The Gateway Program
An introduction
Each year the School of Arts and Sciences admits some students who were high achievers in high school, but who are not yet prepared to succeed in college level courses, as indicated by their placement test scores in reading, writing, and/or mathematics.

Typically, this is because these students have had limited – or no – access to quality college-preparatory work, such as AP courses, and therefore they need some refresher or remedial work in order to achieve their high potential.

To put this in context: the National Center for Education Statistics (a bureau of the US Department of Education) has calculated that one in every three students entering postsecondary education will have to take at least one remedial course (*Alliance for Excellent Education, 2011*).
For decades, however, across higher education, there has consistently been very high attrition among students placed in such preparatory courses.

One reason is that it can be very discouraging to complete one or more semesters at college without earning credit toward graduation, or taking courses that are clearly linked to the majors or disciplines you find interesting.

The disheartening effect of this, especially for people who are accustomed to being academically successful, is known to raise the risk that they will drop out or transfer after the first year of college (Gebelt, et al. 1996).

Students who have a history of being academically successful tend to be especially sensitive to the stigma they associate with “remedial work,” and frustrated by the apparent lack of progress toward their degree goals. It’s hard for them to see their e-credit courses as valuable steps along the way to the majors and courses they care about.

It’s hard for them NOT to see this as being side-tracked – or, as some students express it, “on the dummy track.”
Rutgers offers several programs to help students develop superior academic skills – no matter where they are on the spectrum of college readiness – and Gateway has been one of the most sustained and consistently successful of these programs.

Launched in 1987, it was specifically designed to meet the needs of these high-aptitude, but underprepared students – students who have demonstrated the potential to close the gaps between where they are and where they want to go.

Placing them in Gateway sections is our acknowledgement of that potential. We’ve made a commitment to ensuring they successfully complete their first-year curriculum, so they don’t waste time and effort repeating courses, and so they achieve the grades that reflect their true abilities.

A key to Gateway’s success is that students are enabled to pursue – and successfully master – credit-bearing coursework that is relevant to their desired majors, right from their first semester of the Rutgers experience. They do this alongside the preparatory courses that are required by their placement scores.

resolving the paradox –
the Gateway approach

- Specifically designed to meet needs of high-aptitude, but underprepared, students.
- A commitment to their success in the first year, so they...
  - don’t waste time and effort repeating courses, and
  - achieve grades that reflect their abilities.
- Students take credit-bearing courses relevant to their desired majors from the first semester at Rutgers, alongside the preparatory courses required.
- They are placed in special sections in those courses – Gateway sections.
Our expectations for these students are high: Gateway is centered on an array of “high-risk” introductory courses which are known to be particular challenges for underprepared students, but are vital entry ways to a broad range of desired majors: biology, chemistry, physics, and psychology; sociology, political science, and history.

This is less risky than it may appear. Research has shown that students acquire the college-level academic skills that are needed for success across the curriculum more quickly and effectively when they are developed within courses that they care most about – courses in disciplines that they find interesting or important (Gebelt, et al. 1996).

And the program is designed to allow the Office of Academic Services to monitor student performance, and to provide advising support and intervention that can help students make responsible decisions about their readiness to persist – or not – in these courses. That is very important for keeping these high-potential students invested and on track in their studies.

**Course including Gateway sections:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>Concepts in Biology</td>
<td>01:119:100</td>
</tr>
<tr>
<td>Intro to Chemistry</td>
<td>01:160:134</td>
</tr>
<tr>
<td>Solid Gems General Chemistry</td>
<td>01:160:161</td>
</tr>
<tr>
<td>General Chemistry</td>
<td>01:160:162</td>
</tr>
<tr>
<td>Extended Analytical Physics</td>
<td>01:750:115 &amp; 116</td>
</tr>
<tr>
<td>Extended General Physics</td>
<td>01:750:201 &amp; 202</td>
</tr>
<tr>
<td>General Psychology</td>
<td>01:830:101</td>
</tr>
<tr>
<td>Introduction to Sociology</td>
<td>01:920:101</td>
</tr>
<tr>
<td>American Government</td>
<td>01:790:104</td>
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<tr>
<td>Law &amp; Politics</td>
<td>01:790:106</td>
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<tr>
<td>Development of U.S. To 1877</td>
<td>01:512:107</td>
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</tbody>
</table>

**Signature Courses**

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<thead>
<tr>
<th>Course</th>
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<tr>
<td>Immigrant States: Jersey’s Global Routes</td>
<td>01:556:271</td>
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<tr>
<td>Soul Beliefs</td>
<td>01:830:123</td>
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This is the foundation of the Gateway model. Students are placed in Gateway sections as part of a carefully crafted first-year schedule that is meant to foster their academic success across the SAS curriculum, at the same time that they are enabled to complete foundational courses that apply toward their graduation requirements.

Gateway courses are led by highly experienced faculty who actively promote the integration of subject-relevant skills and learning strategies in their teaching, taking an explicitly developmental approach (Kluepfel, Parelius and Roberts 1994).

They feature increased contact hours compared to equivalent courses, and Gateway sections usually are taught by experienced TAs, as well as having a target section size of 18 students.

The additional contact hours and greater opportunity for instructor-led review of course materials helps students keep on pace, and helps them develop a clearer understanding of the level of work required to achieve at the college level, as they did in high school.

In fact, students who have not been placed in Gateway often express an interest in signing up for the Gateway sections (although this rarely occurs, due to limited capacity) because they recognize the advantages of the extended contact hours and instructor-student interaction.

It’s important to emphasize here that expectations and standards for students in Gateway sections are not relaxed. The additional recitation hours come with additional homework and in-class assignments, and this means Gateway students often are completing MORE work than non-Gateway students for comparable elements of the course.

This design means there are more grading elements overall, with each quiz, project or other assignment bearing a bit less weight in the total course grade, and usually more emphasis on student performance in the recitation sections and their associated assignments.

This is emphatically NOT “the dummy track”: despite the variation in course design and delivery, Gateway students must meet a rigorous standard of performance in order to pass these courses – and not all of them do.
But this model works very well for most students: their persistence from their first to second years closely echoes the rate for their entering cohort overall (Gebelt, et al. 1996), (Lawrence, et al. 2009).

Grade distributions, credits earned, and cumulative GPA measures also consistently show that Gateway-assisted and ‘mainstream’ members of their graduating classes have similar outcomes.

Gateway students have, on average, a cumulative GPA at graduation that is within 0.3 - 0.4 points of the mean GPA for SAS seniors, and well within the midrange for academic performance.

Gateway students also catch up relatively rapidly with their ‘mainstream’ peers in credits earned, even while they complete the non-credit preparatory work required by their placement scores.

By the end of the second year, for example, those starting in Gateway sections in Fall 2008 had earned 52 or more credits, as compared to 58 for their SAS peers - along with completing their e-credit courses. They are not lagging behind – and not being side-tracked academically.

In other words, these students achieve their high potential, stay focused on the academic track, and make satisfactory progress toward their desired majors – all goals of the Gateway model.

Placement in Gateway courses is no guarantee of success: if students don’t rise to the challenge, they may find themselves having to repeat these courses after all.

But the program is designed to help students make responsible decisions about their readiness to persist – or not – in these courses, and in their college studies.
The new **SAS Core Curriculum**, launched in Fall 2011, adds a School-wide emphasis on student learning outcomes that is consistent with the Gateway approach.

The Core Curriculum is based on the learning goals that define a modern liberal arts and sciences education at a leading 21st century public research university, and that are sought after by graduate programs and employers across professions.

These learning goals articulate what SAS students are able to *do* upon completion of the Core courses. They ensure students acquire the foundational skills that will be developed further in their majors and minors, and beyond.

Only a special, limited group of courses is certified in the Core Curriculum goals. These courses put specific Core learning goals *front and center* in their design, and regularly assess student achievement of these goals with state-of-the-art methods.

Student learning is therefore the centerpiece of inclusion in the Core Curriculum. And **all but one** of the Gateway courses have been certified as satisfying some Core learning goals.

So in addition to all the benefits already noted, Gateway courses help students achieve one or more of their Core Curriculum requirements. These students really are advancing toward their academic goals, not just treading water in “remedial” coursework.

Assessment of student learning outcomes, using the same methods as in ‘mainstream’ sections of these courses, will allow us to develop an even more nuanced and detailed comparisons of Gateway–assisted students with those of the general SAS population – and especially with students who couldn’t be placed in Gateway sections, although they were eligible.
Because of resource challenges, we’ve never been able to offer as many Gateway sections as are needed. Over the 25-year history of the program, only about half of the students who could benefit, judging from their placement scores, have been accommodated in Gateway sections.

This is despite really heroic efforts by the Gateway-sponsoring departments to expand the number of sections they offer. In Fall 2008, 535 students were enrolled in Gateway sections; in Fall 2011, there were over 900.

But overall SAS enrollments also have increased, and expansion of the Gateway option remains just as urgent. We’re still meeting only 56% of the need for these crucial first-year opportunities.

Because Gateway has no dedicated funding, that we can do even that reflects the goodwill and generosity of departments that are desperately short of instructional resources for all courses that they offer.

This has led to a steady increase in Gateway section sizes, especially in the science courses - far from ideal, given the high-risk nature of these courses even for students who are not also completing preparatory coursework.

The success of the Gateway model relies in part on the enhanced faculty-student interaction that goes with relatively modest class sizes, and experienced instructors.

The target section size is no more than 18 students (Lawrence, et al. 2009), but as of last year, the average Gateway section size had crept past 21 – and for Solid GEMS Chemistry (160:161), an especially challenging course, average section size has risen to 30.

We need to offer more Gateway courses and sections – ideally, not only the disciplines that already participate in this program, but introductory courses across the entire spectrum of student learning goals in the new Core SAS Curriculum.
For more information on the Gateway Program, especially about adding Gateway sections to your courses, contact:

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Gateway at Rutgers – some references


