
Feasibility and marketing studies of health sciences librarianship education programs*

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The University of North Carolina at Chapel Hill evaluated five curricular models designed to improve education for health sciences librarianship. Three of the models enhanced existing degree and certificate programs, and two were new programs for working information professionals. Models were developed with input from experts and a Delphi study; the marketability of the models was tested through surveys of potential students and employers; and recommendations were made as a guide to implementation. The results demonstrated a demand for more specialized curricula and for retraining opportunities. Marketing data showed a strong interest from potential students in a specialized master's degree, and mid-career professionals indicated an interest in post-master's programs that provided the ability to maintain employment.

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The study pointed to the opportunity for a center of excellence in health sciences information education to enable health sciences librarians to respond to their evolving roles.

INTRODUCTION

With the support of a planning grant from the National Library of Medicine, the University of North Carolina at Chapel Hill (UNC) School of Information and Library Science (SILS), in collaboration with the UNC Health Sciences Library and the Program in Medical Informatics, evaluated five curricular models designed to improve education for health sciences librarianship. These models fit into a continual learning process from the initial professional preparation to lifelong learning opportunities, with the aim of enabling health sciences librarians to respond to their evolving roles in a rapidly changing environment. Three of them enhanced existing degree and certificate programs in SILS with a health sciences specialization, and two were new programs for working information professionals.

The following programs, each with a health sciences specialization, were included in the study:

- master of science degrees in library and information science (M.S.L.S. and M.S.I.S.)
- certificate of advanced study (CAS)
- doctor of philosophy degree (Ph.D.)
- executive certificate of advanced study (ECAS)
- advanced internship program (AIP)

The goals of this study were to develop detailed descriptions of the programs, to test the market potential and market demand for each alternative, and to make recommendations concerning the implementation of the viable alternatives.

Marketing data showed strong interest in a health sciences specialization from potential students in the master's degree program. In addition, the expert panels in the Delphi study rated the master's degree specialization as the most valuable in terms of contribution to the preparation of tomorrow's health sciences librarians. Mid-career professionals indicated the most interest in participation in the ECAS and the AIP, among the post-master's programs, with the ability to maintain employment the most important factor in the decision to apply. Although respondents indicated that employer support for participation in the programs would be minimal, many employers stated they provided release time, funding, or both for participation in relevant advanced degree programs. The Ph.D. with health sciences specialization received less backing in the market studies, but the expert advisory group rated it as the most valuable among the various approaches.

METHODS

Input from experts

The first phase of the study assessed the feasibility of the programs. Discussion of the programs may be found in a previously published account of the intended study [1]. An expert advisory group, which included nine leaders in health sciences library and information services, health care and administration, and education in health sciences librarianship and informatics, was convened to provide guidance throughout the course of the project. The members of this group reviewed the initial descriptions of the educational models and the research design and methods of the study, and they provided input with particular emphasis on the two programs with which SILS had the least experience, the ECAS and the AIP. To test assumptions about these programs gained from the expert advisory group meeting, the internal planning team conducted interviews with seven information professionals and employers in the local area.

Delphi study

The next step was a Delphi study, which provided additional expert opinion to refine the descriptions of the models of the five educational programs. Three panels of experts—employers of health sciences librarians, practicing mid-career health sciences librarians, and the existing expert advisory group—agreed to participate. A panel of twenty-six employers included academic health sciences library directors, hospital library directors, Veterans Affairs and government library directors, hospital administrators, corporate administrators, academic administrators, and public health officials. Another panel consisted of twenty-five mid-career professionals, with categories of academic health sciences librarians, hospital librarians, systems librarians and information science professionals, and professionals in other settings represented.

The Delphi study consisted of two rounds of surveys that asked for rankings of components of the five educational programs in the areas of program content (academic content and experiential content) and program design (prerequisites, delivery method, and structure). (See Appendix A for an example of a question on academic content.) Panelists rated each component on its importance to the relevant educational program and commented on the options. During a second Delphi round, panelists received feedback on responses from the first round, and they provided new ratings of the importance of each program component

in order to move toward further consensus. Options were ordered by frequency of selection in round one, with the number of responses noted. The questionnaire omitted questions on which there was already consensus and options that had a low frequency of selection, and it added new questions and response options suggested in round one of the study.

Market surveys

In the second phase of the study, three market surveys were conducted. The intent of these surveys was to estimate the demand from potential students for enrollment in the five educational programs and from employers for graduates of the programs. Based on the information refined by the Delphi study, the market surveys described the models of the proposed educational programs. (See Appendix B for these descriptions of the programs.) The importance of particular components was explored, as well as barriers to enrollment and ways to overcome those barriers. Surveys were distributed to approximately 750 persons in stratified random samples.

The planning team decided to focus on groups closer to the "purchase" decision, in other words, persons who would be knowledgeable and have convictions about the information sought. Therefore, the samples comprised persons in health sciences libraries and students interested in library and information science programs as well as persons in closely related professions. Long-term strategies to attract other potential students and mid-career professionals who may not be aware of careers in the health sciences library and information field will be addressed in later stages of implementation.

The first survey addressed the master's degree with a health sciences specialization. It was distributed to potential students, asking them about their interest, the factors that would influence their decision to enroll, and their plans to meet the costs of a program. One sample included recently accepted applicants to American Library Association-accredited North and South Carolina library and information science (LIS) programs (UNC, North Carolina Central University, and University of South Carolina). A variation of the survey went to all academic health sciences library directors in the southeast (Region 2) and to a random sample of hospital library directors with at least one paraprofessional. The directors were asked to give the surveys to one or four (depending on the size of the library) paraprofessional staff members with a bachelor's degree and possibly with an expressed interest in a career in librarianship.

A second survey, sent to mid-career members of professional associations, asked about interest in the post-master's programs, factors that would influence the decision to apply (see Appendix C for an example

of a question), and potential employer support for participation. Random samples of seventy-five members each were drawn from the Medical Library Association (MLA) and the American Library Association (ALA) membership lists, fifty from the American Health Information Management Association (AHIMA) list, and twenty-five each from the American Society for Information Science (ASIS) and the Special Libraries Association (SLA) lists. Where possible, categories of members not likely to be mid-career professionals were eliminated. The AHIMA sample was restricted to members with at least a bachelor's degree and with two to nineteen years of experience. Demographic data were also requested from the potential students in the first two surveys.

The final survey was sent to employers of health sciences librarians asking them about numbers and types of professional staff, criteria considered in hiring staff, and support offered to staff for professional growth. The survey also described the five planned educational programs and asked employers to rate the importance they would attach to completion of each of the programs and the likelihood of their supporting participation in them by their own staff. The sample was drawn from MLA institutional members, because this group was weighted toward the employers of the largest number of health sciences librarians (hospital libraries and academic health sciences libraries) while including a cross-section of other types of organizations. Directors were asked to complete the survey, or, in the case of smaller libraries, asked to give it to an appropriate supervisor.

Information gained from the market study was used to determine to what groups the programs would appeal, what factors needed to be addressed to implement programs, where resources would need to be acquired or redirected, and what programs should be implemented.

RESULTS

Input from experts

The expert advisory group saw the proposed alternatives for educating professionals as part of a continual learning process to maintain a high level of expertise, necessary because of rapid changes in the information and health care environments [2]. Future economic conditions will lead to greater diversity in an individual's career over a lifetime; and individuals will need to take more responsibility for adding new knowledge and skills in order to be marketable and to meet the complex demands of information management in all health-related environments. SILS, in partnership with other academic units and employers, has the potential to assume responsibility for sustaining as well as creating a work force.

The expert advisory group also urged that broad

boundaries be established for the programs. Health sciences information management should be defined as encompassing all types of information, including patient data, clinical information, research data, and knowledge-based information. Although the programs meet different needs, a core set of knowledge and skills common to them all should be identified. Programs that attract persons from diverse information backgrounds could produce an enriched learning process and meet organizational needs for persons with broader skills and the perspective to provide leadership.

The interviews with local information professionals and employers of health information professionals validated the vision of the educational programs and helped the planning team answer questions about the audience, structure, content, and expected outcomes of the two proposed new programs. They emphasized the need for training in both technical and personal skills and flexibility in program design. The input from the interviews, combined with the results from the expert advisory group meeting, was used to develop features of the programs that could be rated through the Delphi study.

Delphi study

The Delphi study provided additional expert opinion on the models for the educational programs. Some generalizations can be made across programs. Panelists favored the master's degree in library or information science as the prerequisite for the post-master's programs; experiential content such as a site-related project, internship or field experience, or research practicum; flexible structure such as part-time status and combination of on-campus and off-campus, distance learning (including use of the Internet); the awarding of some sort of credential; and focus on content tailored to individual needs. There was some overlap among programs concerning academic content: design and evaluation of information services and programs; health care environment; and creation, management, and use of health information systems were highly rated in most or all of the programs with required academic content. There were also differences due to the focus of the programs. The instruments and complete results from the Delphi study may be found in the final report [3]. Response rates are in Table 1.

Round two of the Delphi study also asked respondents to estimate the value of each of the five programs in terms of contribution to the preparation of tomorrow's health sciences librarians. Across all the panels, the master's degree program with a health sciences specialization was rated most highly (4.2 on a scale of 1–5, with 1 representing low value and 5 high value); the other programs received ratings between 3.6 and 3.9. However, there were differences among

Table 1
Survey response rates

| Survey | Sample size | Usable responses |
|---|-------------|------------------|
| Delphi study, round one | 60 | 55 (91.6%) |
| Delphi study, round two | 60 | 54 (90.0%) |
| Market survey, applicants | 123* | 69 (56.1%) |
| Market survey, paraprofessionals | 141 | 80 (56.7%) |
| Market survey, mid-career professionals | 242* | 96 (39.7%) |
| Market survey, employers | 249* | 98 (39.4%)† |

* Surveys returned due to incorrect address or deceased recipient were deducted from sample size.

† Of the completed surveys, forty-six were from academic libraries, forty-six from hospital libraries, and six from other categories.

the three panels. The expert advisory group rated the Ph.D. program highest (4.4), followed by the master's degree program (4.0). The mid-career respondents ranked the master's degree program first (4.3), followed by the ECAS (4.0). The employer panel also put the master's degree program at the top (4.4), with the AIP second (4.2).

Market surveys

The instruments and full results of the market surveys may be consulted in the final report [4]. A summary of significant outcomes by program follows.

Master of science degree program. There was strong interest in the master's degree with specialization among potential students (25% of applicants and 50% of paraprofessionals). Even if this result was overstated (in the case of paraprofessionals, respondents were already familiar with the health sciences library setting and may have been interested in a professional career), this indication was meaningful. For applicants, geographic proximity to home and schedule flexibility and availability of night courses were the most important factors when they made the decision about enrolling in an LIS program. Consistency of content with career goals and general reputation of the program were also highly ranked as very important factors. Among paraprofessionals, the most important factors in a decision to apply to a master's degree program with specialization would be availability of a part-time program and flexibility of schedule and availability of night courses. Consistency of content with career goals and cost of program would also be highly ranked as very important factors. Most of the paraprofessionals who rated teaching reputation of faculty as most important were interested in applying. A combination of sources of support for meeting the costs of the program was cited by both groups.

Post-master's degree programs. Mid-career respondents expressed the most interest in the ECAS (24%)

and the AIP (23%). The data suggest that AHIMA, ASIS, and MLA sample members were more likely to be interested in the ECAS than were members of the ALA and SLA samples. AHIMA respondents, in particular, were more interested in the ECAS (35%) than might be anticipated because they likely did not have LIS degrees. Across programs, the ability to maintain employment was the most important factor that might influence the decision to apply to a program. Little support from employers was anticipated; the highest expectations were for partial tuition and unpaid time off for participation in the ECAS program and partial tuition for the AIP. Respondents were asked the maximum dollar amount they might contribute to their own support, given their interest in a program and the estimated cost.

Employers. The most important criterion considered by employers in hiring professional staff, now and over the next five to ten years, was personal traits, such as flexibility, initiative, willingness to change, and communication skills. Other important factors were graduate LIS degree and previous work history. A graduate LIS degree with health sciences specialization was more important to employers in anticipating recruitment in the future than it had been when hiring current staff.

In terms of support, employers were most likely to provide assistance for on-the-job training and attendance at conferences and continuing education courses. Over a third of the respondents provided release time for participation in relevant advanced degree programs (38%) and/or funding (37%). They could envision providing periodic time off over a longer period for professional growth (58%). When evaluating the value of the five programs, the respondents were slightly more likely to support participation by staff members in the AIP and ECAS. The category of employer and size of staff had some statistically significant effect on the willingness to support participation in professional development and on the type of support. More academic employers provided release time for degree programs, while more hospital employers offered funding for degree programs. Employers with larger staffs were more willing to support participation in the AIP, ECAS, and Ph.D. programs.

Response rates. The response rates between 39.4% and 56.7% (Table 1), with an overall response rate of 46.5%, probably reflected several factors that tended to lower returns. Two surveys required the intermediate step of original recipients identifying appropriate respondents and giving the questionnaires to them. Several samples were made up of groups of persons who might not identify with health sciences librarianship. Some of the records from which samples were drawn were somewhat dated or did not permit the exclusion

of persons who would not fit the definition of the category. The questionnaires were fairly complex and ranged from four to twelve pages in length. Finally, the computation of the response rates was done in a conservative manner, counting refusals to participate for whatever reason as nonresponses. Overall, the response rates seemed satisfactory and within the standard of the 40% to 75% range for specific audiences [5].

RECOMMENDATIONS FOR IMPLEMENTATION

The final stage of the study was to make recommendations on how SILS should expand its educational programs in health sciences information. The planning team evaluated the relative feasibility and marketability of the programs and assessed their fit with the goals of SILS and in the availability of new resources to implement them. The programs varied in potential demand as well as how easily they could be offered. For example, a health sciences specialization in the master's degree program met with strong interest from potential students and would require relatively few additional resources to implement, primarily faculty time to develop and teach one or more new courses. The other existing degree and certificate programs, the Ph.D. and CAS, were not rated as highly in the market surveys; however, a health sciences specialization could be added to them with minimal new resources. At the other end of the scale, the new programs for working professionals, the ECAS and AIP, evidenced market demand but would be resource-intensive. These programs would require development of new course material or repackaging of existing material for a nontraditional schedule and distance learning, identification and oversight of experiential opportunities, integration of technology in the programs, financial support for faculty and students, and a longer timetable for implementation. External funding and partnerships with other organizations would make them more feasible.

Instead of choosing an individual program to implement, the strategy of a center of excellence in health sciences information education emerged. This center would operate on several levels. On the institutional level, SILS could build an infrastructure of health sciences information education by planning to implement gradually aspects of each of the programs. The considerable overlap among programs would allow the development and packaging of course content and experiential opportunities, as well as utilization of possible new faculty, for more than one program. The center would increase visibility for SILS in the area of health sciences information education, building on emergent strengths and an identified strategic focus. SILS has the advantages of a two-year master's degree program and a Ph.D. program; an extensive roster of

courses within the school and in other university units; the access to relevant curricula in medical informatics, public health, and other disciplines; and the availability of experiential opportunities in the Health Sciences Library and numerous information centers in clinical settings.

The center would also function on a broader level. SILS could collaborate with other LIS programs in a virtual center of excellence to share in course development, marketing, on-campus time, and institutional support for Internet courses and programs such as the ECAS and AIP. Model interinstitutional programs would also have the potential for attracting external funding. To be most effective, leadership and coordination at the level of agencies such as the National Library of Medicine and MLA would identify gaps, foster collaboration, and offer support. For example, funding from the National Library of Medicine will support librarian training through the Medical Informatics Training Program at UNC and other institutions.

At the institutional level, proposals for the five programs have been developed and may be found in the final report [6]. A specialization is proposed for both the M.S.L.S. and M.S.I.S. programs at UNC. Each would require five health sciences courses (three required courses and two electives) and a practicum, in addition to the basic core courses all students must take. The courses, which are already taught by SILS or the Program in Medical Informatics except as noted, respond directly to the seven areas of knowledge and skills identified by MLA [7] and provide students with the foundation for a career in health sciences information. Required courses for the M.S.L.S. would be: science information, health sciences information, and health care environment (a new course). In addition, a new elective on teaching and learning in the information environment is proposed. The M.S.I.S. would require health sciences information, health care environment, and introduction to medical informatics. Specific technology courses would not be prescribed, but students would be strongly encouraged to take those that fit their background and goals. Besides completing requirements for the core curriculum and specialization, students would be able to take three additional electives. New courses developed for the specialization would be available to all students in other degree and certificate programs as well.

The existing CAS program allows students to develop their own package of courses according to their individual goals. An expanded roster of health sciences courses for SILS programs, in combination with courses in other campus units, would provide the option of a specialization in this area.

The Ph.D. specialization would be structured as a minor in medical informatics. The minor requires completion of fifteen credit hours, including the core cur-

riculum in the medical informatics program: introduction to medical informatics, medical information systems, research and evaluation methods in medical informatics, and clinical reasoning and decision making. The emphasis would be on preparation for research.

The proposed ECAS would emphasize preparation for administrative positions and would combine short on-campus sessions followed by independent study at the student's work site [8]. Requirements for admission to the program would be five years' professional experience with some experience in a health sciences setting. As the Internet would be used to maintain contact among students and faculty for collaborative projects and to provide feedback on assignments, readings, and course content, computer competency and access to necessary technology would be required.

Options for internship experiences in the AIP and the experiential component of the ECAS emphasize the use of information in clinical settings and innovative uses of technology in library and information center environments.

CONCLUSION

The results of the study support the need for more extensive education programs in health sciences information both for entering students and working professionals. The results demonstrate a demand for more specialized curricula and for retraining opportunities, especially for programs tailored to the requirements of individual students. They also suggest that employers can provide some support for professional development and that professionals in many cases are willing to take individual responsibility for further education. The study points to the opportunity for UNC and other partners to increase their function in helping health sciences information professionals meet changing and expanding roles. A joint planning effort by library and information science programs, the National Library of Medicine, and MLA for a center of excellence in health sciences information education would have the most impact on the success of such a venture.

Study data may be useful to these other organizations. Although UNC has used the results to make decisions about its own programs, the information is generalizable and can be applied to other settings with different actions possible. Data concerning desired components in educational programs, delivery methods, factors influencing a decision to participate in a degree or certificate program, and interest in different types of programs have been collected from a variety of perspectives and may be relevant in other educational contexts.

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Appendix A

Sample Delphi study question: Ph.D. with health sciences specialization

Program content: In this section of the questionnaire, questions address the desired competencies or areas of knowledge that would result from the Ph.D. with health sciences specialization.

Academic content: The Ph.D. requires at a minimum one basic seminar in information retrieval, another on scholarly communication, two statistics courses, and a dissertation. From the following areas of knowledge, please circle FOUR that you consider MOST important to add to the core of requirements for the successful doctoral candidate.

1. Advanced communications and presentation skills (e.g., graphic presentation, proposal development)
2. Advanced management skills (e.g., human resources, planning, financial management, marketing, economics of information)
3. Advanced systems design and networking (e.g., database systems, interface design, telecommunications)
4. Biomedical and health sciences information resources (e.g., current and historical resources, print and electronic formats, courseware, consumer health information)
5. Creation, management, and use of health information systems (e.g., integrated health information systems, computer-based patient records, decision support systems, coding, and thesaural systems for information organization and retrieval)
6. Design and evaluation of information services and programs (e.g., needs assessment, outcomes measurement, benchmarking, evaluation of technologies)
7. Design, delivery, and evaluation of education in information management (e.g., instructional design, cognitive psychology)
8. General knowledge of biomedical and health sciences (e.g., basic and clinical sciences, public health, allied health)

9. Health care environment (e.g., trends affecting the design and delivery of health care, biomedical research, health sciences education)
10. Research skills (e.g., research methods, statistical analysis, qualitative analysis)
11. The role of professional education and of graduate education in the current academic environment (e.g., teaching, research, and service responsibilities)
12. Specialized knowledge in at least one biomedical discipline (e.g., anatomy, molecular biology, epidemiology, pharmacy)

Appendix B

Program descriptions

Master's degree with health sciences specialization

The master's degree programs in library science/information science prepare students for professional employment in library service and the information industry. The proposed health sciences specialization will be compatible, in its general requirements, with the requirements of a non-specialized master's degree. Students in these programs are expected to enter a career in health sciences librarianship and/or information management.

1. Specialized academic content emphasizes: biomedical and health sciences information resources; design and evaluation of information services and programs; and health care environment. Internship/field experience and thesis also required.
2. Structure: current length of the degree program (16 courses; 2 academic years full-time) will be required. Part-time student status possible.
3. Estimated annual cost: tuition and fees for full-time student: \$2,200 for North Carolina resident and \$10,700 for out-of-state resident; this does not include books and materials or living expenses.

Advanced internship program (AIP)

A post-master's *work-site-based internship* to expose new and experienced professionals to innovative practices and technologies in health information management. Customized to meet the educational needs of the individual with flexibility in the choice of sites and environments.

1. Content emphasizes: supervised work experience at a host site, including a special project and final report.
2. Structure: 6-month site-based internship; scheduled teleconferences, ongoing electronic discussions, and/or on-line assignments will supplement experience. Certificate awarded upon completion.
3. Estimated cost: \$2,000 program fee; this does not include travel or living expenses at the internship site.

Certificate of advanced study (CAS)

An on-campus, post-master's program designed for both new and experienced practitioners who seek an articulated and systematic continuing education program to redirect their career paths or to update their skills.

1. Content emphasizes: design and evaluation of information services; creation, management, and use of health information systems; health care environment; and advanced

- systems design and networking. Includes a major site-related project in a health sciences information setting.
2. Structure: 30 credits (3 semesters full-time); primarily on-campus courses, supplemented with electronic/Web-supported materials.
 3. Estimated annual cost: tuition and fees for full-time student: \$2,200 for North Carolina resident and \$10,700 for out-of-state resident; this does not include books and materials or living expenses.

Executive certificate of advanced study (ECAS)

A post-master's program designed for currently employed information professionals, combining short on-campus sessions followed by independent study at the student's work site. *Focuses on executive-level preparation.* Provides opportunities to enrich and strengthen existing capabilities, develop subject or functional specialty, or to redirect a career.

1. Content emphasizes: advanced management skills; advanced communications and presentation skills; health care environment; design and evaluation of information services; and creation, management, and use of health information systems. Includes a major site-related project.
2. Structure: 30 credits (2 years part-time); on-campus time scheduled in periodic weekend seminars and summer institutes; scheduled teleconferences, ongoing electronic dis-

cussions, and online assignments will supplement learning on campus. Program assumes participants will continue current employment.

3. Estimated total cost: tuition and fees: \$4,500 for North Carolina resident and \$10,500 for out-of-state resident; this does not include travel and living expenses for about 16 days, during five trips to campus.

Ph.D. with health sciences specialization

The purpose of this doctoral program is to *educate scholars* who are capable of addressing problems of scholarly consequence in the fields of information and library science and, specifically, related to health sciences information management.

1. Content emphasizes: research skills; design and evaluation of information services and programs; medical informatics; and creation, management, and use of health information systems. Includes a research practicum.
2. Structure: minimum of 36 credits (2 years full-time) plus the dissertation; primarily on-campus courses in the School of Information and Library Science and other departments.
3. Estimated annual cost: tuition and fees for full-time student: \$2,200 for North Carolina resident and \$10,700 for out-of-state resident; this does not include books and materials or living expenses.

Appendix C

Sample market survey question: certificate of advanced study

A number of factors might influence your decision to apply to this program. We are interested in how important each of these factors would be on your decision to apply to this program.

| | Very important | Important | Less important | Not applicable |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| A) Ability to maintain employment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| B) Academic reputation of UNC-CH | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C) Availability of dependent family care assistance | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| D) Consistency of content with my career goals (see description above) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| E) Cost of program | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F) Diversity/composition of student body | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| G) Flexible schedule and class structure | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| H) Formal recognition/certification of completion | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I) Geographic proximity to home | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| J) Length of program | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| K) Library and computer lab resources | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| L) Opportunities for personal interaction among students | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| M) Opportunities for personal interaction with working professionals and being mentored | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| N) Opportunities for professional involvement such as conferences and participation in research projects | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| O) Recommendation from a colleague, alumni, current student, or relative | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| P) Research reputation of faculty | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Q) Size of classes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| R) Teaching reputation of faculty | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| S) Other (please specify): | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |