



## Request for Information

### RFI 16-25 - Student Predictive Analytics

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# HOUSTON COMMUNITY COLLEGE

## REQUEST FOR INFORMATION

Date: December 18, 2015

Project: Student Predictive Analytics – Request for Information (RFI)

Project No.: 16-25

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### **1. General Information**

Houston Community College's service area is Houston Independent School District, Katy, Spring Branch, Alief Independent School Districts, Stafford Municipal District, and the Fort Bend portion of Missouri City. The System is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree.

Houston Community College serves its students each semester, by offering associate degrees, certificates, academic preparation, workforce training, and lifelong learning opportunities that prepares students in our diverse community to compete in an increasingly technological and international society. Houston Community College plays an integral role in transforming the lives of its students and making our community work.

More information regarding HCC can be found in the annual [HCC Fact Book](#).

*HCC Mission* - Houston Community College is an open-admission, public institution of higher education offering a high-quality, affordable education for academic advancement, workforce training, career development, and lifelong learning to prepare individuals in our diverse communities for life and work in a global and technological society.

*HCC Vision* - Houston Community College will be a leader in providing high quality, innovative education leading to student success and completion of workforce and academic programs. We will be responsive to community needs and drive economic development in the communities we serve.

Additional information about Houston Community College may be found by visiting [HCC Website](#).

Visit the [HCC Procurement Operations Department website](#) to get more information on this and other business opportunities. While at our website we invite you to [Register as a Vendor](#), if already registered, please confirm your contact information is current.

### **2. Project Overview**

#### Student Predictive Analytics

For HCC, predictive analytics means a product with data mining and machine learning capabilities that is education-industry-specific, used to create institution-specific statistical models that indicate the likelihood of specific outcomes occurring in the future. These capabilities incorporate all data

identified as relevant to identify patterns and trends. The stronger the pattern and trend, the more likelihood the specific outcome will occur in the future. The likelihoods estimates could also be called prediction models, which incorporate all measured intervening variables and indicate the unique contribution each has on the outcome.

Some outcomes of importance to HCC are: student attrition, student persistence, successful student course completion in frequently repeated courses, problematic course combinations, optimal schedules, effective courses of study and the characteristics of those programs, regional job needs, and successful student transfer. The prediction models would help HCC create systemic interventions for the most affected students through policies and practices. For example, if we find through data mining that students who take courses in a specific sequence on a full-time basis are most likely to persist and complete, then the institution could create options that encourage students to enroll full time in a block schedule. The models should allow HCC to provide the best “holistic placement of students” as suggested by THECB.

The models should be applied to each student and create an overall “success” likelihood estimate. This score identifies the accumulation of factors that promote success. If there are too few “success factors”, staff/faculty will be aware and engage the student in support services at HCC. Likewise, students could be given personalized normative personalized feedback, a useful intervention to change behaviors through awareness, of the information. Basically, all those people who engage with a specific student will have the information on areas in which the student may need help.

Products with a history of education industry predictions are preferred over in-house practices because we do not have the resources to re-create their errors. The predictive models should be iterative and flexible enough to change over time as data changes at the institution. Predictions will change as interventions are applied successfully.

Example:

1. Holistic Placement and onboarding: A student predictive analytic system will be critical for unbiased and consistent application of holistic placement. Without the measurement and predictions applied through a formula, there is ample opportunity for capricious placement. There are other data, specifically in the items below that need to be investigated for our institution and students. Developmental education also may have impacts at our college for a student’s path toward completion.
  - TSI Rule §4.55 Assessment and Placement: (c) For holistic placement of non-exempt students not meeting standards as defined in §4.57(a) and (b) of this title (relating to College Ready and Adult Basic Education (ABE) Standards), institutions shall use for determination of appropriate courses and/or interventions the TSI Assessment results and accompanying Diagnostic Profile, along with consideration of one or more of the following:
    - High school Grade Point Average/class ranking;
    - Prior academic coursework and/or workplace experiences;
    - Non-cognitive factors (e.g., motivation, self-efficacy); and
    - Family-life issues (e.g., job, childcare, transportation, finances).
2. Other areas of application for student analytics:
  - Student program placement META majors selection based on career assessment information
  - Financial Aid loan defaults and coaching resources

- Hiring based on student needs found through the analysis
- Student conduct information
- ADA services points
- First Time in College Students
- "Minority" Males
- "Transferring in" students
- Distance Education students
- Interactions between staff and students.
- Student use of services, not specifically designated for learning. For example, advising services and contacts, mandatory advising, career counseling visits, calls to contact center, etc.
- Measurement of overall student engagement by the numbers.

### **3. RFI Format & Deadline**

HCC is issuing this Request for Information Request to solicit interested firms to provide all ideas and information available with regards to the Project Overview noted above.

HCC is interested in learning more about methodologies, technologies and general options related to the details of the Project Overview. Respondents are asked to provide as much detail as possible describing the types of programs and solutions they provide and any related suggestions related therein including considerations for scope development, required planning, implementation, and the ongoing maintenance and support for such a solution.

HCC is also interested in understanding what technology is used to support such a solution including onsite and cloud based options.

Please describe how your services, software and overall solution model is priced (licensed users, subscription based, etc.).

**Responses shall be e-mailed to the HCC contact noted on the cover page by the submittal deadline noted on the cover page.**

### **4. Disclaimer**

- a. The intent of this Request for Information is to obtain information, it is not a formal request for proposal or bid and there will be no award resulting from any response to this Request for Information.
- b. This Request for Information is being issued by the Procurement Operations Department of HCC on behalf of the Instructional Services Division.
- c. Expenses incurred by interested company in developing, preparing, or submitting any information, documentation, or other materials in response to this Request for Information and/or by attending meetings directly or indirectly related to this Request for Information are entirely the responsibility of the company, and will neither be paid nor reimbursed by HCC. Any information, documentation, or other materials submitted in response to this Request for Information is at the sole risk and expense of the company. All information, documentation, or other materials submitted in response to this Request for Information shall become the property of HCC. Respondents should retain submission copies for their records. HCC reserves the right to use any and all ideas presented in any response.

- d. Information provided in response to the RFP is subject to the Texas Public Information Act and may be subject to public disclosure.