

MINUTES OF THE GRADUATE CURRICULUM COMMITTEE MEETING
May 14, 2002

PRESENT: Bidstrup (ChE), Bostrom, (PUBP), DeWeerth (ECE), Green (MATH), Hertel (ME), Jagoda (AE), Lee (ME), McDowell (ME), McIver (REG), Parsons (MGT), Peterson (ECE), Sanders (MSE), Venkateswaran (COC), Will (CEE)

1. Reviews of graduate programs were conducted for the programs for which-review documents from the Program Review Committee were available: Architecture, ISYE, CoC, HTS, Management, and Psychology. Attached are the written assessments those programs provided to the chair by members of the GCC.

Adjourned

Nolan E. Hertel
Chair, GCC

Review of the Graduate Architecture Program of the College of Architecture

The Graduate Curriculum Committee, Georgia Institute of Technology

May 14, 2002

The self-study document submitted for the Georgia Tech Program Review consists of the self-study materials completed for the National Architectural Accrediting Board's (NAAB) re-certification visit for the Spring 2002. The document addresses the architecture degree programs (BS in Architecture, post-professional Master of Architecture, Master of Science, Master of Architecture degree, and an interdisciplinary Ph.D. program) within the college and not of the other four degree granting academic programs within the College.

The Master of Architecture degree is the first professional degree in architecture and therefore is the focus of the re-certification self-study. The Program is ranked highly in several rankings of Architecture degree programs. The curriculum is comparable to national norms and is an accredited professional program. The program has more than adequately address the findings of the 1997 NAAB Visiting Team. The program has an elected committee which assesses the efficacy of the program courses in satisfying accreditation criteria as well as contributing to broader curricular objectives.

One cited weakness is the inability to reach the desired graduate enrollment level the College desires. Efforts in this area has been hampered by the lack of success in retaining and recruiting the COA's top BS graduates for continuation in the graduate program. In addition, space to carry out many of the unique aspects of the degree program is apparently lacking.

Surveys carried out by the College indicate a high level of satisfaction with the majority of the alumni of the graduate program who graduated between 1995-2000. However, 25% of them indicated that they were not satisfied with the academic advising which they received and over 30% of them were dissatisfied with the available library resources and computer/information technology resources.

The program is a professional program which has unique characteristics that are distinctly different from many of the other degree programs on campus. The quality of the curriculum and the faculty appear to be high. The program is well subscribed and essential to the State of Georgia.

The information provided in the self-study was adequate for assessing the Architecture degree programs but not for assessing all of the programs in the College of Architecture. A more concise presentation of the material in the self-study would greatly assist in the review process.

Review of the Graduate Programs of the School of Industrial and Systems Engineering

The Graduate Committee, Georgia Institute of Technology

May 14, 2002

The School of Industrial and Systems Engineering has a wide variety of programs and offerings, including a number of interdisciplinary degree programs. Its doctoral programs allow seven areas of concentration. Six of these lead to the PhD in Industrial and Systems Engineering, and the seventh (Algorithms, Combinatorics and Optimization) is a highly selective interdisciplinary degree program with its own separate degree requirements. The School offers six designated MS degrees, including a new “niche” masters in Quantitative and Computational Finance and a degree in statistics, both of which are interdisciplinary. The School’s programs are in considerable demand and are highly ranked by professional organizations. In particular, the School is often cited as the best of its kind.

Offerings and faculty expertise are very broad, and appear to be more than adequate to sustain these programs. The frequency of course offerings is also sufficient. Survey results indicate a high level of satisfaction among alumni. Substantial financial support for doctoral students is available, and the School’s students include many winners of major fellowships, e.g., National Science Foundation Graduate Fellowships. The School’s chief weakness, as pointed out by the School in its self-study, seems to be that many of its classes are too large,. Reducing the class size will probably require additional resources, and the School may wish to admit fewer students.

The strengths of the School lead to some unique or nearly unique characteristics, which deserve to be preserved. In particular, its faculty is diverse and of a very high quality. In addition, the participation of the School in so many interdisciplinary programs (Algorithms, Combinatorics and Optimization, Statistics, and Quantitative and Computational Finance) gives it great breadth and provides for considerable additional impact. The ACO and QCF programs are particularly in demand, with very impressive applicant pools.

The information provided in the School’s Self-Study was quite adequate for this program review.

Review of the Graduate Programs of the College of Computing

The Graduate Committee, Georgia Institute of Technology

May 14, 2002

How do the curricula at the MS and PhD levels compare to national norms?

There is evidence of an excellent record of placement of graduate students in academic, research, and industry/business positions. There has been an increase in the enrollment in the CoC PhD and Master's students and the CoC appears to meet its educational objectives of preparing students for both academic and non-academic careers. The curricula encompasses the breadth and depth of the fundamental knowledge required of students obtaining a degree in this field. The curricula appear to meet the educational needs and objectives of top 10 programs as indicated in the Program Review Materials prepared by the College of Computing.

Is there evidence of program quality and value added?

There are numerous opportunities for research experience as well as practical application of the knowledge gleaned from coursework.

Are there weaknesses?

Course coverage may be a weakness but this appears driven by resource needs of the College not by any inherent problem with the curricula or commitment of the faculty.

Due to the high growth rate experienced by CoC, the demand for office space, laboratory space, and classroom space is critical. A new building is currently being designed but will not be available for two-three years. Additional space is critically needed between now and when the new building is available for usage.

Are there unique characteristics that contribute to high quality?

The CoC has experienced higher quality of graduate students over the past several years and plans to continue to improve the quality.

The CoC is also focusing on interdisciplinary areas of emerging importance as well as the traditional areas of computer science. This bodes well for other units at Georgia Tech outside of the CoC that have computer science related research and programs.

Is there sufficient demand for the program to remain viable?

The demand is high and it continues to grow.

Was documentation adequate?

Documentation is adequate and the College of Computing just completed an External Review which was included at the front of the documentation.

Review of the Graduate Programs of the School of History, Technology and Society

The Graduate Committee, Georgia Institute of Technology

May 14, 2002

The graduate programs in the School of HTS consist of a Masters and Doctoral program. These graduate programs fill an important niche at Georgia Tech, providing the social and historical context for science and

technology. They rate among the top three or four in the country, according to the materials provided.

The graduate program is small in size with a strength of about 20 students (both Masters and Doctoral students combined). The quality of these students is quite high and comparable to those in the top three or four such programs. There is a Fulbright scholar among the students. Graduate students and faculty participate in several joint projects at the institute. There is also participation with a similar program at the Deutches Museum in Munich. The program has graduated four Ph.D.s all of whom have found positions in their area of expertise. While some students graduate with terminal Masters degrees, it appears that the Masters degree program serves mostly as preparation for the doctoral degree. Of the 22 Masters students, 7 of them have taken jobs while the remaining have gone on to do a Ph.D. The faculty have recently revised the curriculum for the Masters (lowering the number of credits required) in an attempt to increase its draw, the effect of which remains to be seen.

The normal teaching load for faculty is 2 courses per semester. The average class size ranges from 50 to 60.

HTS appears to be managing the programs well, and giving careful thought to regular assessment of educational outcomes. Students in the programs are receiving prizes, grants and jobs. The high quality of the faculty and students and a clear focus (bringing a social and humanities dimension to science and technology) make this program unique. The school of HTS has generated about \$8.5 million in external funding. One of the successful initiatives of the school, in alliance with LCC, has been the WST (Women in Science and Technology program). WST sponsors a focused research program with active involvement of faculty and graduate students from all the Colleges at the Georgia Tech. The program is supported by a \$3.7 million grant from NSF.

The graduate program has many challenges as well: (a) Limited flow of applicants, matriculants, and graduates. (b) Limited number of U.S. applicants and students. (c) Lack of office space and financial support for graduate students. (d) Turn over in faculty.

The programs mentioned by HTS as benchmark programs are also listed by the Society for the History of Technology on its web-site, <http://shot.press.jhu.edu/graduate.htm>. Where graduation statistics are listed, the programs graduate on the order of 1-3 doctoral students a year. Hence in all cases, this kind of program is small - a 'niche' program. Thus while the graduate program in HTS is important, and the program has had good success in placing students to date, it probably will (and should) remain small. As HTS faculty themselves remark, demand for the program has not been high.

It would have been easier to evaluate the program if better benchmarking data had been provided (more information about competitors). The numbers provided on page 39 are somewhat difficult to interpret - and it is unclear why the lines of "NA" have been included next to "peer programs." This is somewhat mitigated by the external program review recently completed for the department. That review is in general confirms the findings reported here. At one point in the materials HTS states that its doctoral program 'like many at Georgia Tech' originally did not require much course-work beyond the Masters. Note that many if not most of the doctoral programs on campus require significant course-work beyond the Masters.

While one of the reviewers from the GCC understands that HTS graduate course offerings are populated by students from all over the Institute, this did not come across in the materials provided. The HTS graduate courses - content, instruction and enrollment, for example - were not described very well in the materials made available for review.

Material available on the HTS web-site fills in some holes, albeit unevenly. Material on HTS 8001 available on the HTS web-site, for example, made it evident that this graduate readings seminar is "team-taught by faculty at Georgia Tech, Emory, and Georgia State." Such collaboration is laudable, and benefits all concerned.

Recommendations for the School and the Program:

1. Target GT undergraduates specifically in your marketing efforts to recruit graduate students.
2. Increase interaction with other units. HTS is already involved in such activities such as the WST program. There are many on campus too who would benefit from greater interaction with the HTS graduate program and its offerings.
 - a. Offer courses for graduate students in other disciplines that provide a social perspective to science and technology: for instance, social responsibility for scientists and technologists. A certificate program or a focus program could be planned that students from other units can take to fulfill the minor requirements or earn a certificate in this area.
 - b. Offer graduate seminars about the history of specific disciplines with the co-operation of the concerned disciplines. This would be one way of connecting with the other units on campus.
 - c. Put together an institute-wide HTS talk series bringing in well known social scientist and historians. Widely publicize HTS seminars on campus.

Recommendations for the Institute:

Although a small graduate program like that in HTS is unlikely to be able to support itself, its niche in the Institute is important and should be supported and recognized. In order to continue to attract and retain high quality faculty and graduate students, the Institute should provide sufficient resources to be competitive with comparable programs elsewhere:

1. Office space for graduate students: Recognizing that space constraints in the DM Smith building are severe for all units housed there, we nevertheless recommend that the Institute undertake a review of graduate student space needs on campus, as there appear to be inequities and perhaps a shortage of graduate student space in general. This is a competitive disadvantage for the School of HTS in attracting graduate students.
2. Funding for graduate students: The school considers, rightly so, that the lack of funding for graduate students to be one of the most serious problems facing its graduate program. The external committee that reviewed the program recently pointed out that while HTS provides a \$10,000 academic year stipend, comparable programs elsewhere (MIT for example) pay around \$17,000 in stipend, in addition to providing benefits and office space. Current sources of funding are from external sources such as gifts and grants, and from other units such as ECE. Guaranteed support for Ph.D. students is essential to attract good students to the program. Last year (2001-02), no graduate student entered the Ph.D. program.
3. Access to archival materials: This may be problematic at GT. The Institute might consider offering some limited subsidies to allow graduate students archival access when deemed essential for dissertation work.
4. A Centralized calendar for public seminars and other events: Technological advances are such that it should no longer be a problem for Georgia Tech to have a centralized calendar for public seminars and other events. Given that Tech is about to undergo a major redesign of its web-site, it seems only appropriate that a centralized calendar be considered as part of the redesign. Such a resource would enrich graduate student experiences and facilitate interdisciplinary education on campus.

Review of the Graduate Programs in the College of Management

The Graduate Committee, Georgia Institute of Technology

May 14, 2002

How do the curricula at the MS and PhD levels compare to national norms?

According to the self-study and the site visitors, the programs are clearly aligned with national norms. All degrees are accredited by AACSB (most recently during year 2000). At the graduate level, degrees offered included the MSM (comparable to an MBA), an undesignated MS reserved for students in a foreign-exchange type of program, an MS-MOT degree offered in executive (weekend) mode only, and a PhD. There is also a new MS in Quantitative and Computational Finance program that recently began admitting students.

Is there evidence of program quality and value added?

Yes

Are there weaknesses?

The weaknesses noted by the site visitors were limited to the need to rename the MSM degree an MBA degree (already in progress), and the need to better couple the programs to the technology-oriented emphasis of Georgia Tech as a whole. The latter point will require the faculty to resolve the mission of the unit with that of Ga Tech as a whole and to revise the curriculum accordingly.

Are there unique characteristics that contribute to high quality?

Nothing special noted.

Is there sufficient demand for the program to remain viable?

Yes, there are approximately 200 students in the MSM program, and approximately 100 graduate per year. There are approximately 30 in the PhD program, with approximately 5 graduating each year.

Provide specific recommendations:

None.

Finally, was the documentation adequate to answer the above; if not what other specifics would you like to see reported?

Generally adequate