s and bachelor’s degree production goals at the state and campus levels to match degrees awarded in STEM fields with what is needed for economic growth.
b. Articulate program learning goals that will guide the creation of academic maps that prescribe semester by semester, 15-credit hour course schedules and include milestone courses aligned with STEM degree production goals.

c. Design default academic pathways and incorporate GPS tools and practices that will be necessary for success. These tools and practices include STEM metajors for entering students, 60 and 120 credit hour credit caps for degree programs, academic maps with milestone courses, technology-enhances intrusive advising and early warning systems, block scheduling, and incentives for students and institutions to graduate more STEM student on time.

d. Evaluate the effectiveness of GPS to STEM Careers implementation in terms of STEM enrollment, retention, time and credits to degree, graduation, and employment in STEM industries or enrollment in graduate programs.

e. Appoint a contact person for the GPS to STEM Careers project who will maintain regular communication with all implementation partners in the state and with Complete College America.

f. Participate in any evaluations of this initiative.

Implementation Partner Point of Contact
Contact Person’s Name: _________________________________
Position: ____________________________________________
Phone: _____________________________________________
Email: ______________________________________________
Assistant: __________________________________________
Assistant Contact Information: _________________________

Modifications
This Memorandum of Understanding may be amended only by written agreement signed by each of the signatories and by Complete College America.

Signatures

__________________________ __________________________
State Lead Agency Signature Date

__________________________ __________________________
Implementation Partner Contact Person’s Signature Date