

# **NJIT CUE-GUR Subcommittee Fall2015–Spring 2016 Report**

**May 05, 2016**

**Members:** Basil Baltzis, Ecevit Bilgili (Chair), Ashish Borgaonkar (non-voting), Amit Bose, Brian Callahan, Barry Cohen, Alev Erdi, Eric Hetherington, Burt Kimmelman, Dawn Klimovich, Frederick Little, Vincent Oria, Stephen Pemberton, Nisthisha Prasad (Student Senate representative), Ron Rockland, Hindy Schachter, Davida Scharf, Marek Sosnowski

## **Summary of subcommittee activities**

The GUR subcommittee held five meetings in Fall 2015 with the objective of identifying the competencies that NJIT students are expected to develop. The subcommittee approved a working list of 10 competencies at their Dec. 07, 2015 meeting (10 in favor, 1 opposed, 0 abstained). In the same meeting, the subcommittee approved that Physical Education is not considered to be part of GUR (10 in favor, 0 opposed, 1 abstained). The subcommittee continued to work on the working list and approved a revised version of 10 competencies at their Feb. 08, 2016 meeting (10 in favor, 0 opposed, 0 abstained). **This revised version of the competencies and their descriptions are given in Appendix A.**

Starting with the March 07<sup>th</sup> meeting, the GUR subcommittee collected input from the deans of various colleges, Institutional Research and Planning Office, and Student Senate and asked for their views and suggestions for improving the current GUR system at NJIT. **All input from the various stakeholders can be found in NJIT Moodle CUE-GUR/Basics folder, which can be accessed via the following link: <http://njit2.mrooms.net/course/view.php?id=5410>.**

**In our March 07<sup>th</sup> meeting, Dean Moshe Kam (NCE) and Dean Urs Gauchat (CoAD) delivered their presentations to the subcommittee.** Dean Kam laid out a proposal from NCE showing how NCE would like their students to develop five abilities, and the proposal indicated which courses should be developed in cooperation with NCE and which courses could be team taught with NCE. Regarding general university requirements or general college-level requirements, Dean Kam indicated that general college-level requirements are more appropriate as what is necessary for graduates of a college of engineering may overlap with, but need not be coextensive with, what graduates from other colleges require. **Dean Gauchat** urged that our focus be not on courses, but objectives; not requirements, but education, and that we want our students to be educated not just well-trained. The employers of our students have noted some proficiencies lacking in our students which the GUR should be instrumental in developing (e.g., communication, ability to respond to criticism). The Dean suggested that the GUR should be providing skills that allow our students to transition from technical workers to managerial professionals. If a forward-thinking vision is presented as the framework for the GUR, we will be better able to represent it to our students and ourselves.

**The subcommittee reflected on the input from Dean Moshe Kam (NCE) and Dean Urs Gauchat (CoAD) and discussed various topics in the March 28<sup>th</sup> meeting.** The consensus was that the feedback/input from all deans along with student feedback will be considered during the

process of evaluating our current GUR system at NJIT. Pros/cons of university-wide requirements vs. college/discipline-specific requirements or a hybrid of both where certain credits were associated with each were discussed, but the subcommittee did not reach a consensus.

**The focus of the April 04th meeting was presentations by the two invited deans: Reggie Caudill (SOM) and Kevin Belfield (CSLA).** Dean Belfield stated that general education requirements (equivalent to NJIT's GUR) have been gaining attention and there are a variety of opinions about the subject. Overall, Dean Belfield feels the current GUR is well equipped to provide an integrated, cumulative program of study for NJIT students. The Dean indicated that the Humanities part of GUR program must continue to be cumulative and spread across the students' time at NJIT because skills will deteriorate if they are not used. The Dean did add that staffing GUR Humanities offerings with full-time faculty would be preferable to using so many adjuncts. Also, the class sizes for many of these courses are above those recommended by professional organizations. Finally, Dean Belfield stressed the importance of maintaining consistency across early GUR requirements to facilitate students changing their major and possibly their college during their first two years of study. In the first part of his talk, **Dean Caudill** described the results of an informal survey he conducted with approximately 30 companies that have hired our students. Companies are looking for students who have strong management skills, people skills, leadership skills, communication skills, technology skills, can work in teams. The takeaway is that companies want technical and managerial skills, which suggests that our students must learn to cut across disciplinary boundaries. Dean Caudill also mentioned the importance of experiential learning through co-ops and students working in interdisciplinary teams. The Dean felt that GUR courses should not be offered by SoM, whose students should learn from the experts by taking courses in other colleges. After the deans' presentations, the subcommittee also discussed university-wide requirements vs. college/discipline-specific requirements, but no consensus emerged. The meeting ended with two major discussions: the first one was about the current GUR structure and continuous improvement; the second one was about the possible inclusion of co-ops within GUR. Due to differing views on these topics, no consensus emerged as to how continuous improvement can be achieved or how co-ops should/can be brought into the existing GUR structure.

**In our April 18<sup>th</sup> meeting, Davida Scharf made a presentation regarding the use of rubrics to assess competencies.** She described in detail the rubrics developed by the Association of American Colleges and Universities (AACU) and how these could, potentially, be applied to the list of competencies that we have already developed. These rubrics can be used for assessment purposes, but can also serve to help design a course. Long discussion followed the presentation on various aspects of the possible implementation of such rubrics. While several members spoke favorably of the use of rubrics, noting that it clarified for the student what was expected of them, other members raised various concerns/questions which pertain to ownership (who will develop the rubrics?), implementation, and most importantly review/oversight; hence, a consensus did not emerge.

**The subcommittee obtained input from Perry Deess (Institutional Research and Planning) on Middle States Requirements and the Student Senate representatives on May 02<sup>nd</sup> meeting.** Perry presented the current Middle States Grid —to be updated by Middle States (see Appendix B), which documents how the competencies are connected to General Education requirements and how assessment is an integral part of the grid. It appears that the 7 competencies listed currently in the grid can be mapped to the 10 competencies identified by the subcommittee (Appendix A); however, the subcommittee did not discuss how/when this mapping can be done.

The student senate representatives presented their survey results ( $N = 421$  students) about the GUR requirements/courses and indicated their concerns/suggestions. Regarding their satisfaction with the GUR courses, 44% responded neutral; 38% were not satisfied vs. 18% satisfied. Regarding the changes requested about GURs, two most popular responses were “fewer requirements” and “college-based requirements”. Besides these survey results, the three representatives made some qualitative suggestions. They mentioned that GURs should involve students taking courses outside of their disciplines. The strongest complaints about the GURs were about instructors and course standards as well as significant variability among the sections.

### **Tentative plan for 2016–2017 academic year**

Although the subcommittee will discuss and decide on a plan of action when it reconvenes in Fall 2016, a potential plan could involve the following activities:

- Analyze the input given by all stakeholders further and develop a SWOT (strengths–weaknesses–opportunities–threats) type analysis for NJIT GURs
- In view of the weaknesses, continue to discuss if current GUR structure needs any change (current vs. college-specific requirements vs. some sort of hybrid university–college requirements, etc.)
- Develop strategies to map existing courses to 10 competencies while potentially modifying the competency definitions and establish some connectivity to Middle States Requirements
- Further discuss and come up with a strategy as to how assessment can be integrated with Competencies and into Middle States Competency Grid
- In view of the above, make recommendations to CUE

## APPENDIX A. List of approved competencies and their descriptions

- 1. Reasoning/Critical Thinking:** Identify issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion. Critically and creatively analyze, evaluate, interpret, and synthesize information and apply creative thought to (1) form an argument, (2) solve a problem, or (3) reach a conclusion.
- 2. Information Literacy:** Recognize when information is needed and locate, evaluate, analyze, and effectively and responsibly use and share the needed information, regardless of medium or format.
- 3. Effective Communication:** Communicate correctly, clearly, and effectively, both orally and in writing in the appropriate genres and using standards and stylistic conventions in academic, professional and societal settings.
  - Demonstrate awareness of context, audience, and purpose.
  - Demonstrate effective use of different writing technologies and mixed media.
- 4. Quantitative Reasoning/Mathematics:** Reason and solve problems using quantitative methods including probability and statistics to describe, investigate, and understand the world, and to apply mathematical models to a variety of circumstances, which are fundamental to making informed decisions in the modern world. Create arguments supported by quantitative evidence and communicate those arguments in a variety of formats (using words, tables, graphs, equations, etc., as appropriate).
- 5. Scientific Literacy:** Explain and apply scientific concepts and processes required for professional, personal and civic decision making. Apply the scientific method to empirical study of the world by planning, conducting, and analyzing controlled and laboratory experiments in at least one basic science (biology, chemistry, physics) to provide evidence for empirical claims.
- 6. Technological Literacy:** Use tools to access, manage, integrate, evaluate, manipulate, create and solve problems or communicate information. Analyze the development, evolution and impact on society of technologies past, present and future.
- 7. Computing Literacy:** Propose solutions using the methods of computer science including its computational, algorithmic, and organizational methods. Apply these methods in the student's major field of study.
- 8. Cultural Literacy:** Analyze historical, social, political, economic, and aesthetic phenomena and traditions in order to understand human behavior in the past, present and future, taking into account the diversity and many frameworks of human culture.
- 9. Organizational Literacy:** Apply knowledge of how management structures, behavior patterns and individual and group relationships work within organizations to achieve human, organizational and social objectives.
- 10. Ethical Literacy:** Identify different systems of ethics and analyze the context of ethical dilemmas and their consequences. Articulate their own values and analyze the ramifications of alternative actions in academic, personal and professional settings.

## APPENDIX B. Middle States Competency Grid

Middle States competency	Articulate this competency or goal as an assessable learning outcome.	Which Gen Ed requirements (if any) are intended to develop this competency? How?	Are all majors expected to develop this competency? How?	What other requirements (if any) are intended to develop this competency? How?	Do you need to improve student opportunities to develop this competency?	How is this competency now being assessed?	Possible new/improved assessment tools/techniques
Written communication							
Oral communication							
Scientific reasoning							
Quantitative reasoning							
Technological competence							
Critical analysis & reasoning							
Information literacy							
Institutional student learning/development goals:							