

Department: Mathematics

Mission: not yet formulated, see <http://www.rose-hulman.edu/Class/ma/HTML/IN/StratPlan/mathgoal.pdf> for goals statement

Strategic Goals (where we want to be in 3 years?)	Objectives (measurable)	Tactics (what are we going to do to get there?)	Timeline	Person responsible
<b>MAKSD1 – Student Recruitment, Placement and Persistence</b>				
MAKSD1.1	Math majors and minors: Continue to increase the number of majors in mathematics – both primary and double majors – and the number of students taking upper division mathematical courses.	a. Take more active role in recruitment of mathematics majors from off campus. b. Increase number of students taking courses in the Continuous Applied Mathematics and Statistics concentrations (as double majors and minors) collaborating with client departments and modifying courses as necessary.	a. Ongoing  b. By May 2002, then ongoing	a. Dept Head, faculty assigned to recruitment activities b. Dept Head and all faculty on an informal basis
MAKSD1.2	Scholarships: Seek scholarship opportunities for mathematics majors including: a. actuarial scholarships and fellowships b. Rose scholarship associated with the Rose-Hulman High School Contest	a. Develop plan, present to department  b. Develop plan, present to department	a. 2001-2002  b. 2001-2002	a. Allen Broughton  b. John Rickert
MAKSD1.3	Diagnostic Test, Calculus placement and persistence:	a. Make diagnostics test and its use more effective b. Increase support of and coordination with the Learning Center c. Monitor and improve changes in placement processes for calculus students	a. June 30, 2002  b. Ongoing  c. Ongoing	a. John Rickert/Dept. Head b. Dept Head  c. Dept Head

MAKSD1.4	Student Involvement: Improve the sense of belonging and “professional involvement” for mathematics majors, mathematics minors and other students with a strong interest in mathematics.	<ul style="list-style-type: none"> <li>a. Increase the involvement of the Math Club and the Pi Mu Epsilon organizations in the extracurricular activities of the department</li> <li>b. Promote mathematical presentations by students, both on and off campus</li> <li>c. Continue the high level of student activity in local, regional, and national mathematics competitions.</li> </ul>	<ul style="list-style-type: none"> <li>a. Ongoing</li> <li>b. Ongoing</li> <li>c. Ongoing</li> </ul>	All: Club advisors/contest organizers/faculty mentors of students
MAKSD1.5	Placement: Develop a knowledge base and network for placement of mathematics students, both in industry and graduate school		2001-2002 school year	Department in conjunction with Advisory Board, and specific faculty taking on a placement role
<b>MAKSD2: Improvement of curriculum, program and learning environment</b>				
MAKSD2.1	Freshman and sophomore curriculum: Use the various teaching teams in the first two years (Calculus, Differential Equations and Matrix Algebra and Statistics) to implement and to continuously improve recent curriculum changes.	<ul style="list-style-type: none"> <li>a. Coordinate the calculus sequence with the physics sequence</li> <li>b. Investigate making calculus a 4 hour course</li> <li>c. Implement computer use recommendations</li> </ul>	<ul style="list-style-type: none"> <li>a. May 1, 2002</li> <li>b. May 1, 2002</li> <li>c. Report to dept in spring quarter (by course coordinators)</li> </ul>	<ul style="list-style-type: none"> <li>a. Curriculum Committee</li> <li>b. Curriculum Committee</li> <li>c. DE and Calculus Instructors</li> </ul>
MAKSD2-2  *Note link to MAKSD1.1b	Math Major Redesign	<ul style="list-style-type: none"> <li>a. Implement the newly approved mathematics major</li> <li>b. Implement the statistics concentration of the math major</li> </ul>	<ul style="list-style-type: none"> <li>a. Ongoing</li> <li>b. Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>a. Student Advisors</li> <li>b. Dept Head and Statistics Coordinator</li> </ul>
MAKSD2.3	Computing	<ul style="list-style-type: none"> <li>a. Implement the consensus and guidelines for the use of the laptop in the freshman and sophomore courses.</li> <li>b. Continue to make appropriate utilization of the laptop computer in the upper-division courses.</li> <li>c. More effectively use the Theorodrome room as a high end computing resource.</li> </ul>	<ul style="list-style-type: none"> <li>a. May 1, 2002, and then ongoing</li> <li>b. Ongoing</li> <li>c. Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>a. Departmental Discussion</li> <li>b. Course Instructors</li> <li>c. Dept Head and interested faculty</li> </ul>

MAKSD2.3 (cont'd)		<ul style="list-style-type: none"> <li>d. Continue to demonstrate leadership in high-end computing on campus, and to participate in the strategic planning efforts for “beyond the laptop” computing</li> <li>e. Increase the effectiveness of WCC and student help in supporting our academic computing.</li> </ul>	<ul style="list-style-type: none"> <li>d. Ongoing</li> <li>e. Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>d. Dept Head and interested faculty</li> <li>e. Dept Head</li> </ul>
MAKSD2.4	Curriculum documentation: Document, archive, and update materials associated to the curriculum.	<ul style="list-style-type: none"> <li>a. Syllabi for all courses</li> <li>b. Final exam archives</li> <li>c. Develop culture of sharing curricular materials</li> <li>d. Supplemental course materials</li> <li>e. Keep either copies or a list of textbooks used in the department for past courses with instructor comments concerning the positives and negatives.</li> </ul>	<ul style="list-style-type: none"> <li>a. Ongoing, as classes are taught</li> <li>b. Sep 1, 2001 and then ongoing</li> <li>c. Begin 2001-02</li> <li>d. Planning – 2001-02</li> <li>e. Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>a. Course Instructors, coordinated by Dept Head</li> <li>b. Course Instructors, Dept. Head/secretary</li> <li>c. Dept Head and designed faculty</li> <li>d. Dept Head to coordinate</li> <li>e. Library Committee</li> </ul>
MAKSD2.5	Interdepartmental Coordination	<ul style="list-style-type: none"> <li>a. Continue to vigorously participate in the interdepartmental coordination of programs, in particular the Foundation Coalition Sophomore Curriculum</li> <li>b. Keep a departmental library of texts being used in other courses on campus</li> </ul>	<ul style="list-style-type: none"> <li>a. Ongoing</li> <li>b. September 2001, then ongoing</li> </ul>	<ul style="list-style-type: none"> <li>a. Dept Head</li> <li>b. Library Committee</li> </ul>
MAKSD2.6	Projects and undergraduate research: Increase the number of opportunities for faculty and students to work on mathematically or statistically based projects and undergraduate research.	<ul style="list-style-type: none"> <li>a. Continue involvement in the Imaging Systems Laboratory, including participation in the strategic planning for high end computing</li> <li>b. Other project opportunities such as with TED</li> <li>c. Finding additional ways to involve more RHIT students in undergraduate mathematics research, in school year and in summer</li> </ul>	<ul style="list-style-type: none"> <li>a. Ongoing</li> <li>b. Ongoing</li> <li>c. 2001-2002 school year and beyond</li> </ul>	<ul style="list-style-type: none"> <li>a. Imaging faculty., Allen Broughton to take a lead</li> <li>b. Interested faculty coordinated by Dept. Head. Allen Broughton working on this as part of his sabbatical and followup activity</li> <li>c. Interested faculty, coordinated by Dept.</li> </ul>

				Head
MAKSD2.7	Supporting Programs: Continue to support and further develop the Department's existing programs and activities that support undergraduate education	<ul style="list-style-type: none"> <li>a. Fast Track Calculus</li> <li>b. Rose-Hulman Conference in Undergraduate Mathematics</li> <li>c. Research Experiences for undergraduates</li> <li>d. Rose-Hulman High School Mathematics Contest</li> <li>e. Electronic Journal of Undergraduate Mathematics Research</li> </ul>	<ul style="list-style-type: none"> <li>a. Ongoing</li> <li>b. Ongoing</li> <li>c. Ongoing</li> <li>d. Ongoing</li> <li>e. Ongoing</li> </ul>	All – Interested/responsible faculty coordinated by Dept. Head
<b>MAKSD3: Faculty and Staff Development</b>				
MAKSK3.1	Workload. Through various means find course reductions for faculty to accomplish various significant tasks of value to the department and the institute	<ul style="list-style-type: none"> <li>a. Support curriculum development</li> <li>b. Support professional development, especially of junior faculty</li> <li>c. Various other tasks that are of mutual benefit to the department and institute</li> </ul>	<ul style="list-style-type: none"> <li>a. Ongoing</li> <li>b. Ongoing</li> <li>c. Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>a. Dept Head</li> <li>b. Dept Head</li> <li>c. Dept Head</li> </ul>
MAKSD3.2	Junior Faculty	<ul style="list-style-type: none"> <li>a. Improve the quality of assessment and guidance for junior faculty, especially the mentoring of the large number of new faculty</li> <li>b. Continue to aggressively pursue mentoring opportunities within the department</li> <li>c. Prepare for “passing the torch” from senior faculty to junior faculty during the next 3-5 years. Include this consideration in hiring.</li> </ul>	<ul style="list-style-type: none"> <li>a. Ongoing</li> <li>b. Ongoing</li> <li>c. Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>a. Dept Head and faculty mentors</li> <li>b. Dept Head</li> <li>c. Department, Coordinated by Dept. Head</li> </ul>
MAKSD3.3	Professional Development	<ul style="list-style-type: none"> <li>a. Continue to support a high level of varied, appropriate, professional development opportunities for all faculty, including both teaching &amp; scholarly development</li> <li>b. Continue our colloquia and seminars</li> <li>c. Staff Development</li> </ul>	<ul style="list-style-type: none"> <li>a. Ongoing</li> <li>b. Ongoing</li> <li>c. Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>a. Dept Head to coordinate</li> <li>b. Seminar/colloquium coordinators</li> <li>c. Dept Head</li> </ul>

<b>MAKSD4: Assessment of student learning and program success</b>				
MAKSD4.1	Assessment of student outcomes	a. Develop and implement an assessment plan to document effectiveness of mathematics instruction	a. Design 2001-02	a. Dept Head and Curriculum Committee
MAKSD4.2	Assessment of Program	a. Develop and implement an assessment plan for the effectiveness of Fast Track Calculus and other advanced placements b. Develop and implement an assessment plan for the effectiveness of the diagnostic test and trailer sections of mathematics	a. Continue Design and Implement 2001-2002 b. Continue Design and Implement 2001-2002	a. Dept Head and Curriculum Committee b. Dept Head, John Rickert, Curriculum Committee
<b>MAKSD5: Space allocation/ upgrade, infrastructure and other resource needs</b>				
MAKSD5.1	Short-term space allocation/ renovation in Crapo Hall	a. Review space utilization and quality to maximize effective utilization of non-office space over the short term. Consider solutions that include medium cost renovation, and furniture replacement and reallocation. Include, in particular, MAKSD5.2 below b. Renovate main office area to provide better traffic flow and improved work environment	a. Design 2000-01 and ongoing b. Design: 2000-01 Implement: Summer 2001	a. Dept Head b. Dept Head
MAKSD5.2	Informal study space	a. Create an informal study area that will foster faculty/student and student/student interaction outside the classroom. Look at Civil Engineering's Learning Center as a possible model. Coordinate with institute strategic planning.	a. ASAP	a. Dept Head

MAKSD5.3	Long-term renovation	a. Make a proposal on a long-term renovation of Crapo Hall, and its impact on the Mathematics Department. Consider possible solutions that will also include creative interaction with other departments; e.g., Computer Science, and the use of available space such as the auditorium.	a. Formal Proposal before in 2001-02 budget cycle	a. Dept Head to coordinate
MAKSD5.4	Improvement of Classroom Space	a. Press for more classroom space, or better utilization of current space. b. Request AV stations in classrooms	a. Formal Proposal 2000-01 b. Fall 2000-01	a. Dept Head to coordinate b. Dept Head to coordinate
MAKSD5.5	Library Resources	Working with Dean, the Library, and spending our own funds, ensure the availability of key research and scholarship resources for faculty and our students	Ongoing	Library Committee
MAKSD5.6	Ensuring an Excellent Computing Environment	Seeking external funding as necessary, and working with other departments and units of the Institute, ensure the adequacy of computing resources for teaching, student learning and scholarship/research. In particular, a. Obtain workstations for faculty for computation beyond the capabilities of the laptop on an as-needed basis b. Continue to work to have the Theorodrome used exclusively as a computer laboratory. c. Upgrade/replace workstations in the Theorodrome on a regular basis, to keep up with current computing needs d. Upgrade or obtain new software, specific to the Mathematics Department e. Working with other departments, especially Computer Science and the Imaging Systems Lab, formulate a	All – submit appropriate budget by Dean’s timeline – July 2, 2001  a. Ongoing  b. Ongoing  c. Submit budget request to Dean by July 2, 2001 d. Ongoing  e. Spring 2001 and Ongoing	All – Mathematics Computing Committee and Dept. Head for follow-up

MAKSD5.6 (cont'd)		<p>strategic plan for “beyond the laptop computing” for the department in the context of an institutional plan</p> <p>f. Work with WCC to ensure good communications for the purpose of obtaining a high level support for the computing in the Mathematics Department</p>	f. Ongoing	
<b>MAKSD6: Communication with stakeholders</b>				
MAKSD6.1	Implement an external Advisory Board		Design and complete in summer quarter, 2001. Meet by the end of the fall quarter 2001	Dept Head
MAKSD6.2	Identify the internal stakeholders at RHIT and establish a method of interaction with them		End of fall quarter 2001	Dept Head, after departmental discussion
MAKSD6.3	Conduct annual survey of selected students and alumni		Ongoing	Dept Head