The MLIS curriculum offers a multi-faceted, wide-ranging selection of courses that allows students to specialize in a variety of environments and institutions or to pursue a more generalized program. At the same time, the School's curriculum is grounded in and unified by a foundational set of knowledge—core competencies—that defines and unites information professionals regardless of where they practice. These core competencies are our program learning outcomes.

The Core Competencies (Program Learning Outcomes) are as follows:

Each graduate of the Master of Library and Information Science program is able to...
A. articulate the ethics, values, and foundational principles of library and information professionals and their role in the promotion of intellectual freedom;
B. describe and compare the organizational settings in which library and information professionals practice;
C. recognize and describe cultural and economic diversity in the clientele of libraries or information organizations;
D. apply the fundamental principles of planning, management, marketing, and advocacy;
E. design, query, and evaluate information retrieval systems;
F. use the basic concepts and principles related to the selection, evaluation, organization, and preservation of physical and digital items and collections;
G. demonstrate understanding of basic principles and standards involved in organizing information, including classification, cataloging, metadata, or other systems;
H. demonstrate proficiency in identifying, using, and evaluating current and emerging information and communication technologies;
I. use service concepts, principles, and techniques to connect individuals or groups with accurate, relevant, and appropriate information;
J. describe the fundamental concepts of information-seeking behaviors;
K. design instructional programs based on learning principles and theories;
L. demonstrate understanding of quantitative and qualitative research methods and of the evaluation and synthesis of research literature;
M. demonstrate oral and written communication skills necessary for professional collaboration and presentations;
N. evaluate programs and services on measurable criteria; and
O. contribute to the cultural, economic, educational, and social well-being of our global communities.

As instructors plan their classes and write their syllabi, they determine which Core Competencies (program learning outcomes) their classes fulfill, and this information appears on the course syllabi. Multiple sections of a single course share the same core
competencies (program learning outcomes), agreed upon by the course instructors with leadership by representative full-time faculty members.
Please see: http://slisapps.sjsu.edu/slo-core/core.php for core competencies (program learning outcomes) mapped to classes.

In addition to program learning outcomes each class has standardized Student Learning Outcomes (SLOs) with each assignment linked to the SLOs that the particular assignment fulfills. All sections of a single course share common student learning objectives, though individual instructors have the freedom to meet those objectives through their own assignments and class activities.

Please see: http://slisapps.sjsu.edu/slo-core/mlis.php for student learning outcomes and core competencies (program learning outcomes) for each class.

These connections between Core Competencies (program learning outcomes), SLOs and course assignments are publically available on our class web pages (syllabi). Students can easily discern the particular student learning outcomes and core competencies for each class by checking this database. They can also see which classes map to core competencies.

Evaluation of Student Achievement at Key Milestones in the Program

As students progress through our MLIS program, there are three key transition points where our School evaluates student achievement, providing us with data we use to improve our program.

First, all new MLIS students must complete LIBR 203, a required one-unit course that introduces them to our online learning environment and prepares them for success as an online student. Students are required to pass the class in order to continue in our MLIS program. One of the purposes of the class is to help determine if a new student will be successful in an exclusively online program. Data regarding the number of new students who successfully complete LIBR 203 can be found on our website and is reproduced here:
Table 1. LIBR 203 Retention and Pass Data

<table>
<thead>
<tr>
<th>Semester</th>
<th>Total Enrolled by SLIS</th>
<th>Withdrawn/dropped</th>
<th>Still Enrolled at Semester End</th>
<th>NC</th>
<th>CR</th>
<th>Retention Rate</th>
<th>Pass Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2010</td>
<td>436</td>
<td>61</td>
<td>375</td>
<td>6</td>
<td></td>
<td>86%</td>
<td>98.50%</td>
</tr>
<tr>
<td>Spring 2011</td>
<td>291</td>
<td>28</td>
<td>263</td>
<td>3</td>
<td></td>
<td>90%</td>
<td>98.90%</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>532</td>
<td>86</td>
<td>446</td>
<td>3</td>
<td></td>
<td>84%</td>
<td>99.3%</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>429</td>
<td>83</td>
<td>346</td>
<td>1</td>
<td></td>
<td>81%</td>
<td>99.7%</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>506</td>
<td>81</td>
<td>425</td>
<td>5</td>
<td></td>
<td>84%</td>
<td>98.8%</td>
</tr>
<tr>
<td>Spring 2013</td>
<td>236</td>
<td>26</td>
<td>210</td>
<td>2</td>
<td></td>
<td>89%</td>
<td>99%</td>
</tr>
</tbody>
</table>

Evaluation of student achievement in LIBR 203, along with feedback from students, allows us to modify course content. Based on feedback from LIBR 203 student assistants, who serve as peer mentors and help assess student achievement, we regularly update course content. For example, in Spring 2011, as part of our School’s ongoing evaluation process, we added information regarding the MLIS program’s e-Portfolio culminating experience option. In 2010, we added a module regarding tools to support collaborative projects, including using Google Docs to collaboratively author papers, reports, and other documents.

Most students successfully complete LIBR 203 and, when surveyed, confirm that LIBR 203 was important to their success. In Spring 2013, 68% of students surveyed said the class was “very important” and an additional 24% said it was “somewhat important” in helping them succeed during their first semester in our fully online MLIS program. When asked what they liked about LIBR 203, 56% of the students who were surveyed reported they felt the course helped them be better prepared for the program’s online learning environment.

The second transition point where we evaluate student achievement occurs when MLIS students complete the three required core courses (LIBR 200, LIBR 202, and LIBR 204). These core courses are prerequisites for other courses in the program, and must be completed within the first 16 units of a student's program, typically in the first two semesters. Consistency is built into the curriculum through the uniform Student Learning Outcomes and Core Competencies (program learning outcomes) designated for each course ensuring that all requirements are met regardless of the number of course sections taught by multiple instructors.
See: http://slisapps.sjsu.edu/slo-core/mlis.php (for 200, 202, and 204)

All students are required to earn at least a B in each core course. Students who fail to earn at least a B are placed on administrative probation. They have one more opportunity to take the course and earn at least a B before they are disqualified from the program. The SLIS’s faculty’s target is that 85% of graduate students will successfully make a B in 200, 202, and 204 on the first attempt.

Data regarding retention and pass rates from our core classes can be found on our website and is reproduced here. The faculty feels very strongly that if a student cannot master the material after two attempts they do not belong in this graduate program.

Table 2a. Data about Students Making Less than a B in Core Classes

<table>
<thead>
<tr>
<th></th>
<th>200 Total Enrolled</th>
<th># of less than B grades</th>
<th>%</th>
<th>202 Total Enrolled</th>
<th># of less than B grades</th>
<th>%</th>
<th>204 Total Enrolled</th>
<th># of less than B grades</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2011</td>
<td>274</td>
<td>27</td>
<td>9.85</td>
<td>264</td>
<td>19</td>
<td>7.19</td>
<td>260</td>
<td>11</td>
<td>4.23</td>
</tr>
<tr>
<td>Summer 2011</td>
<td>8</td>
<td>1</td>
<td>12.5</td>
<td>40</td>
<td>3</td>
<td>7.5</td>
<td>45</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>469</td>
<td>47</td>
<td>10</td>
<td>381</td>
<td>37</td>
<td>9.71</td>
<td>329</td>
<td>24</td>
<td>7.29</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>327</td>
<td>34</td>
<td>10.39</td>
<td>325</td>
<td>24</td>
<td>7.38</td>
<td>304</td>
<td>16</td>
<td>5.26</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>383</td>
<td>41</td>
<td>10.7</td>
<td>314</td>
<td>28</td>
<td>8.9</td>
<td>311</td>
<td>19</td>
<td>6.10</td>
</tr>
</tbody>
</table>

Table 2b. Students who Successfully Retake Core classes and Move Forward to Electives

<table>
<thead>
<tr>
<th></th>
<th>200-Successful Repeats</th>
<th>202-Successful Repeats</th>
<th>204-Successful Repeats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2011</td>
<td>11 (of 27 Sp 2011 who did not make a B at the first attempt)</td>
<td>7 (of 19 Sp 2011 who did not make a B at the first attempt)</td>
<td>3 (of 11 Sp 2011 who did not make a B at the first attempt)</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>21 (of 47 Fa 2011 who did not make a B at the first attempt)</td>
<td>13 (of 37 Fa 2011 who did not make a B at the first attempt)</td>
<td>7 (of 24 Fa 2011 who did not make a B at the first attempt)</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>11 (of 34 Sp 2012 who did not make a B at the first attempt)</td>
<td>6 (of 24 Sp 2012 who did not make a B at the first attempt)</td>
<td>3 (of 16 Sp 2012 who did not make a B at the first attempt)</td>
</tr>
</tbody>
</table>
Evaluation of Program Learning Outcomes Drives Program Development

The final point where we evaluate student achievement involves our assessment of student learning in our culminating experience course, where students demonstrate their mastery of program learning outcomes. Our MLIS students have two options for a culminating experience course, LIBR 289 (e-portfolio) and LIBR 299 (thesis). The majority of students choose to complete an e-portfolio. The goal of the LIBR 289 e-portfolio is to provide a program-based assessment to ensure that each student demonstrates mastery of all program learning outcomes (core competencies).

Full details about the e-Portfolio are available in the 289 E-Portfolio Handbook available here: https://slisweb.sjsu.edu/current-students/courses/289-e-portfolio-handbook.

E-Portfolio rubrics (tied to the program learning outcomes) can be found here: http://slisweb.sjsu.edu/downloads/289_compRubrics.pdf

For an example of a completed e-Portfolio, see https://sites.google.com/site/lizborgeshierzog/.

As we assess student achievement in LIBR 289, we are able to gain insight that we then use to identify areas where our curriculum may need to be modified in order to more effectively help students' master program learning outcomes.

At the end of the Fall 2007 semester we collected data on the number of revisions needed to satisfactorily demonstrate achievement of a defined subset of 5 of the MLIS PLOs or Core Competencies presented in students’ culminating electronic portfolios. Our goal is to have 90% or better of LIBR 289 students who need no or only 1 revision to a Statement of Competency, the essay in which they demonstrate achievement of a specific PLO. If less than 90% of students submit work at that level, then that identifies for the faculty a need for curricular review of the courses that address that PLO.

Each semester, we have examined evidence of student mastery of at least one core competency. For example, our Fall 2011 report covers our examination of student mastery of Competency J, regarding information-seeking behaviors. Input from LIBR 289 faculty advisors in 2007 indicated that 15% of LIBR 289 students struggled to demonstrate their mastery of Competency J. Through our analysis of that data and as a result of discussions during a faculty retreat, the Curriculum and Program Development Committee and the course coordinator for the information intermediation cluster worked with the faculty who teach in this area to propose specific changes to the curriculum. Changes involved a reworking of assignments and a new emphasis during course discussions and other content regarding the need to review information seeking behavior models before analyzing information seeking behavior. These changes were implemented starting with Spring 2009 courses, and a reevaluation was done in 2011. Each of our reports on program learning outcomes, which describe how we have used our evaluation of LIBR 289 student achievement data since 2007 to make program improvement decisions, can be found on our website.
Starting in Spring 2013 we are planning to reset our base line data as many changes have occurred between 2007 and 2012. We have worked very hard on improving rubrics for 289 students; we have reworded and revised the program learning outcomes; we have tied the PLOs much more closely to classes; we have incorporated input from program advisory committees and our international advisory council. We are reworking our core classes so that all program learning outcomes can be met via the core classes.

In addition to regularly examining data regarding student mastery of individual program learning outcomes, we also analyze overall data regarding passing rates for the e-portfolio course, which we publish on our website. Students who fail LIBR 289 may take the course one more time before being disqualified from the program. From Fall 2010 to Fall 2012, only three students have been disqualified from the MLIS program because they failed to produce a satisfactory e-portfolio after two attempts. The data is reproduced here:

<table>
<thead>
<tr>
<th></th>
<th>Total Enrolled</th>
<th>Passed</th>
<th>Failed*</th>
<th>Incomplete</th>
<th>Incomplete (cont’d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2010</td>
<td>332</td>
<td>295 (88%)</td>
<td>13</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>Spring 2011</td>
<td>368</td>
<td>345 (93%)</td>
<td>11</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>323</td>
<td>288 (89%)</td>
<td>15</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>346</td>
<td>312 (90%)</td>
<td>11</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>285</td>
<td>253 (89%)</td>
<td>11</td>
<td>20</td>
<td>3</td>
</tr>
</tbody>
</table>

Students who fail Libr 289 have one more chance to retake the e-Portfolio course. If they fail again, they are disqualified from the MLIS program. Between Fall 2010 and Fall 2012, there were three disqualifications due to failing to produce a satisfactory e-Portfolio.


**Faculty and Student Involvement in the Evaluation Process**

Student feedback is an important part of the data we use to improve our program. For example, at the end of each semester, students are invited to complete a Student Opinion of Teaching Effectiveness (SOTE) online survey for each course in which they are enrolled. These surveys focus on pedagogy and the effectiveness of instruction. Results are tabulated and analyzed in order to inform decisions regarding our program.

In addition, the School’s Director studies SOTE results annually as part of her review of faculty performance. She reads student comments carefully and pulls out key themes
which are then brought back to the faculty for discussion during faculty retreats and our faculty institute. For example, during the May 2013 faculty institute, our Director made a presentation regarding key themes identified during her most recent review of SOTE feedback.

She emphasized:

• Be seen: Record video lectures
• Be organized: Structure course content
• Be responsive: Respond promptly
• Be present: Participate in discussions
• Be current: Provide up-to-date content
• Be accurate: Update existing syllabi/lectures with current dates
• Be clear: Provide clear assignments/ instructions
• Be clear: Provide clear grading expectations
• Be timely: Grade assignments in timely way

As part of our response to survey findings, we developed a list of tips for faculty regarding how to respond to SOTE feedback, with ideas relevant to each item on the survey. For example, one of the survey questions asks whether the instructor was responsive to the diversity of students in the class. A relevant tip to help faculty address a lower score on this survey question is to avoid favoring students with greater levels of experience working in libraries or other information centers.

Our faculty review the anonymous surveys completed by students in their courses, and in response, they often modify their courses. For example, an instructor for our LIBR 285 (research methods) course modified the course in response to SOTE results. Students mentioned that they would like to be able to listen to her video lectures on their mobile devices, including smart phones and iPads. In response, she converted her Adobe Presenter Flash presentations to Captivate videos, saving the videos in both Flash and MP4 formats with closed captioning.

An instructor for LIBR 281 (metadata seminar) modified course assignments in response to student feedback via SOTE surveys. She replaced one of her research paper assignments with a hands-on metadata project, where students explore a metadata scheme. Students not only appreciate this type of hands-on learning, but also find that the new assignment helps prepare them for a research paper regarding metadata due later in the semester.

An instructor for our LIBR 264 and LIBR 265 courses (materials for tweens and teens) responded to survey feedback, asking for greater variety in how students are asked to review youth materials. In response, the instructor now asks his students to present some of their reviews as screencasts, rather than papers, providing greater variety, as well as expanded opportunities to use technology to complete assignments.
In response to student feedback, an instructor for our LIBR 250 (instructional strategies) course implemented a peer review assignment. Students in her course now critique their peers’ presentations regarding their final project. Following the peer review, students can use this feedback to modify their final project prior to submission.

Additional examples of how faculty modified courses in response to SOTE feedback include:

- Improved navigation of the course site
- Adjusted flow of assignments
- Increased frequency of feedback provided to students regarding their performance
- Modified assignments to include group work, presentations, and/or screencasts
- Increased use of collaborative authoring tools to share material with classmates
- Increased use of video lectures by faculty, to supplement audio lectures or written lectures
- Revised course readings
- Incorporated new technology tools into assignments, so students are introduced to emerging technology and required to explore the technology
- Added optional web conferencing drop-in sessions, where faculty and students interact and discuss course activities
- Offered assignment alternatives to accommodate diverse learning interests
- Updated assignment instructions, and provided those instructions via written documents, as well as screencasts and podcasts

A few weeks after each semester ends, the School also solicits feedback from new graduates through an exit survey, which allows us to assess satisfaction with the School’s curriculum and to identify areas in need of improvement. Survey results are discussed twice a year at faculty retreats and used to guide program development decisions. For example, through these surveys, we can monitor trends regarding student interest in completing internships or their satisfaction with e-portfolio advising. We also monitor graduating student satisfaction regarding the assistance they received from our student services coordinator and our technology team. We publish a summary of survey results on our website.

**Involvement by Other Groups in the Evaluation Process**

Another group that provides beneficial feedback regarding our curriculum is our internship supervisors. We regularly rely on their input to improve these structured field experiences, which are one of the elective choices available to our MLIS students. At the end of each semester, we invite all internship supervisors to complete an online survey, and an analysis of survey results informs modifications to our internship course. For example, in response to feedback from supervisors, we revised site supervisor
guidelines regarding virtual internships and modified the schedule for interaction between the faculty supervisor and site supervisor.

We also garner input from practitioners regarding our curriculum through their participation on our Program Advisory Committees (PACs). Each of the committees is made up of three to five experts in the field who meet virtually with faculty leads once per semester to review the curriculum, identify emerging trends, and provide feedback on course content. After each committee meeting, the faculty leads send a written report to the Director, to the Curriculum Committee co-chairs, and to all members of the PAC. Once a year the PAC faculty leads submit a report regarding PAC activity to the full faculty at the May faculty retreat.

One example of a past recommendation from a PAC that resulted in curricular updates was offering our Virtually Abroad course. Students in the virtually aboard course complete semester-long projects that involve research, strategic planning, or service evaluation for information centers located around the world. Another PAC report recommended that we add a course on Mobile Devices: Services and Applications. The new mobile services course explores mobile applications design, with a focus on cross-platform usability via HTML5 and mobile frameworks. We updated our LIBR 285 Research Methods course based on PAC feedback, ensuring that an assessment component is deeply embedded into each LIBR 285 course starting in 2013-2014.

We also receive ongoing, high level feedback regarding our program from our School’s International Advisory Council, which includes leaders from government, industry, and the profession. Their feedback was the impetus for several key changes in our program. As an example, their input led to development of new electives and related faculty hiring in the areas of big data, cybersecurity, informatics, and information visualization. They encouraged us to review our core courses in order to help students think more broadly about the work done by librarians.

We are in the process of reworking our core courses and the new three core courses will address all of the core competencies (program learning outcomes).

The International Advisory Council also suggested that we consider offering virtual internships, in addition to our place-based internships, expanding access to these field experiences. Since then, we have invested in a growing virtual internship program, with expanding opportunities and a range of resources on our website that help students explore these opportunities, including our virtual internship blog, virtual internship FAQ web page, and narratives about our MLIS students who have completed virtual internships.

**Employer Survey**

In 2012 we deployed an employer survey using Qualtrics. We built the employer survey database by asking our alum to submit their supervisors contact information via a web form. We also sent an email to potential employers gathered through our CRM database such as internship supervisors and our Career Center liaison and asked them to fill out
the web form if they employed MLIS grads. We are planning on running the survey every two years.

<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Technological skills</td>
<td>68</td>
<td>46</td>
<td>8</td>
<td>122</td>
</tr>
<tr>
<td>2</td>
<td>Project management skills</td>
<td>48</td>
<td>52</td>
<td>15</td>
<td>115</td>
</tr>
<tr>
<td>3</td>
<td>Marketing and advocacy skills</td>
<td>25</td>
<td>52</td>
<td>24</td>
<td>101</td>
</tr>
<tr>
<td>4</td>
<td>Oral and written communication skills</td>
<td>66</td>
<td>48</td>
<td>9</td>
<td>123</td>
</tr>
<tr>
<td>5</td>
<td>Interpersonal and collaborative skills (e.g., teamwork)</td>
<td>76</td>
<td>38</td>
<td>9</td>
<td>123</td>
</tr>
<tr>
<td>6</td>
<td>Ability to organize physical and digital items and collections</td>
<td>66</td>
<td>38</td>
<td>6</td>
<td>110</td>
</tr>
<tr>
<td>7</td>
<td>Ability to create and deliver instructional programs</td>
<td>54</td>
<td>38</td>
<td>10</td>
<td>102</td>
</tr>
<tr>
<td>8</td>
<td>Ability to facilitate the provision of information to various audiences</td>
<td>55</td>
<td>49</td>
<td>8</td>
<td>112</td>
</tr>
</tbody>
</table>

In the above table 3 is excellent, 2 is satisfactory, 1 is needs improvement. Employers marked N/A if the skill set did not apply.

**Technological skills:** 93% ranked as excellent or satisfactory  
**Project Management skills:** 86% ranked as excellent or satisfactory  
**Marketing and advocacy skills:** 76% ranked as excellent or satisfactory  
**Oral and written communication skills:** 92% ranked as excellent or satisfactory  
**Interpersonal and teamwork skills:** 92% ranked as excellent or satisfactory  
**Organization of physical and digital collections:** 94% ranked as excellent or satisfactory  
**Creation and delivery of instructional programs:** 90% ranked as excellent or satisfactory  
**Facilitating the provision of information:** 92% ranked as excellent or satisfactory

Some comments from the 2012 employer survey:

- We have hired two recent graduates from SJSU SLIS and they definitely excel at using technology to serve our customers, at adapting to change, and ability to deliver exceptional customer service across the board. *Graduates Job Titles: Virtual Services Librarian; Librarian 1/II; Manager*
- We currently have one SJSU SLIS graduate and she is excellent across the board. She is a new graduate and is fully prepared to contribute to every project we've given her. *Graduate Job Title: Electronic Resources Specialist*
- Our Corporate Library employs 2 librarians and one is a SLIS graduate. We also, over the last 8 years, have hired 4 summer interns from your program. ALL SLIS students that worked with us graduated and are now employed. All of these
students were well prepared and trained. Our company benefited from their employment and we plan on hiring more for future intern positions as they come up. In my estimation, your program has done an excellent job of preparing your students. As the library world goes digital, there will be more opportunities for librarians to take key positions as digital asset managers and electronic resource librarians and morph into whatever comes along. The great thing about librarians is that they can easily transition into so many non-traditional positions...they just have to believe they can. I guess that is where your school can be most valuable....giving them the skills and confidence and vision for a broader scope of possibilities. 

- I thoroughly enjoy my SJSU employee - she has a great foundation in library science and technology, and is a great asset to the library and our company. 

Graduate Job Title: Digital Initiatives Librarian