

Design for Institutional Self-Study

Submitted to

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Middle States Commission on Higher Education

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Introduction

This document outlines Rensselaer Polytechnic Institute's design for its reaccreditation self-study activity through the Middle States Commission on Higher Education (MSCHE). This design document is based on the two MSCHE documents entitled *Characteristics of Excellence in Higher Education* and *Self Study – Creating a Useful Process and Report*. As our timeline for the self-study process on page 31 of this document indicates, we will send the final Self-Study Report to the Review Team and the Middle States Commission on Higher Education in February 2016. We are making excellent progress in our self-study activities, and we are confident that we will achieve the milestones identified in our timeline.

Nature and Scope of the Self-Study

Rensselaer has chosen Comprehensive as the model for its MSCHE institutional 10-year self-study, because this model gives us the opportunity to describe the significant changes at Rensselaer that have occurred under the dynamic leadership of the Honorable Dr. Shirley Ann Jackson. In the spirit of Rensselaer's original mission of educating "persons who may choose to apply themselves in the application of science to the common purposes of life," the goals, objectives, policies, and operations of Rensselaer have been updated to meet the educational needs and requirements of 21st Century students. Significant investments in people, programs, platforms, and partnerships have transformed Rensselaer into a top-tier technological research university with global reach and global impact.

The journey of transformation was first initiated through The Rensselaer Plan of 2000 and is continuing through the recently updated Rensselaer Plan 2024. This plan is intended to be "evergreen" and will grow and evolve as Rensselaer grows and evolves. In its current form, The Rensselaer Plan 2024 articulates the overarching vision, provides the framework for informed decision making, and establishes institutional priorities for the upcoming decade. It will prepare the Institute for its bicentennial in 2024.

Over the past decade, President Jackson has created new faculty positions, hired new leaders, initiated new educational programs, revamped the budgeting process, completed major construction projects, and sought financial support for her vision. The following list highlights the most important accomplishments:

- Completed a \$1.4 billion capital fund raising campaign in 2009.
- Increased sponsored research to \$100 million (FY2013).
- Initiated and/or completed more than \$735 million in new construction and renovation of facilities for research, teaching, and student life.
- Hired more than 300 new faculty members since fall 1999.
- Tripled applications to the freshman class from 5,264 in 1999 to 18,601 in 2014 and improved quality metrics of incoming students.
- Improved graduation rates.

- Continued to hold a ranking as one of the top 50 national universities (*U.S. News*) (41st in 2013).

To accomplish the ambitious goals of The Rensselaer Plan 2024, as well as to keep it “evergreen,” the Institute undergoes an extensive annual performance planning process. Each of the Institute’s “portfolios” (academic schools and administrative divisions) spells out in its performance plan exactly how it will accomplish the full array of Rensselaer Plan 2024 goals over the course of the following three years. These plans include budgets, staffing requirements, milestones, metrics for evaluating progress, and clear prioritizations so that they align with Institute-wide initiatives and the goals of The Rensselaer Plan 2024.

Specific Goals and Objectives

The Rensselaer Plan 2024 was approved by the Board of Trustees in May 2013 and, as its precursor, will continue to serve as the roadmap for all activities undertaken at the Institute. By the time we complete most of our self-study activities, nearly three years will have passed since the approval of The Rensselaer Plan 2024. Given the evergreen nature of The Rensselaer Plan 2024, we have identified the following as the major goals of our self-study activity:

1. To assess our progress relative to the goals of The Rensselaer Plan 2024 in continuation of the process of transformation initiated by The Rensselaer Plan of 2000;
2. To determine the degree to which our overall assessment programs and activities are effective in keeping the Institute on track to achieve the goals of The Rensselaer Plan 2024;
3. To ensure that, in carrying out The Rensselaer Plan 2024, we have also satisfied the standards required by MSCHE for reaccreditation.

Organizational Structure of Committees and Working Groups

Rensselaer's self-study is led by a 44-member steering committee. The core of this group includes its chair, a liaison to the MSCHE, two assessment professionals, and the Chief of Staff. The remaining members of the steering committee are chairs and members of the 8 subcommittees charged with studying Rensselaer relative to one or more of the *Standards for Accreditation* identified by the Middle States Commission on Higher Education. Each subcommittee can draw on additional resource people who have relevant expertise and experiences. This organizational structure was chosen to ensure a comprehensive self-study and to establish effective communication between and among the many participants. Our steering committee and subcommittees represent a broad cross section of Institute constituencies and bring to this self-study a healthy array of competencies and perspectives.

Self-Study Steering Committee

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Standard 6: Integrity

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Standard 12: General Education

Standard 13: Related Educational Activities

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Charge to Subcommittees

Standard 1: Mission and Goals

Context

Rensselaer’s founding mission in 1824, to instruct “persons who may choose to apply themselves in the application of science to the common purposes of life,” remains at the core of our mission today. In 2014, this mission and the related goals are articulated in a comprehensive document: The Rensselaer Plan 2024. This document, developed collaboratively, is a “refresh” of The Rensselaer Plan created in 2000, and further refines and develops the strategic mission of Rensselaer – to be a transformative force in our pedagogy, in our research and in the lives of our students. Like the earlier document, The Rensselaer Plan 2024 lays out the overarching goals for Rensselaer and provides the strategic focus that will enable Rensselaer to gain greater prominence in the 21st Century as a top-tier world-class technological research university with global reach and global impact.

The purpose of this section is to review how The Rensselaer Plan 2024 was developed and how it is continually refined and executed through the annual performance plans. It will also address the ways in which our mission and goals are communicated throughout the community, how they guide the process for resource allocation, and drive the activities and initiatives of the Institute.

Questions

1. How are the Institute's overall mission and goals articulated?
2. How do the mission and goals specifically demonstrate that they encourage scholarly pursuits, cutting-edge research, creative activity, and a sense of community throughout the institution among faculty, graduates, and undergraduates? What are examples of these kinds of activities that occur regularly at the Institute?
3. How effectively are the Institute's mission and goals communicated to the campus community (faculty, staff and students)?
4. By what process was The Rensselaer Plan 2024 developed?
5. How does The Rensselaer Plan 2024 articulate the overall mission and goals of Rensselaer?
6. How does The Rensselaer Plan 2024 guide the planning and development process for the various portfolios in the Institute?
7. Is there ongoing review of the mission and goals for Rensselaer's future? What are the processes and the timeframe for assessing the mission and goals?

Standard 2: Planning, Resource Allocation, and Institutional Renewal

Context

The Rensselaer Plan of 2000 laid the foundation for investments in people, platforms, and programs that enabled the Institute “to achieve greater prominence in the 21st Century as a top-tier world-class technological research university with global reach and global impact.” Recently, The Rensselaer Plan of 2000 was revised and updated into The Rensselaer Plan 2024. Adopted in 2013 by the Board of Trustees, the new plan guides our strategic planning, investments, hiring, and decisions.

On an annual basis, each institutional portfolio engages in a detailed performance planning process that serves as the basis for each year's operating plans and budgets. The Rensselaer Plan 2024 provides guidance in the allocation of resources that are deployed in the pursuit of the Institute's highest priorities. The planning process shapes the conceptualization and guides the dialogue for the discussion and implementation of the activities associated with meeting our mission, goals, and objectives. It guides us in maintaining fiscal control, allocating resources effectively, and assessing outcomes.

Implementation and subsequent evaluation of the outcomes of the performance plans and associated resource allocations support the development and change necessary to improve and maintain overall Institute quality.

Questions

1. How are the mission and goals used to drive the process for determining budgets and the allocation of resources?
2. In what ways do planning and resource allocation processes provide evidence of a commitment to institutional renewal?
3. Are there well-defined decision-making processes with a clear understanding of authority that facilitate planning and renewal?
4. How is the performance planning process communicated to the portfolios and constituents?
5. How does the Institute ensure that the agreed goals of the performance planning process are met?
6. How is progress towards performance planning goals monitored?
7. How is the effectiveness of the performance planning process assessed?

Standard 3: Institutional Resources

Context

Rensselaer's overarching goals for the decade ahead are articulated in The Rensselaer Plan 2024. The annual performance planning process aligns portfolio priorities with institutional goals, defines milestones, and guides the allocation of resources including human, financial, physical, technological, etc. Metrics are used to measure progress toward achieving goals and to ensure the most effective and efficient use of institutional assets.

These annual performance plans define the means by which the academic and administrative units will achieve the overarching goals of The Rensselaer Plan 2024. Performance planning identifies priorities, defines milestones, and forms the basis of resource allocation. Performance planning also identifies the metrics for measuring progress toward achieving goals.

Rensselaer recognizes that the effective use, and ongoing monitoring, of institutional resources is crucial to institutional performance and to the attainment of institutional goals. The distribution of resources among portfolios (the academic schools and administrative divisions) and programs is a direct result of institutional priorities. Rensselaer's decision-making process for allocating assets is an integral part of the institutional planning and budgeting process. The process provides a method for reviewing, analyzing, monitoring, and assessing the distribution and use of all institutional assets.

Questions

1. How does Rensselaer allocate resources across portfolios? What evidence exists that the allocation of resources aligns with institutional priorities as guided by The Rensselaer Plan 2024?

2. How do individual portfolios allocate resources across their units? What evidence exists that the allocation of resources aligns with institutional priorities?
3. How does Rensselaer effectively measure, assess, and ascertain that the allocation of resources leads to the achievement of Institute and portfolio goals?
4. What tools and processes are used to optimize the utilization of institutional resources at the portfolio level?
5. What are the prioritization, planning, staffing, and budget allocation processes for maintenance and life-cycle management of facilities and technology infrastructure?
6. What are the key challenges facing Rensselaer in the areas of facilities, technology infrastructure, and human resources for the next ten years? How will Rensselaer address and overcome these challenges?
7. What impact do changes in revenue and sources of revenue have on adjusting annual operating budgets and what process is used to accommodate changed levels?
8. How does Rensselaer plan for its revenue and sources of revenue? How is enrollment managed and how does it set student targets? How does Rensselaer plan, coordinate, and implement fundraising programs? What process is in place to fundraise for yearly targets and how does Rensselaer plan for capital campaigns? How do each of these link to performance plans and how do changes in these funding streams impact capital and operational budgets?
9. What type of audits are performed, when do they occur, and how are results analyzed and used?

Standard 4: Leadership and Governance

Context

Rensselaer is governed by a Board of Trustees that is empowered to govern itself under its by-laws and to adopt regulations for the conduct of the university. The chief executive officer of Rensselaer Polytechnic Institute is a president whose primary responsibility is to lead the Institute to the fulfillment of its goals and obligations. The president delegates responsibility to, and is advised by, a cabinet of key administrators, including the provost and vice president for research, in broad areas of Institute management. The Faculty Senate, along with its primary committees, is the body through which the faculty makes recommendations on academic policies, procedures and standards to the provost, and through the provost, to the president. The academic deans are responsible for curriculum development, the quality of academic offerings, student learning outcomes and the promotion and tenure process within their schools. They are members of the Dean's Council, a body that includes the vice provost for undergraduate education and the vice provost for graduate education, and that reports to, and meets regularly

with, the provost. The Student Senate represents the concerns of the student body to the faculty and administration.

Within these diverse constituencies, Rensselaer seeks to achieve an environment in which issues concerning mission, goals, program planning, resource allocation, and others can be discussed openly and in which each major constituency is empowered to carry out its roles and responsibilities. Governance is the practice by which authority, responsibility, and resources are assigned, delegated, and shared in a climate of mutual trust and support.

Questions

1. How are the various bodies of governance constituted and structured through handbooks, by-laws, policies, and practices?
2. To what extent are the policies, procedures, distinct roles, and responsibilities of each body of governance understood and accepted by the community?
3. How do the various bodies of governance interact with each other to advance the mission and goals of Rensselaer? What evidence exists to demonstrate the effectiveness of such interaction?
4. What processes are in place to ensure continual assessment and improvement of the various bodies of governance, their handbooks and by-laws, and their interactions with each other? What has been the impact of these reviews and updates? How are assessment results shared between the various bodies of governance and with the Rensselaer community?

Standard 5: Administration

Context

Rensselaer is led by a chief executive officer (president). The president, the chief financial officer, the vice presidents of the functional divisions, and the provost provide leadership for their specific organizational units and, together, for the entire Institute. Rensselaer's administrative structure and services facilitate learning, research and scholarship, foster quality improvement, and support the overall organization and its governance.

Rensselaer's executive leadership team ensures that the organization, and the faculty and staff have the necessary direction, support, and resources to implement the Institute's plans, policies, programs, and functions. In addition, Rensselaer ensures that administrators at all levels are qualified to provide effective leadership and efficient management consonant with the Institute's goals, size, and complexity.

Questions

1. How is the effectiveness of administrative processes and practices evaluated? What are the qualifications of administrative leaders and how are they determined? How does Rensselaer ensure that there is adequate and

- qualified staffing in place to support the goals of the Institute? What is the contingency plan for the unplanned departure of an administrative leader?
2. Does Rensselaer's organizational structure support the achievement of the overall goals? Are the lines of authorization and empowerment clearly defined and documented? What mechanisms are in place to ensure that decisions are based on appropriate information, reviewed, and adequately approved?
 3. In what ways do staffing patterns and reporting lines ensure that institutional plans and activities are carried out effectively?
 4. What are the roles and responsibilities of the president and the leadership team? How do the president and the leadership team stay informed about faculty, staff, and student concerns? How does input from the leadership team, faculty, staff and students contribute to the establishment of institutional strategies and the achievement of institutional goals?

Standard 6: Integrity

Context

Rensselaer seeks to conduct itself in a manner consistent with high ethical standards that support academic and intellectual freedom as well as freedom of expression for all faculty, staff, and students. Integrity is demonstrated through the manner in which Rensselaer selects and retains faculty and staff, performs annual evaluations of employees, admits students, establishes and implements curricula, determines programs of research, manages intellectual property, pursues its fields of service, demonstrates sensitivity to equity and diversity issues, allocates resources, serves the public interest, and provides for the success of its students.

Rensselaer is committed to keeping its promises, honoring its contracts and commitments, managing conflicts of interest, and representing itself truthfully. In addition, Rensselaer extends academic freedom, intellectual freedom, and freedom of expression to all members of its community. Rensselaer does not restrict the availability to or limit unreasonably the presentation of data or opinions. Diverse opinions are addressed with openness and balance. While individuals may hold particular political, social, or religious philosophies, all members are afforded the freedom to pursue truth.

Rensselaer is committed to timely, accurate, and truthful disclosure of factual information regarding the Institute's performance, policies, and practices, including disclosures to the Middle States Commission on Higher Education. This disclosure may be restricted due to federal or state regulations or when issues of privacy require strict confidentiality.

Questions

1. How does Rensselaer demonstrate integrity in all its internal and external activities?
2. What evidence exists that Rensselaer keeps its promises, honors its contracts and commitments, and represents itself truthfully? Do the same ethical standards apply to all people and institutions Rensselaer interacts with?
3. What policies and procedures protect and ensure academic freedom, intellectual freedom, and freedom of expression? What evidence exists that these policies and procedures are effective?
4. How does Rensselaer exemplify within its own working environment those qualities it intends to impart on students such as justice, equity, respect for diversity, and human dignity?
5. How does Rensselaer promote a climate of respect and tolerance for all constituencies? How are institutional values balanced against individual values and belief systems?
6. How does Rensselaer promote a climate of intellectual inquiry and academic freedom? How does the Institute balance its strategic initiatives with individuals' personal academic and intellectual interests?
7. How does the institution decide what information about itself should be shared, and with whom? What is the process for determining what information will be shared and the accuracy of that information? How do these processes result in honest, accurate, and truthful communications?

Standard 7: Institutional Assessment

Context

The annual performance planning includes an assessment process that evaluates the Institute's overall effectiveness in achieving its mission and goals. Components of the assessment process include: progress toward stated goals, adequate resource allocation, and the effectiveness of administrative services in support of educational and research goals.

The primary task of institutional assessment at Rensselaer is to determine whether effective assessment is occurring. Additionally, we will examine the extent to which outcomes assessment and data are used on a continuous basis to improve programs and services.

Questions

1. What assessment processes are currently in place across the Institute and its portfolios? Which processes are particularly related to supporting student learning objectives?
2. How do we use the results of the assessments to improve programs and services to align with Rensselaer's mission and goals?

3. How is the effectiveness of the assessment processes measured? E.g. are we collecting, analyzing and using the appropriate data?
4. How are the processes and results of assessment communicated to constituents? How do constituents provide feedback on the assessment processes?

Standard 8: Student Admissions and Retention

Context

Through its admissions programs and policies, Rensselaer Polytechnic Institute seeks to identify, invite, and enroll students who will thrive during their residency and who will, upon their graduation, exemplify the Rensselaer mission. Admissions practices are designed to admit applicants whose interests, goals, and abilities are congruent with this mission.

Rensselaer values cultural, intellectual, geographic, gender, and ethnic diversity, and provides opportunities for the success of all admitted students. The review and evaluation of our applicants for admission are done in accordance with the quality, diversity, and financial goals of the Institute as outlined in The Rensselaer Plan 2024.

Rensselaer offers a comprehensive suite of curricular and co-curricular programs that not only fosters a culture of creativity, discovery, and innovation, but also helps students succeed and advance in their chosen course of studies.

Questions

1. How are the admissions policies and procedures created? Who establishes and reviews these policies? How frequently are they reviewed?
2. What programs and services are in place to assimilate students into the fabric of the Institute to ensure that they remain enrolled until their learning goals and educational objectives are achieved?
3. What programs or services are available to ensure that students who are identified as at-risk meet Rensselaer's qualifications and achieve learning goals?
4. How do the attributes of enrolling students align with the Institute's mission? Is there an ongoing assessment of student success, including, but not necessarily limited to, retention? What are the Institute's retention and graduation rates and how do these compare to peer institutions and the national average? What are the reasons for attrition at the Institute?
5. Is the information Rensselaer provides prospective students relating to the following areas comprehensive, effective, and useful: academic programs, transfer credits, admissions policies, placement and diagnostic testing, financial aid (including scholarships, grants, loans, and refunds), expected student learning outcomes?

Standard 9: Student Support Services

Context

Rensselaer serves many constituent groups, including undergraduate, graduate, transfer, and professional students. The Institute supports these students as they progress toward achieving their educational goals through a comprehensive program of student services that is complemented by good leadership and broad-based institutional commitment. Rensselaer is a truly diverse community and fortunate to have students of differing ages, ethnicities, countries of origin, levels of experience, and gender identities. We recognize the differing needs of our students with respect to student services, and acknowledge the challenges inherent in this diversity.

Student services reinforce and extend the Institute's influence beyond the classroom, promoting the comprehensive development of the student. As described in The Rensselaer Plan 2024, Clustered Learning, Advocacy, and Support for Students (CLASS) provides a transformative, integrated living and learning approach to support our students in their social and personal growth, academic excellence, and preparation for leadership. Overall, student services include orientation, academic advising, computing support, counseling, health services, learning assistance, career development, leadership development, student organizations and activities, residential life, athletics, recreation, fitness, intramural and club sports, and student safety and security.

Questions

1. Are Rensselaer's student support services appropriate to student strengths and needs, reflective of Institute mission, consistent with student learning expectations, and available regardless of place or method of delivery?
2. How are the qualifications of the Rensselaer professionals who provide student support services and programs determined and assessed?
3. How does Rensselaer demonstrate that it uses appropriate student advisement procedures and processes? How satisfied are students and advisers with the current advisement system? What are the warning systems for students having academic problems and how effective are they?
4. How are the student services needs of the student body identified and how does Rensselaer create new programs to reflect those needs? What is the level of student satisfaction with the student support services? How do we measure it and then use the information?
5. How does Rensselaer disseminate procedures for addressing student complaints or grievances? How are records of student complaints or grievances stored? How effective are student grievance processes and how satisfied are students with them?
6. Does Rensselaer have policies and procedures, developed and implemented, for safe and secure maintenance of student records? How does Rensselaer publish and implement policies for the release of student information?

7. How does Rensselaer assess student support services programs? How are the results from the assessment utilized for improvement?
8. Does Rensselaer offer athletic programs that are regulated by the same academic, fiscal, and administrative principles, norms, and procedures that govern other Institute programs?

Standard 10: Faculty

Context

Rensselaer recognizes that its tenured, tenure-track and professional faculty play a central role in delivering high-quality academic, research, professional, and service programs within the framework of its educational mission and goals. To achieve these goals, it is critical that there be an adequate core of such faculty and that these faculty members be selected, evaluated, and rewarded in a manner that is equitable, transparent, and efficient. Rensselaer also relies on part-time, adjunct, temporary personnel to reach educational goals and objectives. Policies and procedures for full-time faculty and part-time teaching personnel are carefully developed, articulated, widely disseminated, and subject to periodic re-evaluation.

Rensselaer acknowledges that encouragement of faculty research, curriculum development, as well as professional development and advancement, are characteristics of enlightened institutional policies.

Another important guiding principle is faculty governance, including participation in institutional planning, curriculum review, and other key administrative decisions. Finally, adherence to the principles of academic freedom, within in the context of a world-class technological research university, are paramount.

Questions

1. What evidence do we have to demonstrate that Rensselaer faculty and other professionals are appropriately prepared and qualified for the positions they hold, with roles and responsibilities clearly defined, and sufficiently numerous to fulfill those roles appropriately?
2. How are Rensselaer's educational curricula designed, maintained, and updated? Are these programs responsive to current and future student needs and expectations? Are Rensselaer faculty and other professionals academically prepared and qualified to do so?
3. How does Rensselaer measure and assess that faculty and other professionals, including teaching assistants, demonstrate teaching excellence? In what ways does Rensselaer support the development and advancement of faculty? Is institutional support for the advancement and development of faculty equitably distributed between schools and departments?
4. How does Rensselaer demonstrate adherence to principles of academic freedom? How is this monitored and assessed in the context of the institutional mission?
5. Are Rensselaer's standards and procedures for all faculty and other professionals for actions such as appointment, promotion, tenure, grievance, dis-

cipline, and dismissal based on principles of fairness with due regard for the rights of all persons? Are they implemented equitably? How are they reviewed and revised periodically?

6. Does Rensselaer have carefully articulated and implemented equitable procedures and criteria for review of all individuals who have responsibility for the educational program of the institution?
7. Are Rensselaer's criteria for the appointment, supervision, and review of teaching effectiveness for part-time, adjunct, and other faculty consistent with those used for full-time faculty?
8. How does Rensselaer demonstrate appropriate support for scholarship, teaching, student learning, research, and service? How is the appropriateness of this support assessed?

Standard 11: Educational Offerings

Context

Teaching and learning are at the heart of Rensselaer's mission at both the undergraduate and graduate level. At the undergraduate level, Rensselaer has a long-standing reputation for providing undergraduate education of intellectual rigor based on exceptional pedagogical innovation in the laboratory and the classroom. Our programs offer both breadth and depth appropriate to the specific degree program. Rensselaer provides a rigorous, engaging, interactive learning environment where students are encouraged to work in inter- and cross-disciplinary teams. At the graduate level, Rensselaer offers advanced graduate degrees at both the master's and the doctoral level. Graduate students are involved in in-depth study and independent scholarly inquiry within their particular fields. Research programs fall within traditional disciplines in our five schools as well as into highly interdisciplinary areas such as cognitive computing, big data exploration, transformative materials, and complex networks.

Educational programs and curricula at Rensselaer are developed, evaluated, and reviewed by the faculty. Our programs exhibit sufficient content, rigor, and depth to be characterized as collegiate or graduate-level learning. Rensselaer makes a clear distinction between undergraduate and graduate study. The design of specific courses, programs, and learning activities are linked to clearly articulated goals of the specific programs of which they are a part; programs and sequences of study are dynamic and responsive to new research findings and models of inquiry. The review and evaluation of our course offerings and degree requirements take into account the external educational governing and certification organizations including New York State Department of Education, which approves all degrees and defines course credit-hour and contact-hour requirements at our main campus in Troy, NY, and the Connecticut State Department of Education, which approves course offerings and degrees at our branch campus in Hartford, CT. At the school and department level, discipline-specific accreditation organizations include National Architectural Accrediting Board (NAAB) for the School of Architecture, Accreditation Board for Engineering and Technology (ABET) for the School of

Engineering, American Chemical Society (ACS) for the Chemistry department, and Association to Advance Collegiate Schools of Business (AACSB) for Lally School of Management.

The Undergraduate Research Program (URP), senior design courses, and culminating year projects promote opportunities for student-faculty interaction and engagement with other students, alumni, and other practicing professionals. Leadership courses, offered both in and out of the classroom, foster integrity and responsibility, self-awareness and self-reliance, effective communication, and team-building skills. Multiple community service programs continue to grow as they integrate service to the community with our educational programs. These experiences address the personal and social development of students in conjunction with, and in support of, their cognitive, academic, and intellectual development.

In response to student demands and economic needs, Rensselaer now offers undergraduate students the opportunity to extend their financial aid and earn both a Bachelor's and a Master's degree in 5 years. Furthermore, in order to prepare the next generation of research and professional leaders, Rensselaer has inaugurated a resident graduate education program that provides a comprehensive learning environment in classrooms, laboratories, and graduate residence halls.

Information literacy is a priority at Rensselaer. We provide students and instructors with opportunities to acquire the skills and tools needed to identify, retrieve, and apply relevant and valid information resources to their teaching and learning. Rensselaer also provides an evolving array of information technology and access infrastructures, including computers, software applications, and databases, as well as computing support to students and faculty. Computing is integrated into the curriculum and is an essential component of course work and communication. The Rensselaer Research Libraries are becoming a model digital library. Either remotely or on-site, students, faculty, and staff can search abstracts, access electronic journals, browse e-book databases, and view image databases. Support is provided by professional staff, qualified by education, experience, and additional training in specific subject areas.

While transfer students are only a small part of our student body, they enrich our university community and provide additional intellectual, geographic, and ethnic diversity. Rensselaer's policies and procedures on transfer credit provide appropriate consideration, consistent with good educational practice, for the individual student who has changed institutions or academic objectives.

Questions

1. Are Rensselaer's educational offerings demonstrably aligned with its mission? How does Rensselaer ensure that these offerings include appropriate areas of academic study of sufficient content, breadth and length? What data do we have to support that programs are conducted with the rigor appropriate to the level and degrees offered?
2. How does Rensselaer document its use of periodic evaluation of the effectiveness of its curricular, co-curricular, and extra-curricular experiences to

- improve its student development programs and to enable student understanding of their own educational progress?
3. What evidence shows that program goals are aligned with student learning outcomes?
 4. How does Rensselaer ensure that it provides comparable educational expectations, quality of instruction, academic rigor, and educational effectiveness in all of its courses and programs?
 5. What evidence shows that our policies for transfer credit are rigorous, fair, consistently applied, and publicly communicated?
 6. What evidence is there that Rensselaer's learning resources (facilities, instructional equipment, library services, computing resources), and professional staff adequately support the institution's educational programs?

Standard 12: General Education

Context

Core education requirements apply to all undergraduate students at Rensselaer, regardless of the field of study. They are designed so that students acquire and demonstrate college-level proficiency in general education and essential skills, including oral and written communication, scientific and quantitative reasoning, critical analysis and thinking, and technological competency. The demonstration of competency in general education requirements is critical to the success of our graduate students as they pursue advanced degree work. Rensselaer has defined the general education requirements to reflect its mission to educate the technological leadership of tomorrow. The core curriculum requirement at Rensselaer totals 48 credit hours, split between the sciences, humanities, arts, and social sciences. Core degree requirements may be fulfilled through courses completed at Rensselaer, transfer credits, and demonstrated competencies through advanced placement examination.

General education skills are taught or developed as part of the courses in the major field of study, in separate courses, or through a decentralized distribution. These are augmented and practiced through extracurricular experiences provided through CLASS (Clustered Learning, Advocacy, and Support for Students). Rensselaer strives to strike an appropriate balance between specialized and more general knowledge that is consistent with our mission. Our ability to demonstrate that our students are able to integrate and apply in different contexts the core knowledge and skills learned in their course work is a critical component of successful undergraduate educational programs.

Questions

1. What evidence is there that Rensselaer's general education assures that, on degree completion, students are proficient in oral and written communication, the arts, humanities and social sciences, scientific and quantitative reasoning, technological capabilities appropriate to the discipline, and information literacy?

2. How does our core curriculum incorporate the study of values, ethics, and diverse perspectives consistent with the Rensselaer mission?
3. What evidence do we have that Rensselaer provides a general education that is of sufficient scope to enhance a student's intellectual growth, is equivalent to at least 48 semester hours, and is clearly and accurately described in our catalog?
4. What evidence is there that Rensselaer assesses its general education outcomes and utilizes those assessment results for continuous improvement of the curriculum?
5. How does Rensselaer demonstrate that the skills and abilities developed in the core curriculum are applied in the major concentration? What is the process by which upper-level course instructors can assess and influence what is needed in the core curriculum?
6. What evidence is there of institutional support for the core curriculum in terms of administrative structure, budget, and faculty incentives?

Standard 13: Related Educational Activities

Context

In concurrence with the terms described in *Characteristics of Excellence in Higher Education*, Rensselaer maintains integrity in all activities conducted in its name or under its sponsorship. Consistent with its mission and The Rensselaer Plan 2024, Rensselaer offers programs and activities that are defined by their particular content, focus, location, mode of delivery, or sponsorship. These offerings include a limited number of noncredit offerings and certificate programs, programs on branch campuses and additional locations, and contractual relations.

Rensselaer has integrated curricular and co-curricular experiences that contribute to the total educational environment and promote the development of professional and life skills. Degree programs in many disciplines include out-of-class experiences such as studying abroad, company co-ops or internships, guided tours, and summer programs. Finally, cross-registration agreements with other universities in the Capital Region of New York, as well as with the Ichan School of Medicine at Mount Sinai in New York City, allow our students to grow intellectually in areas not offered on the Rensselaer main campus.

Co-curricular activities and programs, including co-ops and internships, foster innovation and entrepreneurship and also provide opportunities for students to develop valuable leadership and communication skills. The Severino Center for Technological Entrepreneurship (SCTE) of the Lally School of Management offers students opportunities to participate in business plan and business model competitions, which have proven to be effective means of stimulating interest and participation in innovation, business and entrepreneurship education. Through the Emerging Ventures Ecosystem (EVE), the Institute's distributed incubation and business acceleration program, students can participate in co-curricular activities that facilitate the launch of new ventures.

Through our Clustered Learning, Advocacy, and Support for Students (CLASS) program we have created a transformative, integrated living/learning approach to help our students grow socially and personally, achieve academic excellence, and prepare for leadership roles.

Questions

1. How does Rensselaer identify and support academically at-risk students?
2. What evidence exists that certificate programs offered 1) are consistent with institutional mission, 2) have clearly articulated program goals, objectives and expectations of student learning, and 3) are designed, approved, administered, and periodically evaluated under established institutional procedures?
3. How does Rensselaer ensure that non-credit offerings are aligned with our institutional mission and goals?
4. What evidence exists that offerings at branch campuses, additional locations, and other instructional sites (including study abroad locations and programs offered at business/corporate sites) meet standards for quality of instruction, academic rigor, and educational effectiveness comparable to those of other Rensselaer offerings?
5. What evidence exists that activities and offerings at other locations meet all appropriate Rensselaer standards, including those related to learning outcomes?
6. How does Rensselaer ensure that courses or programs offered via contractual arrangement are consistent with Rensselaer's mission and goals?
7. What evidence is there that Rensselaer demonstrates its commitment to continuing offerings for a period sufficient to enable admitted students to complete the degree or certificate in a publicized time frame?
8. How does Rensselaer ensure that support services at branch campuses, additional locations and other instructional sites are adequate and appropriate?
9. What evidence exists that Rensselaer periodically assesses the impact of branch campuses, additional locations, and other instructional sites on the Institute's resources (human, fiscal, physical, etc.) and our ability to fulfill our mission and goals?

Standard 14: Assessment of Student Learning

Context

Rensselaer has a long-standing commitment and tradition to assess student learning through permanent, formalized processes and functions within multiple operational units of the Institute. Existing assessment practices and tools and their impact on student learning are continually reviewed and improved by the entire Rensselaer community. The goal is to ensure that our graduates have the knowledge, skills, and competencies needed for becoming the leaders of tomorrow.

Assessment of student learning must be integral to an overall institutional assessment program that is responsive to educational outcomes and adaptive to dynamic learning goals and their changing assessment requirements. The fundamental elements provide us with a cyclical focus from the definition of learning goals, to the measurement and evaluation processes to assess their consistency with educational outcomes, and the application of assessment results for positive change and/or reaffirmation of student learning. These elements ultimately address the assimilation of student learning assessment within a broader process of institutional assessment and how assessment results and educational outcomes drive administrative decision making. To this end, Rensselaer has deployed Digital Measures (DM), a comprehensive web-based software tool for faculty and administrators to document and archive course evaluations, course learning outcomes, course assessment results, as well as program-level learning outcomes, and recommendations for improvement. In addition, it serves as a repository for all materials and data that are gathered in support of Rensselaer's formalized and systematic approach to student learning and assessment. Digital Measures provides Institute-wide support for continuous assessment among all constituents.

Questions

1. What evidence exists that Rensselaer, its academic programs, and their component courses set forth clearly articulated statements of expected student learning outcomes, at all levels and for all programs that aim to foster student learning and development?
2. How does Rensselaer ensure that statements of expected learning outcomes are consonant with the institution's mission and with the standards of higher education and the relevant disciplines?
3. How does the focus on pedagogical innovation – as articulated in The Rensselaer Plan 2024 – affect student learning outcomes?
4. How does Rensselaer ensure documented, organized, and sustained assessment to evaluate and improve student learning?
5. How does Rensselaer's assessment regimen support collaboration of faculty and administration in assessing student learning and responding to assessment results?

6. What evidence exists that Rensselaer's assessment regimen is clear, sets realistic guidelines and timetables, and is supported by appropriate investment of institutional resources? Is the assessment process sufficiently simple, practical, and detailed to be sustainable?
7. How does Rensselaer ensure that its assessment data is collected on a regular basis to provide sufficient, convincing evidence that students are achieving key institutional and program learning outcomes?
8. What evidence exists that student learning assessment information is shared and discussed with appropriate constituents and is used to improve teaching and learning?
9. How does Rensselaer periodically evaluate the effectiveness and comprehensiveness of its student learning assessment processes? Have assessment results led to appropriate decisions about teaching, planning, budgeting, etc.?

Support Documents and Other Resources

A resource room has been established on the fourth floor of the Walker Lab to house documents and help subcommittees obtain data they may need to compile their reports.

The subcommittees have identified several potential resources that they will examine during the course of the self-study process. The list that follows is intended to be a starting point, and will be expanded and refined as the committees begin their work in earnest.

- The Rensselaer Plan 2024
- The Rensselaer Plan 2024 process map
- Performance Planning Process
- Budget Planning Process
- President's Annual Reports
- Data Book and Data
- Freshman and Senior Surveys
- Alumni surveys
- Faculty surveys
- Institutional survey of portfolio owners
- Institutional research archives
- Job Descriptions and Position Announcements
- Curriculum Vitae of president, cabinet/administrative leaders
- Institute guidelines regarding death/premature separation of chief executive/administrative leaders
- Institute policies and procedures regarding administrative decision making
- Previous MSCHE documents, including Rensselaer's recent PRR
- Other discipline-specific accreditation analyses and reports
- Promotion and Tenure process
- Performance Management Tools
- Organization Charts
- Audit reports
- IRS 990 reports
- MSCHE policy books and documents
- Faculty Handbook
- Student Handbook
- Interviews/surveys with faculty and library staff
- Course syllabi
- Rensselaer Catalog
- Benchmarking with other universities
- Classroom surveys of students to assess effectiveness of TAs
- Faculty Senate Curriculum Committee
- Rensselaer Website
- Random sampling of faculty, alumni, curriculum committees within each school

- Input from key hiring employers
- Interview program directors, admissions, key people in the Center for Career and Professional Development, Undergraduate Research Program, STS faculty (for Internship Program - experiential learning), Office of Contracts and Grants
- Dean of Students Office reports
- COMEC policy
- Student and Faculty Laptop Surveys
- WebCT usage
- Mobile Computing data
- Mobile Computing support
- Help Desk usage numbers
- RCR repair/warranty data
- Campus Software licensing
- Workstation and classroom renewal
- Campus Computer Store data
- Interaction of Academic Research Computing with other departments
- Computing numbers (network ports, wireless locations, software available)
- Number of network attacks that the campus firewall stops
- Number of viruses the mail server blocks
- Admission Publications and website
- Financial Aid Brochure and website
- Financial Aid One Sheet
- Admitted Student Questionnaire reports (admitted, non-enrolling freshmen)
- Enrollment Management Performance Plans
- Graduating Graduate Student Survey reports
- Benchmarking Tools and Instruments
- IPEDS, *U.S. News and World Report*, AITU data
- Hartford Area Market Study
- Data documenting library staff in-class presentations, class reserves, etc.
- Data concerning usage of library on-line services
- Library acquisition policy
- Classroom instructional resources inventory
- Content of training/orientation programs for TAs and others

Timeline for the Self-Study

Activity	2014	2015	2016
Steering Committee formed	February		
Design model chosen	February		
Subcommittee membership identified	→ March		
Subcommittees develop draft research questions	→ May		
Dr. Schneider receives and responds to Draft Design		June-July	
Subcommittees refine research questions		→ August	
Steering Committee submits final Design to MSCHE		September	
Preliminary visit by Dr. Schneider		September	
Subcommittees perform research and submit summary of findings		→ Fall 2014	
Subcommittees draft and submit their chapter(s) of Self-Study document		→ Spring 2015	
Draft Self-Study Report compiled and circulated on campus for feedback		→ Fall 2015	
Final Self-Study Report developed and revised		→ January 2016	
Final Self-Study Report submitted to MSCHE			February 2016
MSCHE visit, report, and Rensselaer's response			March-May 2016

Editorial Style and Format of the Self-Study Report

Rensselaer's self-study report will be written in sections drafted by the various subcommittees. These drafts will be submitted to the full steering committee, which, working with an editor, will review the pieces to resolve inconsistencies, eliminate redundancies, and ensure that the full report is comprehensive, cohesive, and accurate. The editor will then compile and make changes to the document and format the report for circulation to the campus and submission to MSCHE. Subcommittee report writers will have full access to documents and data in the resource room (4th floor Walker Lab).

General Writing Guidelines

Our goal is to develop a report of 100 single-spaced pages. Writers should be concise, avoid jargon, and present findings and recommendations simply and objectively. The section titled "Organization of the Self-Study Report" contains a basic outline, which may need to be modified by some subcommittees. A separate editorial style sheet is available for writers who wish to use one.

Writers are encouraged to observe the following conventions.

- In general, refer to Rensselaer as Rensselaer, Rensselaer Polytechnic Institute or the Institute. RPI is acceptable on occasion, but should be used sparingly.
- Use the first person whenever possible ("we find" rather than "it was found").
- Explain terms that may not be clear to "outsiders" (e.g., portfolio).
- Avoid acronyms and abbreviations, especially those with which reviewers may not be familiar. If the title is very long, spell out on first use and then use acronym or abbreviation.
- Please use "official" name of offices and centers in the first instance (the Archer Center for Student Leadership Development); a shorter version (the Archer Center) may be used subsequently.
- Please maintain a running list of the supporting documents used by the group.
- Date drafts manually, so it will be clear when a specific draft was created.

Format

The Self-Study will be written using Microsoft Word, formatted by the editor as follows:

Body Text Font: Times New Roman, 12 point

Paragraphs: Flush left, no indentation, single spaced, line space between.

Headings: Tahoma bold, upper and lower case

#1 head (section titles): 14 point

#2 head (main section divisions): 12 point

#3 head (charge statements in this design): 10 point

Headers and Footers: Tahoma, 8 point, all caps, and caps and lower case; flush left and right.

Margins: 1" top and bottom; 1.25" left and right; headers and footers 0.5" from edge

Organization of the Self-Study Report

Rensselaer's self-study document will focus primarily on addressing, in turn, each of the accreditation standards established by the Middle States Commission on Higher Education and defined in *Characteristics of Excellence in Higher Education*. Each of the subcommittees will apply its findings to the major goals of our self-study, which are:

1. To assess our progress relative to the goals of The Rensselaer Plan 2024 in continuation of the process of transformation initiated by The Rensselaer Plan of 2000;
2. To determine the degree to which our overall assessment programs and activities are effective in keeping the Institute on track to achieve the goals of The Rensselaer Plan 2024;
3. To ensure that, in carrying out The Rensselaer Plan 2024, we have also satisfied the standards required by MSCHE for reaccreditation.

Contents of the Self-Study Report

The Self-Study Report will contain the following sections:

- **Executive Summary**
Brief description of the self-study process and organization of the report.
Highlights of major findings and recommendations of the report.
Institutional Profile – This document will be provided separately.
- **Introduction**
Overview of Rensselaer, concentrating on recent institutional developments
Nature, scope, and goals of the Self-Study
Self-Study participants:
Members of the steering committee
Members of the subcommittees
- **Mission and Goals (Standard 1)**
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence

- **Planning, Resource Allocation, and Institutional Renewal** (Standard 2)
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **Institutional Resources** (Standard 3)
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **Leadership and Governance** (Standard 4)
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **Administration** (Standard 5)
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **Integrity** (Standard 6)
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **Institutional Assessment** (Standard 7)
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **Student Admissions and Retention** (Standard 8)
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **Student Support Services** (Standard 9)
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence

- **Faculty (Standard 10)**
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **Educational Offerings (Standard 11)**
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **General Education (Standard 12)**
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **Related Educational Activities (Standard 13)**
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
- **Assessment of Student Learning (Standard 14)**
Primary charges in the Rensselaer context
Summary of data and analysis
Recommendations
Supporting evidence
Conclusions and Recommendations
Inventory of Supporting Documents
- **Conclusions and Recommendations**
- **Inventory of Supporting Documents**

Profile of the Evaluation Team

In considering the makeup of the evaluation team, it is important to take into account the overarching goal of The Rensselaer Plan 2024, which is “to achieve greater prominence in the 21st Century as a top-tier world-class technological research university with global reach and global impact.” Therefore, it is essential that the visiting team contain members who have experience with institutions that have a technological focus and a strong commitment to research. In this context, institutions such as Carnegie Mellon, Johns Hopkins University, Massachusetts Institute of Technology, Princeton University, and Cornell should be considered for team membership.

In addition, Rensselaer has a commitment to education for working professionals through a branch campus at Hartford, Conn. Therefore, visiting committee membership should include individuals with branch campus experiences.

Finally, the team membership should reflect diversity with regard to age, gender, and educational background.