

Graduate Curriculum Committee
Minutes
Thursday September 8, 2016

Present: Breedveld (CHBE), Pikowsky (Registrar), Balch (CoC-IC), Dixon (ME), Dovrolis (CoC-CS), Flowers (CoD-ARCH), Jagoda (AE), Ries (ECON), , Bamburowski (Grad. Studies, for Cozzens, VP-GE&Fac. Dev.)

Visitors: Hodges (REG), White (CoC), Tucker (GTLI), Mitra (CoB), Bramblett (IRP/DSS)

Note: All action items in these minutes require approval by the Academic Senate. In some instances, items may require further approval by the Board of Regents or the University System of Georgia. If the Regents' approval is required, the change is not official until notification is received from the Board to that effect. Academic units should take no action on these items until USG and/or BOR approval is secured. In addition, units should take no action on any of the items below until these minutes have been approved by the Academic Senate or the Executive Board. It may also be that approval of the Southern Association of Colleges and Schools is required.

The Committee has set a minimum of 13 voting members to establish a quorum and conduct official business.

There was no quorum for the face-to-face meeting. An email ballot subsequently approved the actions of those Committee members who were present at the meeting and approved the Minutes themselves. A quorum of the members participated in the email ballot.

Discussion of Cooperative Agreements

1. David Bamburowski, Director of Graduate Studies, presented for the Committee's information Memorandum of Understanding documents to renew the cooperative agreement between GT Lorraine & Institut Mines-Télécom (France) and to establish a cooperative agreement between GT Lorraine & Mid Sweden University (Sweden).

Institut Mines-Télécom (France) and GT Lorraine
Renewal of cooperative agreement – Acknowledged

Mid Sweden University (Sweden) and GT Lorraine
Establishment of cooperative agreement – Acknowledged

Administrative Matters

1. Dr. Brandon Dixon (ME) and Dr. Tucker Balch (CoC-IC) were elected to serve on the RCR (Responsible Conduct of Research) Subcommittee.
2. The only remaining work for the subcommittees is to finalize the Petitions Subcommittee.

Academic Matters

1. A motion was made to *approve* a request from the School of Business to make a correction to an equivalent listed for a course. The motion was seconded and approved.

Equivalency Correction – APPROVED **MGT 6509 Legal & Ethical Business**

The original NCP for MGT 6509 listed MGT 6126 as the equivalent meaning students would not receive credit for MGT 6509 and MGT 6126 if they took both courses. **The correct equivalency should be corrected to MGT 6128.** The School of Business submitted an updated NCP to reflect the change requested.

2. A motion was made to *approve* a request from the College of Computing for a degree modification. The motion was seconded and approved.

Degree Modification – APPROVED **Master of Science in Computer Science**

The College of Computing is requesting to add CS 7280 (existing course) to the Computing Systems concentration.

Concentration in Computing Systems

Core Courses (9 hours)

CS 6505 Computability, Algorithms, and Complexity

And pick two (2) of:

CS 6210 Advanced Operating Systems

CS 6241 Compiler Design

CS 6250 Computer Networks

CS 6290 High-Performance Computer Architecture

CS 6300 Software Development Process

CS 6400 Database Systems Concepts and Design

Electives (9 hours)

Pick three (3) courses from:

- CS 6035 Introduction to Information Security
- CS 6235 Real Time Systems
- CS 6238 Secure Computer Systems
- CS 6260 Applied Cryptography
- CS 6262 Network Security
- CS 6310 Software Architecture and Design
- CS 6340 Software Analysis and Testing
- CS 6365 Introduction to Enterprise Computing
- CS 6422 Database System Implementation
- CS 6550 Design and Analysis of Algorithms
- CS 6675 Advanced Internet Computing Systems and Applications
- CS 7210 Distributed Computing
- CS 7260 Internetworking Architectures and Protocols
- CS 7270 Networked Applications and Services
- CS 7280 Network Science**
- CS 7290 Advanced Topics in Microarchitecture
- CS 7292 Reliability and Security in Computer Architecture
- CS 7560 Theory of Cryptography
- CS 8803 FPL Special Topics: Foundations of Programming Languages

3. A motion was made to *approve* a request from the Office of Graduate Studies to increase the minimum TOEFL score requirement for graduate admissions. The motion was seconded and approved.

TOEFL Score, Minimum Requirement, Increase - APPROVED

The Office of Graduate Studies seeks approval of an amendment to the Georgia Tech Catalog to:

1. Increase the Institute minimum score for admission from 79 to 90 for the TOEFL iBT, and from 550 to 577 for the TOEFL PBT.
2. Add minimum section score requirements of 19 for each skill on the TOEFL iBT, and corresponding minimum on the TOEFL PBT listening, writing, and reading sections.

A number of data sets were analyzed to inform the recommendation to increase the minimum TOEFL score requirement including:

- Percentile rank among test-takers of the current and proposed minimum scores
- TOEFL scores of current students

- Current degree programs whose minimum scores are below the proposed minimum
- Peer institutions with institute-wide minimum scores

See Appendix A for more details.

Student Petitions

Votes on petitions may or may not be unanimous. Based on the confidential nature of petitions, the internal notes taken at the meeting serve to keep track of whether, in each case, the vote was unanimous.

1. The summary of recent administrative actions was not available and will be presented at the next meeting.
2. A motion was made to deny a petition for admission without possession of a regionally accredited undergraduate degree. The motion was seconded and approved. This petition came forward as an appeal of the Graduate Studies decision to deny admission.
3. A motion was made to deny a petition for admission without possession of a regionally accredited undergraduate degree. The motion was seconded and approved. This petition came forward as an appeal of the Graduate Studies decision to deny admission.
4. A motion was made to table a petition for admission without possession of the equivalent of a 4-year U.S. Bachelor's Degree. The motion was seconded and approved. The petition came forward as an appeal of the Graduate Studies decision to deny admission based on the lack of an equivalent undergraduate degree. The full application file will be provided to the Committee and reviewed at the next meeting.

Adjourned,
Reta Pikowsky, Registrar
Secretary

APPENDIX A

1. *TOEFL Scores of Current Students:*

Georgia Tech's Office of Institutional Research and Planning has provided a review of graduate student TOEFL scores to the Office of Graduate Studies (provided as Attachment 2). As shown in Figure 2 below, 7.8% of Georgia Tech graduate students enrolled during fall 2015 scored below the proposed minimum score of 90.

¹ Test and Score Data Summary for TOEFL iBT® Tests:
https://www.ets.org/s/toefl/pdf/94227_unlweb.pdf (Attachment 2)

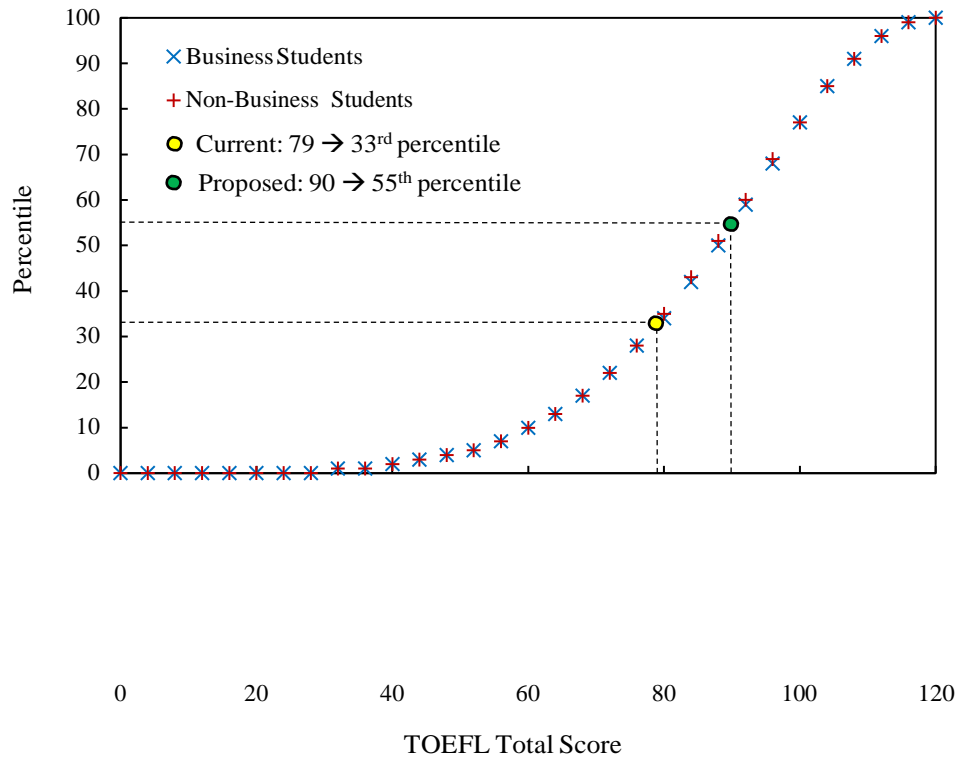


Figure 1 – Percentile rank of worldwide TOEFL test-taker scores. The current institute minimum of 79 ranks in the 33rd percentile (yellow dot) while the proposed minimum of 90 ranks in the 55th percentile (green dot).

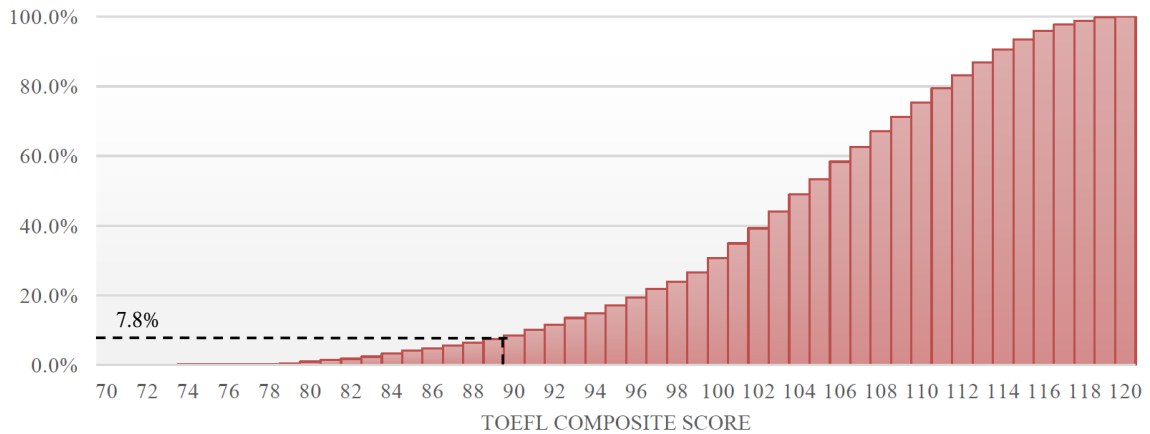


Figure 2 – Cumulative step function for TOEFL scores for graduate students enrolled in fall 2015².

² Taken from Georgia Tech’s IRP Review of Graduate Student TOEFL Scores (Attachment 2)

2. *urrent Degree Program Standards:*

Two findings of the IRP report relevant to this proposal are:

1. TOEFL scores do not have especially strong relationships with student outcomes, and
2. a discontinuity in frequency counts between scores of 99 and 100 suggest many programs tend to use a score of 100 as a floor for acceptance (illustrated in Figure 3)Figure 1.

Apparent floor of 100 already in use for
many departments

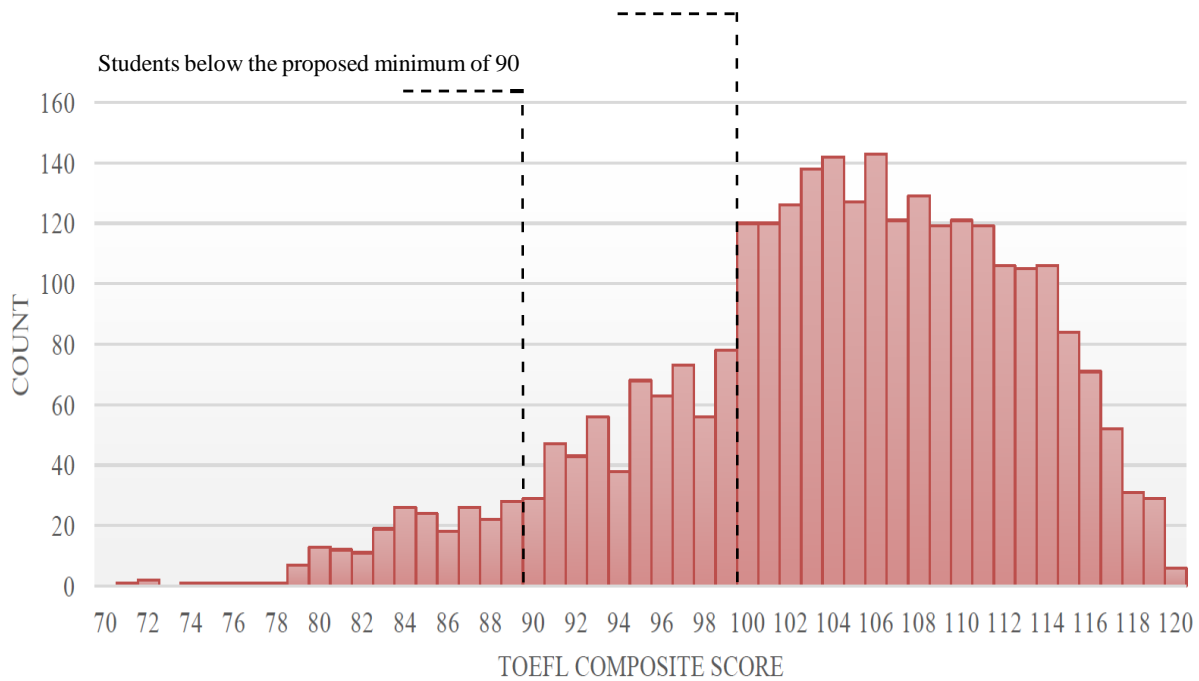


Figure 3 – Distribution of TOEFL scores for graduate students enrolled in fall 2015.

Table 1 lists Georgia Tech schools and associated minimum scores for admission. Most schools under the proposed minimum of 90 use the current TOEFL iBT minimum of 79. The School of Chemical and Biomolecular Engineering is the exception and uses a minimum score of 85. Scores for interdisciplinary degree programs are listed in Table 2. Minimum scores for these programs often vary based on a student’s home department.

Table 1 – List of Georgia Tech schools and associated minimum iBT scores. Schools utilizing a minimum score lower than the proposed Institute minimum of 90 are highlighted in yellow. (continued on next page)

College	School	iBT Minimum
Design	Architecture	100
	Building Construction	95 PhD, 79 MS
	City and Regional Planning	100
	Industrial Design	100
	Music	100
Computing	Computer Science	100
	Interactive Computing	100
	Computational Science and Engineering	100

Table 1 continued.

College	School	iBT Minimum
Engineering	Aerospace Engineering	79
	Biomedical Engineering	100
	Chemical and Biomolecular Engineering	85
	Civil and Environmental Engineering	79
	Electrical and Computer Engineering	79
	Industrial and Systems Engineering	79
	Materials Science and Engineering	105
	Mechanical Engineering	94
Ivan Allen	Economics	79
	History and Sociology	79
	International Affairs	100
	Literature, Media, and Communications	114
	Public Policy	100
Sciences	Applied Physiology	79
	Biology	100
	Chemistry and Biochemistry	100
	Earth and Atmospheric Sciences	79
	Mathematics	96
	Physics	106
	Psychology	79
Scheller	MBA/PhD	100
	Executive Programs	100

Table 2 – List of Georgia Tech interdisciplinary degree programs and associated iBT minimum scores. In many cases, the minimum score is mandated by the “home school” of a student applying for admission.

Interdisciplinary Programs	iBT Minimum
Algorithms, Combinatorics, and Optimization	See Home School
Analytics	100
Bioengineering	See Home School
Bioinformatics	100
Computational Science and Engineering	See Home School
Human-Computer Interaction	100
Paper Science and Engineering	See Home School
Quantitative Biosciences	100
Quantitative and Computational Finance	95
Robotics	See Home School
Statistics	See Home School

3. Georgia Tech Peer Institutions

A number of Georgia Tech's peer institutions³ mandate minimum TOEFL scores to be eligible for admission. Table 3 lists these institutions and their respective minimums.

Table 3 – List of peer institutions and mandated minimum TOEFL scores.

Peer Institution	iBT Minimum	Section Scores
University of Illinois – Urbana-Champaign	102	
Johns Hopkins University	100	
Stanford University	100	
University of Washington – Seattle	92	
University of California – Berkeley	90	
University of California – Los Angeles	87	
University of Michigan	84	
North Carolina State University	80	
Pennsylvania State University	80	S-19
Texas A&M University	80	
University of Florida	80	
Virginia Tech	80	
University of Minnesota	79	R-19; W-21
Massachusetts Institute of Technology	varies by dept (90-100)	
Carnegie Mellon University	varies by department	
Cornell University	varies by department	R-20; L-15; S-22; W-20
Purdue University	varies by department	R-19; L-14; S-18; W-18
University of Texas – Austin	varies by department	
California Institute of Technology	none specified	
Northwestern University	none specified	
*University of Georgia	80	S-20; W-20

4. Other Considerations

As reported previously from the IRP report, TOEFL scores do not have especially strong relationships with graduate student outcomes. However, it's important to consider the success of undergraduates as well. Many graduate students will at some point hold a Teaching Assistantship and will interact with undergraduates through their assigned courses. Poor English language proficiency can have a profound impact on undergraduates who rely on TAs as a resource for course support. The committee may want to consider additional, higher minimum standards for graduate students who are granted Teaching Assistantships.