



External Evaluation Report

Form 2D

The External Evaluation Report is an important component of a new academic program proposal. The external evaluator's task is to examine the program proposal and related materials, visit the campus to discuss the proposal with faculty and review related instructional resources and facilities, respond to the questions in this Report form, and submit to the institution a signed report that speaks to the quality of, and need for, the proposed program. The report should aim for completeness, accuracy and objectivity.

The institution is expected to review each External Evaluation Report it receives, prepare a single institutional response to all reports, and, as appropriate, make changes to its program proposal and plan. Each separate External Evaluation Report and the Institutional Response become part of the full program proposal that the institution submits to SUNY for approval. If an external evaluation of the proposed program is required by the State Education Department (SED), SUNY includes the External Evaluation Reports and Institutional Response in the full proposal that it submits to SED for registration.

Institution:

University at Albany, State University of New York

Evaluator Name (Please print.):

Mary Beth Rosson

Evaluator Title and Institution:

Associate Dean of Undergraduate Studies, College of Information Sciences and Technology,
Pennsylvania State University

Evaluator Signature:

Proposed Program Title:

Informatics

Degree:

Bachelor of Science

Date of evaluation:

20 March 2014

I. Program

1. Assess the program's **purpose, structure, and requirements** as well as formal mechanisms for program **administration and evaluation**. Address the program's academic rigor and intellectual coherence.

The Informatics program has a structure similar to other related programs across the U.S. It begins with a set of core courses that build a foundation for information and computational literacy, including topics related to

information in society, practical applications such as web technology, databases and networking, and quantitative skills. It also mandates significant experiential learning, with options such as internships, a capstone project and undergraduate research. This 42-credit core is flexible, allowing focus on core knowledge that is more or less technical, but ensures that all students will have a solid but also broad base for the study and application of information and computational concepts and skills in the real world.

Another critical aspect of the general requirements is the 9 credits of experiential learning. This concept is operationalized with broad strokes that include internships, capstone projects, undergraduate research, community support and more. This is an excellent element and anticipates the movement happening across higher education in the U.S. toward ensuring some version of “engaged scholarship” in all undergraduate education programs. The curriculum also has a fundamental commitment to team-based learning, again helping to ensure that the students learn to work in the group settings typical of the real world.

Beyond the core requirements, the proposed B.S. includes 12 credits to form a concentration, selected from a current set of seven (Interactive User Experience; Cyber-security; Computer Networking; Social Media; Data Analytics; Software Development; and Information Technology – online only), as well as a self-designed concentration option that requires significant oversight by the departmental faculty and advisors. While these concentration requirements are more modest than a minor would include, they serve as a sort of “mini-minor” and will provide important credentials for graduating students, particularly if and when the experiential learning is carried out in a fashion to integrate with the selected concentration. In conversation with the program proposals the other reviewer and I encouraged them to think of these as just a first set of concentrations and to be open to modifications or additions as the education needs and career opportunities in the state of New York evolve.

The program will be led by a core group of three individuals – its primary author Jennifer Goodall, who is an Assistant Dean as well as a core instructor in Informatics, the Department Head George Berg, who also plays a central role in teaching, and Academic Advisor Caroline Buinicky, who not only handles student advising and related academic affairs, but also is a regular member of the teaching faculty. There is consistent support from administrators at other levels in the university, including Interim Dean Sue Faerman and university administrators from Undergraduate Education, Enrollment Management and Academic Planning. Thus there is both broad and deep support for the program and I am confident that it will prosper under this leadership.

2. Comment on the special focus of this program, if any, as it relates to the discipline.

During the evaluation meetings, there was considerable discussion of the underlying concept of “informatics” as a knowledge and skill objective, as both reviewers recognize that being able to answer questions about this term is a fundamental requirement for success in the program: all faculty, staff and students should have a clear and consistent response to this when queried by the many internal and external stakeholders they will encounter. During these discussions, a provisional definition currently at us at Indiana University (which has a program of the same name) was proposed as a starting point: “Informatics is the study of the application of computation.” This definition is not only short and clear, but emphasizes the distinction from this new program to the existing B.S. program in Computer Science (“the study of computation”); namely that the special focus should be on *applications* of computation. The proposed concentrations elaborate to some extent on this notion; my expectation and advice is that the concentrations should grow and evolve as the application space for information and technology evolves. The key point is to study the interesting and important applications of computation, not to meld the program to a particular view of what these applications should be at any point in time.

3. Comment on the plans and expectations for self-assessment and continuous improvement.

The program authors have developed a detailed analysis of student learning objectives and a mapping of the courses that will be used to meet these objectives, and the types of evidence that will be used for assessment. This level of detail is admirable and reflects a strong commitment to outcomes-based program development and

refinement. In discussion, we learned that the department will use two forms of assessment to guide their curriculum development and quality assurance. One of these is an assessment that is mandated and managed by the university, taking place on a 7-year cycle and using standard procedures. The second is a 3-year cycle of self-assessment, where the department will apply a “moving window” of several learning objectives each year, so as to ensure careful attention to all of the objectives in a continuous fashion.

4. Discuss **the relationship** of this program to other programs of the institution and collaboration with other institutions, and assess available support from related programs.

A specific strength of the proposed program is its extensive history with and plans to continue collaborations with the Computer Science department. This positive relationship is notable because in other universities (e.g., for both of the reviewers) there have often been conflicts between the pedagogies and teaching styles of Computer Science versus Informatics. In this case, the sharing of individuals (e.g., Dr. Berg was formerly the head of Computer Science), courses and instructors is already in place. The two groups of faculty have shown that they have an effective working relationship in the pre-existing customized program that this new major will replace.

Another potential stakeholder is the College of Business, in that many of the courses being proposed by Informatics contain some elements of material taught in business schools (e.g., project management). However we learned that the business college at this campus is proposing its own new program in “Digital Forensics” and that there has been careful consultation with the authors of that program to ensure that the lines are clear; the business degree is much more focused on the financial side of digital technology issues (e.g., business implications of a hacking episode such as we recently observed for Target). In contrast, the Informatics degree is much more oriented to problem solving and design with respect to the applications of information technology to many different disciplines.

The formulation of concentrations has taken place with considerable care to consult with and obtain agreement with other departments that may be asked to provide course seats for students in Informatics. These agreements are documented in the attached consultation. One note of caution is that one or more of the concentrations may be particularly attractive to undergraduates (e.g., Social Media) and if special growth was seen in specific areas, the agreements with departments such as Sociology may need to be revisited and renegotiated.

5. What is the evidence of **need** and **demand** for the program locally, in the State, and in the field at large? What is the extent of occupational demand for graduates? What is the evidence that demand will continue?

The proposal authors documented the general demand for graduates with computer and information science degrees (Figure 3, p. 19). There is particular interest in several of the specific concentrations this program will support, for example in data analytics, user experience design and social media management. The report also provides valuable data regarding the specific needs and opportunities within the state of New York, as well as the geographic region surrounding Albany. The need and demand is very healthy and we have seen similar outcomes for our similar program at Penn State, where we regularly place 85% of our graduates by the time they receive their B.S.

II. Faculty

6. **Evaluate the faculty**, individually and collectively, with regard to training, experience, research and publication, professional service, and recognition in the field.

Although I did not receive curricula vitae or other background information about the permanent faculty now involved in teaching Informatics courses (Goodall, Berg, Buinicky), our conversations with these individuals lead me to believe that the program courses are in excellent hands, with respect to both development and delivery. These core faculty are already complemented by a number of “regular adjunct” professors (more below) and soon

will include seven new permanent lines. One direction for achieving state and national distinction is in the area of inclusive pedagogy, as with the combination of team-based learning and an emphasis on the “big picture” of computing and information technology applications, I would expect the program to attract students who are female or from minority groups, typically under-represented groups in computing education and the IT workforce. In fact, I learned from conversations with current faculty that they are already well integrated within the NSF initiatives toward broadening participation in computing, and that they have already successfully redesigned some of their introductory curricula to better meet the needs and interests of a diverse student population.

- 7. Assess the faculty in terms of number and qualifications and plans for future staffing.** Evaluate **faculty responsibilities** for the proposed program, taking into account their other institutional and programmatic commitments. Evaluate faculty **activity in generating funds** for research, training, facilities, equipment, etc. Discuss any **critical gaps and plans for addressing them**.

The proposal includes a number of new courses and assumes significant growth in student population once the new major is a “regular” program advertised along with all other undergraduate programs. As a result the program’s success will depend on significant expansion in their teaching cohort. Fortunately this expansion is well underway. Assistant Dean Goodall has coordinated with others at the university to compete for and to win resources that will support seven new lines (the Albany 2020 initiative and the SUNY High Needs funding). Four of these will be tenure-track faculty in critical areas for research and teaching (e.g. cyber-security, information and government); three will be full-time teaching faculty. The hiring process for obtaining these individuals is already well underway with a number of promising candidates under consideration. Because these faculty are being recruited primarily to fulfill an undergraduate education mission, the focus has been on their role in teaching but once the new tenure-track faculty are hired, there will be a shift toward building research programs in cyber-security and digital government. These research activities will subsequently provide more opportunities for the undergraduates to become involved in research, one of the options for experiential learning.

- 8. Evaluate credentials and involvement of adjunct faculty and support personnel.**

The current cohort of adjunct faculty is another special strength of this proposal. I was extremely impressed with the degree of departmental identification and integration that was communicated by the five adjuncts professors who met with us as part of the visit. All of these individuals have full-time jobs and responsibilities, yet they make the time to attend faculty meetings, to work as informal committees on course enhancements, and to join social activities organized by the rest of the department. There is clearly a strong level of commitment that bodes well for their involvement and contributions in the future. Indeed some of these adjuncts seem to have played a significant role in the development of the proposal itself, good evidence of their willingness to work as part of the larger team. As a small department, Informatics does not have a large number of support personnel, but the ones I did meet were clearly members of the overall community and prepared to pitch in whenever and however needed.

III. Students

- 9. Comment on the student population the program seeks to serve, and assess plans and projections for student recruitment and enrollment.**

Because we visited during spring break (due to constraints of my own and my co-reviewer), we did not get a chance to meet current undergraduates. Perhaps because of this, the topic of student characteristics (both now and planned in the future) was one I learned little about. In the proposal, we were provided summary information about students in the current (Information Science) major, which has stabilized at around 225 students; the enrollments in courses offered by the department has grown considerably, particularly the courses that can be used to fulfill general education requirements by other majors. The expectation is that the number of majors will expand considerably once the “regular” B.S. program is approved and advertised.

One specific recommendation is to focus in a creative way on this aspect of the program as it is implemented. For instance other universities (Indiana, Penn State) have found that interdisciplinary programs similar to Informatics are effective at attracting a more diverse population (e.g., in comparison to traditional computer science programs). While this trend seems to be shared as a core belief of the Information faculty and administrators we met, there was little evidence of whether and how this was being pursued on a more systematic basis. For instance, we were unable to learn about the demographics of current students (e.g., gender break down), so had little to work with in terms of predicting the future. We suggest that the department develop and maintain a profile of its students (including factors such as those who enroll directly versus those who “discover” the program along the way) and use this to explore interventions aimed at increasing diversity.

10. What are the prospects that recruitment efforts and admissions criteria will supply a sufficient pool of highly qualified applicants and enrollees?

The senior administrator from Enrollment Management provided documentation of the high school prospects that they should be able to identify as potential new admits over the next few years; it is substantial. There are no special admission criteria (e.g., grade point average) that would ward against growth. However, again drawing from our own experiences in recruiting high school students to similar interdisciplinary degrees, we caution the department against over-relying on central admissions processes. CCI (and the Informatics program within it) should manage some more targeted recruiting on its own, particularly aimed at under-represented demographic segments like women and ethnic minorities. The Informatics department should also expect that many of its majors will enroll only after first joining the university in some other pre-major (or undeclared) status, as these may be the majority of its eventual students.

Another caution concerns the high school preparation of the students who enroll in this program. The core curriculum includes several courses that are relatively technical in nature (e.g., programming, databases) and the experiences from Indiana and Penn State suggest that many students who join the program may be poorly prepared for these sorts of technical courses. It will be important to understand well the students’ background knowledge and skills and be ready to offer special support for students who struggle.

11. Comment on provisions for encouraging participation of persons from underrepresented groups. Is there adequate attention to the needs of part-time, minority, or disadvantaged students?

As mentioned above, we learned very little about students from underrepresented groups, although this is a well-known problem in the computing disciplines in general. Fortunately, the key faculty are already very familiar with these issues and have already begun to redesign courses to make them more broadly engaging and accessible.

One specific suggestion is to consider partnerships with corporate partners, an advisory board, or other philanthropists to fund scholarships for women and minorities; such a program can combine well with targeted recruiting from high schools or regions that have a large existing representation from these demographic groups.

12. Assess the system for monitoring students’ progress and performance and for advising students regarding academic and career matters.

The advising services planned will include individualized attention to each student as she or he moves through the program; the recent addition of a full-time advisor was an important investment to support this goal. The department advising services also coordinates with the university’s central services through the Advising Plus program, whereby students at special risk are given extra care and attention as they deal with whatever challenges are facing them.

13. Discuss prospects for graduates' post-completion success, whether **employment, job advancement, future study, or other outcomes related to the program's goals.**

As documented in the proposal, the prospects for employment by graduates of this program are significant; my guess is that most will move into state government, business or industry positions, although some number may also choose to move on to advanced degrees or professional degrees in law, health or business.

Given the real-world emphasis of the Informatics curriculum, it was a bit surprising that there is not (yet) a focus on career development and placement. We understand that as a medium-size university much of this is still handled through a central organization. However we recommend that the Advising Office grow even further (resources permitting) such that it establishes and maintains partnerships with local industry and businesses; these relationships can then be leveraged for internships and job shadowing experiences, as well as providing contacts for discussions about curriculum outcomes and evolution.

Note that the emphasis throughout the curriculum on team-based learning and experiential learning will be key determinants of the program's success in producing desirable graduates. Both reviewers were able to report from experience that it is just these sorts of "real world" skills that will give Informatics students an edge over their counterparts in liberal arts.

IV. Resources

14. Comment on the adequacy of physical **resources and **facilities**, e.g., library, computer, and laboratory facilities; practica and internship sites or other experiential learning opportunities, such as co-ops or service learning; and support services for the program, including use of resources outside the institution.**

We had the opportunity to visit the new business building and examine the excellent classroom and lab facilities that it provides; we were pleasantly surprised that the business college is more than happy to share these rooms with other programs and that almost all of the INF courses have been able to use the facilities. Even the older classrooms have been fitted up with flexible furniture and equipment that lends itself to small group discussions, multiple approaches to classroom control and flow, and team interactions.

The library also seems to be very well equipped and shows evidence of the worldwide trend to move more research content into an online mode. This means that what used to be shelves and shelves of books and periodicals has been converted into open, flexible, multi-purpose space. These flexible resources will be particularly important to a program such as this one that relies extensively on team-based learning.

15. What is the **institution's commitment to the program as demonstrated by the operating budget, faculty salaries, the number of faculty lines relative to student numbers and workload, and discussions about administrative support with faculty and administrators?**

We were unable to gather specific information about the budget. However it was clear from the expressions of support made by all administrators we met that this is a program with considerable internal backing. The fact that Dr. Goodall was able to win support for new lines in a very competitive funding process was offered at multiple points in time as evidence for how positively this initiative is viewed by the institution. We were told that the university has already committed to fund the lines after the initial (competitive) seed funding is used.

We did not have a detailed discussion of workload relative to student enrollments and faculty availability, but the decision to bring in seven new faculty members is an excellent sign of the institution's general commitment. We also learned that Dr. Goodall in particular has strong working relationships with other colleges and units across the university, which will help to position the program well in any future cross-college negotiations.

IV. Summary Comments and Additional Observations

16. Summarize the **major strengths and weaknesses** of the program as proposed with particular attention to feasibility of implementation and appropriateness of objectives for the degree offered.

Strengths:

The core leadership and the current set of adjuncts are excellent; these individuals are already doing a great job of developing and delivering the needed courses. My only worry is that with the infusion of seven new individuals the department composition will change considerably and it would be a shame if the feeling of community that is so clearly in place now were to diminish.

The very concept of an Informatics degree is a strength. The university will be stronger with this degree in place and the program will produce graduates to fill important needs.

The emphasis on team-based learning and the requirement for significant experiential learning is just the right approach to take for an interdisciplinary problem-centered curriculum such as the one proposed here.

Weaknesses:

Because this program is founded on the preparation of undergraduates for technology-created careers, it would benefit from a strong network with regional business and industry. To some extent, the current adjunct faculty members serve as an informal corporate advisory board (e.g., they are at times recruiting INF students as interns or permanent hires). However, I recommend formation of a more formal advisory board.

Another area to be strengthened is the diversity planning and programming. The leadership clearly believes in attracting a diverse student body but need further analysis and planning to follow through with useful initiatives in this area.

17. If applicable, particularly for graduate programs, comment on the ways that this program will make a **unique contribution** to the field, and its likelihood of achieving State, regional and/or national **prominence**.

This program fills an important gap in IT education, in-between the study of computation (computer science) and the business processes that use computation (business). As an undergraduate curriculum it will join a number of similar programs across the country, and once it succeeds and produces qualified graduates, the university will come to be known for this offering. There is no other SUNY center that offers a degree of this sort, so once the program is established, it should draw applications from across the state.

18. Include any **further observations** important to the evaluation of this program proposal and provide any **recommendations** for the proposed program.

I was very impressed with the amount of planning and thought that has already gone into the program, developing not only the curriculum but ensuring that the resources and other supports were in place. I have recommendations for enhancing the program, but these have been summarized in other sections.

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Institution:

Evaluator Name (Please print.): Dennis Groth

Evaluator Title and Institution: Interim Vice Provost for Undergraduate Education
Indiana University Bloomington

Evaluator Signature: 

Proposed Program Title: Informatics

Degree: Bachelor of Science

Date of evaluation: March 20, 2014

I. Program

1. Assess the program's **purpose, structure, and requirements** as well as formal mechanisms for program **administration and evaluation**. Address the program's academic rigor and intellectual coherence.

The proposal is to create a new Informatics Bachelors degree program within the College of Computing and Information. The Informatics program is aimed at educating students in the application of computation, and to prepare them for computing and information technology careers. Because of the dual focus on computation and domain knowledge where the context of the application of computation is learned, students who graduate with this degree are well prepared for success. Information technology has become pervasive in all aspects of our society, and programs like Informatics address the reality of future professional activities – all professionals must be adept at using technology.

The Informatics program is situated within the College of Computing and Information, which will now provide now a breadth of computing education options well beyond most other university or college in the U.S. This flexibility will enhance the ability to retain and graduate students. The College has an excellent evaluation plan, with a subset of the program learning outcomes evaluated on an annual basis, which will provide a full picture of student learning achievement according to the 7-year program review schedule.

The intellectual rigor and coherence of the program design is clear. Students receive a foundational education in computing and then choose an area to specialize their application knowledge. The design mirrors the general design of other successful Informatics programs in the U.S., but also is made distinctive according to the philosophy and strengths of the University at Albany.

2. Comment on the **special focus** of this program, if any, as it relates to the discipline.

The program is part of a growing population of academic programs in the U.S. that are broadening their educational activities to address both the traditional depth of the computing sciences with the innovative breadth of knowledge in the application of technology in diverse domains. The core of the curriculum covers the expected knowledge areas and leaves room for students to personalize the remainder of their degree program through the selection of domain area courses. This coupling of the pragmatic nature of technology education with an area that the student is passionate about will lead to a new generation of graduates that are critically needed to address problems in today's world.

3. Comment on the plans and expectations for **self-assessment and continuous improvement**.

The plans are straightforward, and align with best practices in program review. In particular, the curricular mapping supports the plan to assess two of the program learning goals per year, which will well support the 7 year review cycle for program review.

4. Discuss **the relationship** of this program to other programs of the institution and collaboration with other institutions, and assess available support from related programs.

The program is situated within the College of Computing and Information at the University at Albany, and therefore has the leadership of one dean. The advantage of this structure is that the Dean can manage the resource commitments necessary to support the new program. At the same time, and in the early stages of the program, there are opportunities for classes from the Computer Science program to be offered to meet the core computing knowledge areas of the Informatics students.

5. What is the evidence of **need** and **demand** for the program locally, in the State, and in the field at large? What is the extent of occupational demand for graduates? What is the evidence that demand will continue?

There is sufficient need, as evidenced by the labor statistics data. From an intellectual standpoint, the program educates the future workforce, which is increasingly reliant upon information technology for innovation. Most technology jobs are in companies where technology is an enabler of efficient and effective work processes and services. Informatics graduates are particularly well suited to work in technology services and consulting.

II. Faculty

6. **Evaluate the faculty**, individually and collectively, with regard to training, experience, research and publication, professional service, and recognition in the field.

The program is new, and its faculty leadership are well established and respected in the field. The faculty chairs in Informatics and Computer Science articulate strong support and a collective willingness to engage across departmental boundaries in order to create a positive and supportive environment.

7. **Assess the faculty in terms of number and qualifications and plans for future staffing.** Evaluate **faculty responsibilities** for the proposed program, taking into account their other institutional and programmatic commitments. Evaluate faculty **activity in generating funds** for research, training, facilities, equipment, etc. Discuss any **critical gaps and plans for addressing them.**

The program is actively hiring multiple tenure-track faculty, and non tenure-track positions. This commitment of funds is key to the program's success and should suffice for the first couple of years. After that, however, should the program grow as other similar programs in the U.S. have demonstrated, the program will need to continue to hire faculty. For example, the Informatics program at Indiana University Bloomington has continuously added new faculty for the last 14 years, including one early year where it hired 14 tenure-track faculty in a single year. I write this anecdote to simply underscore the potential for the program to grow.

8. Evaluate credentials and involvement of **adjunct faculty** and **support personnel.**

The adjunct faculty possess the necessary academic background and work experience to be effective and valuable teaching resources. I was extremely impressed with the sense of community evident amongst the adjunct faculty, and the strong sense of commitment they exhibited for the program and its students.

III. Students

9. Comment on the **student population the program seeks to serve**, and assess plans and projections for student recruitment and enrollment.

The statistics provided by enrollment management indicate a strong available pool. However, the program should be encouraged to develop strong in-reach programs to attract and retain current exploratory students as new informatics majors. The program should develop a team of ambassador students to lead in-reach and outreach activities, with the guidance of the assistant dean and the academic advisor. Ambassadors can meet with prospective students, provide campus tours, discuss their experiences, etc. the student group's composition should model in its demographics the diversity aspirations of the program.

10. What are the prospects that recruitment efforts and admissions criteria will supply a **sufficient pool of highly qualified applicants and enrollees**?

The applicant pool to the University at Albany seems strong, and there are sufficient numbers of students to attract to the program. The Dean should allocate a small pool of annual funds for merit-based, direct admit scholarships. Even small amounts of \$500 or \$1,000 per year can build a strong cohort of 20 of the best students, which can participate in leadership and enhanced learning opportunities. Again, the scholarships should be provided in ways to align with the diversity aspirations for the program. The Dean should be encouraged to develop extramural or philanthropic support for this program.

11. Comment on provisions for encouraging participation of **persons from underrepresented groups**. Is there adequate attention to the needs of part-time, minority, or disadvantaged students?

Informatics offers the breadth of opportunities that assists in attracting a diverse set of students. However, the program should not simply assume that underrepresented students will automatically gravitate to Informatics. The program must intentionally build diversity, and the value that all types of diversity (ethnic, gender, socio-economic, and intellectual) bring to solving complex problems.

12. Assess the system for monitoring **students' progress and performance** and for **advising students** regarding academic and career matters.

The program has superb advising staff, who are dedicated to student and program success. The program should institute a disciplined approach to tracking student progress through courses. Each semester, the flow of all students, broken out by gender and ethnic categories should be tracked and analyzed. This is especially important for core courses taught by other departments. Staff time should be allocated to career preparation, in conjunction with the centralized career center. The program must develop relationships with local companies for internship and full-time career opportunities. A corporate partner program should be investigated to create

relationships and potentially raise funds to support student engagement as well as scholarships.

13. Discuss prospects for graduates' post-completion success, whether **employment, job advancement, future study, or other outcomes related to the program's goals.**

Informatics students have excellent career prospects, as well as advanced graduate school opportunities. Informatics students fit a critical role in technology organizations, often bridging the gap between users and creators of technology. Their analytical skills are outstanding for framing problems and suggesting multiple alternative solutions to address the problems. The program should maintain its vision and goal of developing a holistic professional, who has a combination of technical, organizational, and communication skills. In addition, ghee program should start an alumni board immediately, with some of its graduate students, and develop a pathway for all active students and graduates to be engaged in alumni activities from day one.

IV. Resources

14. Comment on the adequacy of physical **resources** and **facilities**, e.g., library, computer, and laboratory facilities; practica and internship sites or other experiential learning opportunities, such as co-ops or service learning; and support services for the program, including use of resources outside the institution.

Space at every university is always a scarce commodity, but it appears that the needs of the program are sufficient for the near term. However, should the program grow at a rate similar to other Informatics programs in the country it is critical to always be on the lookout for adaptable space to accommodate the needs of a growing program. It will be important to retain cohesiveness to the space, and the Dean should take steps to ensure that the space not be fragmented, to the extent that overall campus facilities can support this goal. Space for undergraduate students should be allocated, and equipped to support informal learning and the important interactions that form a vibrant community. I am not suggesting a room with computers, but rather, a space with a variety of seating styles, tables, etc. to accommodate casual conversations. Do not make this a dark and lonely space - as this will discourage certain populations of students from utilizing the space. Display student work via posters, especially for projects that describe past experiential learning opportunities. Consider creating a service corps, or a similar structure that helps engage the students with the community. This provides for opportunities for the students to see the use of technology in context, and also develops leadership skills, which are valued as they start their careers.

15. What is the **institution's commitment** to the program as demonstrated by the operating budget, faculty salaries, the number of faculty lines relative to student numbers and workload, and discussions about administrative support with faculty and administrators?

The new funding provides a positive start to kickoff the program, and appear to be financially supported in salary and startup funds to establish strong on ramps to productive careers. Professional development funds should be made available to the chair to support the ongoing needs of the non-tenure track faculty and adjunct faculty. This might be used to provide technology (eg. a new laptop) or to support travel to a computing education conference, such as ACM SIGCSE.

IV. Summary Comments and Additional Observations

16. Summarize the **major strengths and weaknesses** of the program as proposed with particular attention to feasibility of implementation and appropriateness of objectives for the degree offered.

The strength of the program is its recognition and support of the application of computation. This diverse perspective yields a new type of professional than traditional computer science-only offerings.

17. If applicable, particularly for graduate programs, comment on the ways that this program will make a **unique contribution** to the field, and its likelihood of achieving State, regional and/or national **prominence**.

The program will establish for students at University at Albany a powerful option for learning computing in applied settings. Certainly within the State and region the program has the potential for developing into a leading program for applied computing education and research. On the national level, it joins a modestly small, but rapidly growing population of programs, which puts University at Albany at the forefront of computing education.

18. Include any **further observations** important to the evaluation of this program proposal and provide any **recommendations** for the proposed program.

During the evaluation of this program I asked every person that was interviewed a simple question: "What is Informatics?" The results were exactly as I expected, in that every answer was different than the others, and also that they were all correct answers. The flexibility of the degree leads to this conundrum of having equally equivalent flexible answers to the definition of the program, but can lead to confusion due to the varying definitions that are projected. However, it is especially important that the program faculty, staff, and students coalesce around a simple definition that can be embedded in literature, talking points, web pages, etc. The employer/hiring community will be helped immensely by this disciplined approach, and the program will be in control of how it projects its capabilities and aspirations.

Version 2013-10-15

Informatics Departmental Response to External Reviewer Recommendations

Dr. Dennis Groth, Associate Dean for Undergraduate Studies, School of Informatics and Computing, Indiana University Bloomington, and Dr. Mary Beth Rosson, Associate Dean of Information Science and Technology, Penn State University, visited campus on March 28, 2014. They met with university, college, and department leadership. Their visit was during the University's spring break week, so they were not able to meet with undergraduates, but they did meet with university administrators who are experts (and partners with the Informatics Department) on innovations in pedagogy and online teaching and learning, as well as current instructors.

Because Informatics is a relatively new and fast-growing field, and the reviewers both come from institutions known for their advances in Informatics programs and curricula, this was a valuable experience for the University at Albany. The reviewers have a wealth of knowledge about these kinds of programs, challenges and opportunities we may face, and strategies for implementing the BS in Informatics at UAlbany. We are grateful for the opportunity and expect to follow up with the reviewers in the future as the program grows.

Reviewer #1: Dennis Groth

*Interim Vice Provost for Undergraduate Education Indiana University
Bloomington*

Comment 1:

The program should develop a team of ambassador students to lead in-reach and outreach activities, with the guidance of the assistant dean and the academic advisor.

Response:

The Department supports and appreciates this idea. We will pursue creating an ambassador program of INF undergraduates as part of the experiential learning within the program for select students in Fall 2014.

Comment 2:

The Dean should allocate a small pool of annual funds for merit-based, direct admit scholarships.

Response:

The Informatics Department agrees that students would benefit from scholarships and will continue conversations with the Dean and Development officer about establishing a fund for Informatics-specific scholarships.

Comment 3:

The program must intentionally build diversity.

Response:

The reviewers made several suggestions on how to build diversity. The Informatics Department values all kinds of diversity and will continue to work with and attend annual meetings of the National Center for Women & Information Technology and promote gender diversity activities through the College of Computing and Information Women in Technology program, led by Dr. Goodall. We also will continue to encourage student participation at the Tapia Celebration of Diversity in Computing and the Grace Hopper Celebration of Women in Computing.

Comment 4:

Each semester, the flow of all students, broken out by gender and ethnic categories should be tracked and analyzed.

Response:

This is a well-taken suggestion. We will begin to do this tracking.

Comment 5:

Staff time should be allocated to career preparation, in conjunction with the centralized career center.

Response:

The current Assistant Dean will continue to develop programs, in conjunction with the centralized career center, specifically for Informatics majors and will seek additional opportunities for students to develop their career preparation skills.

Comment 6:

The program must develop relationships with local companies for internship and full-time career opportunities. A corporate partner program should be investigated to create relationships and potentially raise funds to support student engagement as well as scholarships.

Response:

The Informatics Department consulted an informal group of industry partners during the planning stages of the proposal. The current proposal reflects their recommendations. The Informatics Department also plans to create a more formal advisory board of external partners to support program development, internship and placement opportunities, and opportunities to increase student engagement, during Summer 2014.

Comment 7:

(The) program should start an alumni board immediately, with some of its graduate students, and develop a pathway for all active students and graduates to be engaged in alumni activities from day one.

Response:

The Informatics Department appreciates this suggestion and will include alumni in the previously mentioned advisory board, with a focus on alumni relations. We will also explore the possibility of creating an alumni-specific advisory board.

Comment 8:

Space for undergraduate students should be allocated, and equipped to support informal learning and the important interactions that form a vibrant community.

Response:

The Informatics Department included these kinds of spaces in the Campus Space Planning request and is currently working with the Campus Space Planning team on how best to design this space. We fully appreciate the importance of place-making to develop community.

Comment 9:

Consider creating a service corps, or a similar structure that helps engage the students with the community.

Response:

The Technology-based Community Support class is scheduled to be offered in Fall 2014 and will incorporate this service corps concept.

Comment 10:

However, it is especially important that the program faculty, staff, and students coalesce around a simple definition that can be embedded in literature, talking points, web pages, etc.

Response:

During the Spring Open House (April 2014), new language was tested, based on the suggestions made by these reviewers, namely defining Informatics as “the application of computation.” We felt that it still did not accurately convey the concept, however, and will continue to explore new language. We will hold a retreat at the start of the Fall 2014 semester, when seven new Informatics faculty join the department, to develop a common understanding and language around “Informatics” so we all share the same message.

Reviewer #2: Mary Beth Rosson

Associate Dean of Undergraduate Studies, College of Information Sciences and Technology, Pennsylvania State University

Comment 1:

We suggest that the department develop and maintain a profile of its students (including factors such as those who enroll directly versus those who “discover” the program along the way) and use this to explore interventions aimed at increasing diversity.

Response:

This is a well-taken suggestion. This tracking will be done.

Comment 2:

CCI (and the Informatics program within it) should manage some more targeted recruiting on its own, particularly aimed at under-represented demographic segments like women and ethnic minorities.

Response:

The Informatics Department is currently working with the University’s Media & Marketing department to create marketing materials to attract a diverse range of students.

Comment 3:

It will be important to understand well the students’ background knowledge and skills and be ready to offer special support for students who struggle.

Response:

This is a well-taken suggestion. The undergraduate advisor currently tracks struggling students each semester and will start to collect background information. We also will work with the University’s Advising Plus program to offer additional support to struggling students when they are identified.

Comment 4:

One specific suggestion is to consider partnerships with corporate partners, an advisory board, or other philanthropists to fund scholarships for women and minorities; such a program can combine well with targeted recruiting from high schools or regions that have a large existing representation from these demographic groups.

Response:

The Informatics Department agrees that students would benefit from scholarships and will continue conversations with the Dean and Development officer about establishing a fund for Informatics-specific scholarships. The Informatics Department also plans to create an advisory board of external partners to support program development, internship and placement opportunities, and opportunities to increase student engagement, during Summer 2014.

Comment 5:

However we recommend that the Advising Office grow even further (resources permitting) such that it establishes and maintains partnerships with local industry and businesses; these relationships can then be leveraged for internships and job shadowing experiences, as well as providing contacts for discussions about curriculum outcomes and evolution.

Response:

The Informatics Department will continue to develop deeper relationships with industry partners and to enhance the academic advising experience.

Comment 5:

I recommend formation of a more formal advisory board.

Response:

The Informatics Department plans to create an advisory board of external partners to support program development, internship and placement opportunities, and opportunities to increase student engagement, during Summer 2014.

Comment 6:

Another area to be strengthened is the diversity planning and programming.

Response:

The Informatics Department values all kinds of diversity and will continue to work with and attend annual meetings of the National Center for Women & Information Technology and promote gender diversity activities through the College of Computing and Information Women in Technology program, led by Dr. Goodall. We also will continue to encourage student participation at the Tapia Celebration of Diversity in Computing and the Grace Hopper Celebration of Women in Computing. Additionally, we expect that the new faculty hires will have a strong sense of diversity concerns and will enhance the planning and programming offered to students.