New Jersey Institute of Technology

Institute for Teaching Excellence

Third Year (AY 2017 – 2018) Activities

A Report to the Martinson Family Foundation

July 2018

Introduction
For the third year since its inception, the Institute for Teaching Excellence (ITE) continues to expand on and grow the initiatives introduced during the first two years as well as launching new offerings consistent with its mission: to promote the use of state-of-the-art pedagogical and technological methods in teaching. This report summarizes the ITE activities during the 2017–2018 academic year.

ITE Organization/Structure
Dr. Basil Baltzis continued in his role of director, presiding over the ITE Executive Committee. In addition, Dr. John Carpinelli, Professor of Electrical and Computer Engineering, assumed the role of Associate Director of ITE.

The ITE Executive Committee has five members from across NJIT. The committee met monthly during the fall and spring semesters to plan and support the programs and events.

ITE Executive Committee Membership for AY 2017–2018:
- Basil C. Baltzis, Senior Vice Provost for Academic Affairs & Student Services, and Director of Institute for Teaching Excellence
- John Carpinelli, Professor of Electrical and Computer Engineering, and Associate Director of Institute for Teaching Excellence
- Bruce Bukiet, Associate Dean of College of Science and Liberal Arts
- Melodi Guilbault, Senior University Lecturer, Martin Tuchman School of Management
- Blake Haggerty, Executive Director, Digital Learning and Technology Support
- Edwin Hou, Associate Dean of the Newark College of Engineering (Academic Affairs)

Four of the ITE Executive Committee members (Baltzis, Bukiet, Carpinelli, and Hou) are Master Teachers (the highest distinction NJIT bestows upon members of its faculty) who have a sustained record of teaching excellence and have been recognized with awards from both inside and outside of NJIT. The Master Teacher designation started at NJIT in 2000.

In September 2017, NJIT had a total of 29 Master Teachers, 23 of whom served as ITE Fellows. ITE Fellows are appointed for two-year periods. ITE fellows serve on a voluntary basis and help with faculty mentoring and other ITE programs. The total number of fellows is 29. Six of the 29 Fellows are University Lecturers (4) with excellent teaching records and known to employ innovative approaches to their teaching; and staff members (2) with expertise in the design and delivery of online courses. During the year reported here, 22 of the 29 fellows volunteered and served in various programs.

ITE Location
The Institute for Teaching Excellence is located in Central King Building (CKB) Suite G15. This facility features space for a faculty director and instructional designers. The ITE office also features video conferencing capability, classroom technology, and examples of the furniture designed to support active learning. A common area also exists in the main entrance for informal gatherings of faculty and ITE support staff. Four full-time employees of the Office of Digital

Learning are available during regular university business hours to provide faculty the opportunity to receive one-on-one consultations in the pursuit of technology-facilitated teaching.

ITE Activities for the 2017–2018 Year
During its third year of operation, the ITE ran the following programs:
1. Lectures by External Speakers
2. New Faculty Development Workshop
3. ITE/Library Open and Affordable Textbook Initiative
4. "Lunch at ITE"
5. September, January, and May Workshops for Faculty and Instructional Staff
6. Submission of ITE grant proposals
7. Revised Best Practices in Digital Learning Instruction (Online courses)
8. Adjunct Reception
9. Support for Active Learning Professional Development
10. One-on-One Mentoring Program

Each one of the aforementioned programs is described in detail below.

1. Lectures from External Speakers
Through this program, the ITE brings speakers to campus who are nationally recognized for their work in higher education. During the 2017–2018 academic year, NJIT hosted three speakers.

● On December 5, 2017, Dr. Ron Rockland, Professor of Engineering Technology and NJIT Master Teacher, gave a talk entitled, "Dr. Ron Rockland's Last Lecture." Dr. Rockland retired at the end of 2017 and the ITE celebrated his many contributions to NJIT and the ITE with one last talk in front of the NJIT community. He was among the first to adopt and share with his colleagues, innovative approaches to teaching both face-to-face and online. Dr. Rockland was also among the proponents and facilitators of student outcomes assessment. Recognized as a Master Teacher for many years, he tirelessly and enthusiastically offered his services to the ITE since its inception in 2015. A recording of Ron's last lecture can be viewed on YouTube at this link: https://www.youtube.com/watch?time_continue=54&v=4DliVzUbCX8
● On February 28, 2018, in support of the NJIT Open Access Textbooks (OAT) project, the Library, the Office of Digital Learning, and the ITE invited speakers from the Open Textbook Network to present to NJIT faculty and students approaches and initiatives in the pursuit of affordable textbooks. David Ernst, PhD (Executive Director of the Open Textbook Network, Director of the Center for Open Education, Chief Information Officer, College of Education and Human Development, University of Minnesota) and Marilyn Billings (Scholarly Communication & Special Initiatives Librarian at the University of Massachusetts Amherst) presented a workshop entitled, "Open Textbook Network Presentation on Approaches to Reducing Textbook Costs and Contributing to Student Success, Retention, and Graduation." They discussed the benefits of open textbooks and helped faculty discover specific resources to deploy open texts in their classes.
● On April 4, 2018, the ITE presented Dr. Jill Buban, Senior Director for Research and Innovation from the Online Learning Consortium. Buban's presentation, "Digital Learning: Research and Resources," provided a snapshot of current research being

conducted in the field of digital learning. In addition, the presentation focused on efficacy-based research and the tool, Practical Evaluation of Digital Learning (PEDL).

2. New Faculty Development Workshop

In the fall of 2017 NJIT once again presented the new faculty development workshops. These ten sessions provided new faculty workshops on a number of topics related to teaching and learning as well as proposal writing and professional development. Topics on teaching covered student engagement, effective teaching, assessment, and classroom management. The full schedule of these workshops can be found in Appendix I. The workshop was attended by 17 tenure-track faculty who joined NJIT on September 1, 2017. ITE was in charge of developing content for and delivering the three first sessions of this workshop.

3. ITE/Library Open and Affordable Textbook Initiative

In the Spring 2017 semester, the Van Houten Library and the Office of Digital Learning with collaboration and support from the Institute for Teaching Excellence and the Office of the Provost launched an Open and Affordable Textbook Initiative to help reduce the costs of textbooks for students and to encourage faculty to redesign their courses using low-cost teaching materials. Open Educational Resources (OER) are materials that have been published under an open license, granting faculty permission to freely and legally use them. In year one, eleven $1,000 grants were awarded to faculty to redesign their courses using OERs to reduce the cost of textbooks. The savings for NJIT students from those grants were are estimated to exceed $176,614,000. NJIT is continuing this initiative for a second year. The list of the first and second year awards is given in Appendix II. For year two NJIT estimates this initiative will save students a total of almost $240,000 for the 2018-19 academic year.

More information about the Open and Affordable Textbook Initiative can be viewed here: http://library.njit.edu/oat/

4. "Lunch at ITE"

ITE continued the popular "Lunch at ITE" series. The ITE "lunches" are informal discussions of teaching-related topics. Faculty, university lecturers, and adjunct instructors are invited to bring their lunch and join in a discussion on teaching at the ITE headquarters. Light refreshments are provided by the ITE. During the AY 2017 – 2018, these meetings started in September 2017 and ran through the end of the Spring 2018 semester (May 2018); participants could attend as many meetings as they wanted. There were a total of 19 lunch events (all of them running on Tuesdays or Wednesdays from 12:00 p.m.–1:00 p.m.) attended by a total of 169 faculty. For each meeting, an ITE Fellow, ITE Executive Committee member, or faculty member selected by the ITE Associate Director, acted as the facilitator of a discussion on a selected topic. The schedule of the lunch topics and facilitators is included as Appendix III of this report.

5. September, January, and May Workshops for Faculty and Instructional Staff

The well-received ITE workshops continued during the 2017–2018 academic year. The ITE Workshops were one-day events in which faculty and instructional staff presented on issues related to pedagogy and technology in education. The workshops were separated into two tracks:

one track featured invited faculty and the other track was led by members of the Office of Digital Learning.

These workshops ran in August, January, and May of this past year. All faculty, university lecturers, and adjuncts were invited. In total, 51 individuals (faculty, university lecturers, and adjuncts) attended the August workshop, 31 attended in January, and 53 attended in May. In total, 135 faculty teaching 490 course sections attended one of these workshops last year.

The schedules for the workshops are included as Appendix IV of this report.

6. Submission of ITE Grant Proposals
During this academic year the ITE submitted three grant proposals to conduct research on teaching and learning:
1) ITE submitted a letter of intent to the Spencer Foundation for a large grant entitled "Creating Classroom Community in a Mixed Face-to-Face and Synchronous Environment." This proposed study would examine the factors that impact classroom community in synchronous and face-to-face environments in a Converged learning format. This proposal has not been accepted for funding.
2) In December 2017, the ITE submitted a second smaller grant proposal entitled "Improving Teaching through Comprehensive Professional Development." The ITE planned to provide a small group of instructors from the core science courses (Physics, Chemistry, and Biology) with a comprehensive teacher training course, and to facilitate a redesign project for the courses they teach. The ITE would compare data from before and after the instructors went through the teacher training course and redesigned their own courses in order to measure the effectiveness of the training program. This proposal has not been accepted for funding.
3) In early May 2018 the ITE submitted a third proposal to the Spencer Foundation entitled "Cultivating Active Learning in a Converged Physical and Virtual Classroom." This proposal is to conduct a research study on active learning in a physical classroom with video conferencing taught by ITE Executive Committee Member and ITE Fellow Dr. Melodi Guilbault. This proposal is still under review.

The work done for the aforementioned proposals has helped to provide new ideas that can be introduced to the teaching community. The effort to secure funding for new ITE initiatives will continue in the immediate future.

7. Best Practices in Digital Learning Course
In March 2017, the Office of Digital Learning with support from the ITE launched a "Best Practices in Digital Learning" online course for faculty to better understand how to develop online course materials.

ITE was also instrumental in the adoption by the NJIT Faculty Senate of a policy that requires all first-time online instructors to take the course and/or consult with the experts in the Office of Digital Learning. As a result of the new policy, the Office of Digital Learning with ITE support has revised the "Best Practices in Digital Learning" course, now called "Introduction to Digital Learning Instruction," to be a completely automated training course that participants can complete on their own time. This course launched in June of 2018.

8. Adjunct Reception
On February 20, 2018, the ITE hosted a reception for NJIT adjuncts. The reception was built on the success of last year's reception held in January of 2017. This reception was designed to make adjuncts feel like a part of the community. This informal session was an opportunity for adjuncts to network with NJIT colleagues and instructional staff. The event was held in the evening, and light refreshments were served.

A total of 8 adjuncts attended. Members of the Institute for Teaching Excellence led a Q&A session with attendees to get feedback on NJIT services and to understand the needs that adjuncts have when teaching.

9. Support for Active Learning
In January 2017, NJIT opened the first 90-seat SCALE-UP classroom in the newly renovated Central King Building. SCALE-UP stands for "Student-Centered Active Learning Environment with Upside-down Pedagogies." This space is used to promote active learning in classes with larger enrollments. The design of the space is intended to facilitate student collaboration.

For the Fall 2017 semester, NJIT launched the room for full-time use by instructional staff. The room has become extremely popular with 23 classes using the space during the 2017–2018 academic year. The ITE with the Office of Digital Learning has provided consultation, curriculum reviews, and orientations for the use of this space.

During the summer of 2017, ITE supported three NJIT University Lecturers to go to conferences focusing on active learning and use of the SCALE-UP approach. The stipulation for support was that active learning and/or use of SCALE-UP would be implemented by the University Lecturers in one of their AY 2017 – 2018 classes, which has happened. In addition, the three colleagues shared their experiences from the conference they attended with the NJIT community, especially through the "Lunch at ITE" series.

10. One-on-One Mentoring
The ITE continued the one-one-mentoring program in year three. Through this program, the ITE pairs an interested faculty member or university lecturer (mentee) with an ITE Fellow (mentor) for the purpose of facilitating the mentee's efforts to become more familiar with state-of-the-art pedagogical approaches as well as strategies for increasing student engagement, and to improve his/her instructional delivery. The use of technology to improve course content delivery and communication with students is a key aspect of the mentor/mentee interaction.

The mentor-mentee pairs are arranged by the ITE Director, who keeps them confidential. It is also important to note that the mentor is chosen from an academic department other than that of the mentee to prevent any conflict of interest during the promotion and tenure process; this approach also ensures that the mentor-mentee interaction focuses on teaching strategies rather than the content of the curriculum.

Other ITE Activities
- The Teaching, Learning, and Technology (TLT) Committee, with support from many members of the ITE, passed "5 modes of course delivery" through Faculty Senate. This has made a major difference in helping to properly define how a course is taught at NJIT. Instructors must identify how they will teach their class prior to course registration. The definitions are provided as Appendix V in this report. The Fall 2018 schedule of NJIT class offerings shows for the first time the mode of course delivery.

- The Teaching, Learning, and Technology (TLT) Committee, with support from members of the ITE, also passed a requirement that new instructors teaching a digital learning supported course for the first time at NJIT must receive training from the Office of Digital Learning. The Faculty Senate then passed this resolution to become official NJIT policy. This initiative continues to build policies and procedures to ensure that NJIT instructors receive proper training to teach online courses.

- During the 2017 – 2018 academic year, the instructional designers assisted 14 faculty members in the significant revisions of their course materials for online learning. In addition, 112 members of instructional staff visited the ITE offices for consultations.

Plans for 2018–2019
The ITE plans to continue many of the initiatives as described above.

Dr. Basil Baltzis will continue as the Director of the ITE and Dr. John Carpinelli will also continue in the role of Associate Director of ITE. Some new pursuits that will be explored:
- The Office of Digital Learning with support from the ITE and the Teaching, Learning, & Technology committee has begun a study of NJIT learning spaces. This report will be finished in the fall of 2018.
- There has been some support for requiring instructors to receive mandatory introductory training if they have never taught before. The ITE may explore if this is a feasible initiative to pursue.
- In 2017–2018, the ITE applied for two teaching research grants with the Spencer Foundation. While neither application was approved, the ITE will continue to apply and look for research opportunities related to improving teaching and facilities for implementing technological innovations in teaching
- The ITE will introduce a digital Lightboard to the ITE office next year. This Lightboard allows instructors to create high quality recorded learning objects using a glass mirrored display.
- Of particular interest is to create new opportunities for NJIT doctoral students who serve as teaching assistants to receive teacher training. This training not only helps NJIT, but also develops instructionally ready graduates if they plan to pursue an academic career.

Conclusion
The ITE continues as a strong presence at NJIT. The number of instructional staff partaking in ITE events has expanded each year. This growing influence has had a positive effect on instruction efforts at NJIT. The ITE is grateful to the Martinson Family Foundation for its support.

Academic Year 2017 – 2018
New Faculty Development Workshop

Dates: Specified below

Time: 4:30 p.m. – 7:00 p.m. (includes working dinner served at about 6:00 p.m.)

Place: 112 Eberhardt Hall (except for 9/12/17 in CKB 116)

Total number of sessions: 10

Maximum Number of Attendees: 20

Attendees are placed in groups of 4 or 5 and each group has a mentor (Distinguished Professor, Master Teacher, etc.).

Each session has typically three time slots.
>   Slot-1: Interactive Talk
>   Slot-2: Brainstorming/Mentoring (Round Table: 4 - 5 attendees and one mentor)
>   Slot-3: Case-Study Presentations

The workshop has three themes; two themes have three sessions and one theme has four sessions; the themes are:
>   Effective Teaching
>   Successful Grant Funding
>   Professional Service & Tenure

Week-1:   Tuesday, September 12, 2017

Theme: Effective Teaching: Student Engagement

Interactive Talk Topical Coverage
>   Student Engagement in Class
>   Avoiding Stereotypes
>   Interactive Conversation
>   Student Groups and their Formation
>   Student Responsiveness
>   Oral Communication Styles
>   On the Go Assessment
>   Adjusting the Classroom Delivery

Brainstorming:
        Case Study: Individual Issues
        Discussion with Mentors
        Formulation of Solutions and Best Practices
Case Study Presentations
        Group Presentations
        Discussion on Solutions and Best Practices
Speakers:
        Master Teachers
        Distinguished Professors who are also Master Teachers

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Week-2:   **Tuesday, September 19, 2017**

Theme: **Effective Teaching: Classroom Material**

Interactive Talk Topical Coverage
        Setting up Learning Goals
        Material/Notes Distribution Before the Class
        Reading Assignments
        Interactive Discussion
        Demo Material in the Class: Working through examples
        In-Class Assessment
        Cooperative and Peer-Learning
Brainstorming:
        Case Study: Individual Issues
        Discussion with Mentors
        Formulation of Solutions and Best Practices
Case Study Presentations
        Group Presentations
        Discussion on Solutions and Best Practices
Speakers:
        Master Teachers
        Distinguished Professors who are also Master Teachers

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Week-3:   **Tuesday, September 26, 2017**

Theme: **Effective Teaching: Assignments, Assessment and Outside Classroom Activities**

Interactive Talk Topical Coverage
        In-Class Assignments
        Discussion on Assignments and Solutions

Assessment of Learning Goals
Outside Classroom Follow-ups
Group Projects and Individual Responsibility
Final Exams
Grading and Learning Goals
Brainstorming:
Case Study: Individual Issues
Discussion with Mentors
Formulation of Solutions and Best Practices
Case Study Presentations
Group Presentations
Discussion on Solutions and Best Practices
Speakers:
Master Teachers
Distinguished Professors who are also Master Teachers

Week-4:   Tuesday, October 3, 2017

Theme: Successful Grant Funding: Proposal Preparation

Interactive Talk Topical Coverage
Federal Funding Resources
Federal Proposal Format Requirements
Different Proposal Formats: NSF/NIH/DoD/ONR/NASA
Special Programs/RFP/BAA
Main Proposal Preparation
Most Common Mistakes and Errors
Available Resources in the Office of Research
Brainstorming:
Case Study: Sample Proposal
Discussion with Mentors
Formulation of Solutions and Best Practices
Case Study Presentations
Group Presentations
Discussion on Solutions and Best Practices
Speakers:
Distinguished Professors
Researchers/Directors

Week-5:   Tuesday, October 10, 2017

Theme: Successful Grant Funding: Budget Preparation and Submission

Interactive Talk Topical Coverage
       Federal Budget Templates
       Budget Preparation Format and Requirements
       NJIT and Agency Policies
       Budget Adjustments at Award
       Most Common Mistakes and Errors
       Final Submission: Guidelines and Error Check
Brainstorming:
       Case Study: Sample Budget and Proposal
       Discussion with Mentors
       Formulation of Solutions and Best Practices
Case Study Presentations
       Group Presentations
       Discussion on Solutions and Best Practices
Speakers:
       Distinguished Professors
       Researchers/Directors

Week-6:   **Tuesday, October 17, 2017**

Theme: **Successful Grant Funding: Proposal Review and Funding**

Interactive Talk Topical Coverage
       Review Protocol and Proposal Format
       Review Processes: Different Agencies
       Review Criterion: Different Agencies
       Funding Processes: Different Agencies
       Most Common Mistakes and Errors
       Sample Proposal Review Formats and Scores
Brainstorming:
       Case Study: Sample Proposal and Reviews
       Discussion with Mentors
       Formulation of Solutions and Best Practices
Case Study Presentations
       Group Presentations
       Discussion on Solutions and Best Practices
Speakers:
       Distinguished Professors
       Researchers/Directors

Week-7:   Tuesday, October 24, 2017

Theme: Professional Service & Tenure: Professional Societies

Interactive Talk Topical Coverage
        Professional Service Opportunities and Protocols
        Reviewers for Journal and Editorial Board
        Conference Organization
        Review Panels for Federal Funding Agencies
        Most Common Perceptions
Brainstorming:
        Case Study: Sample Opportunities
        Discussion with Mentors
        Formulation of Solutions and Best Practices
Case Study Presentations
        Group Presentations
        Discussion on Solutions and Best Practices
Speakers:
        Distinguished Professors
        Senior Professors/Editors/Conference Chairs

Week-8:   Thursday, November 2, 2017

Theme: Professional Service & Tenure: Scholarly Publications

Interactive Talk Topical Coverage
        Publishing Papers in Journals vs Conferences
        Where to Publish? Impact Factor
        Citation Index
        Systematic Tracking of the Impact of One's Work **(Presentation by Liaison Librarians)**
        Emerging as an Expert in the Field
        What is important for Tenure Consideration?
        Most Common Perceptions
Brainstorming:
        Case Study: Sample Tenure Guidelines
        Discussion with Mentors
        Formulation of Solutions and Best Practices
Case Study Presentations
        Group Presentations
        Discussion on Solutions and Best Practices
Speakers:
        Distinguished Professors
        Senior Professors/Editors/Conference Chairs

Week-9:   Tuesday, November 14, 2017

Theme: Professional Service & Tenure: Professional Ethics, IP and Students

Interactive Talk Topical Coverage
   Professional Ethics and Research Compliance
   Intellectual Property & Contractual Agreements
   Interactions with Students: Compliance with policies and rules, handling students in
   Distress **(Presentation by Dean of Students)**
Speakers:
   Dean of Students
   Student Counselors
   University Legal Team Representatives
   Members of Provost's Team

Week-10:   Tuesday, November 21, 2017

Theme: Professional Service & Tenure: Tenure Considerations

Interactive Talk Topical Coverage
   Tenure Process
   Resume Preparation
   Emerging as an Expert in the Field for Tenure Consideration
   Reference Network
   Grants and Collaborative Funding
   Publications and Citation Index
   Sample Dossiers
   Most Common Perceptions
Brainstorming:
   Case Study: Sample Dossiers and Tenure Consideration
   Discussion with Mentors
   Formulation of Solutions and Best Practices
Case Study Presentations
   Group Presentations
   Discussion on Solutions and Best Practices
Speakers:
   Distinguished Professors
   Senior Professors/Prior University P&T Committee Members

OAT 2017 Awards
Number of Grants: 12 awards of $1,000 (1 grant withdrawn)
Total Actual Savings: $174,614
Awards:
Maria Stanko, College of Science and Liberal Arts
  Course: BIOL 200: Concepts in Biology
  Number of Sections: 22
  Estimated Savings: $60,710
Barry Cohen, Yin Wu College of Computing
  Course: CS 100: Roadmap to Computing
  Number of Sections: 31
  Estimated Savings: $40.502
Esther Lewars, Yin Wu College of Computing
  Course: IS 265: Introduction to Information Systems
  Number of Sections: 1
  Estimated Savings: $1,959
Anika Waltz-Cummings, College of Science and Liberal Arts
  Course: ENG 352: Technical Writing, HUM 102: Writing Speaking and Thinking II
  Number of Sections: 5
  Estimated Savings: $11,130
David Shirokoff, College of Science and Liberal Arts
  Course: MATH 707: Optimization
  Number of Sections: 1
  Estimated Savings: $1,648
Ian Gatley, College of Science and Liberal Arts
  Course: PHY 202: Intro Astronomy & Cosmology
  Number of Sections: 3
  Estimated Savings: $9,959
Matthew Bandelt, Newark College of Engineering
  Course: CE 333: Reinforced Concrete Design
  Number of Sections: 1
  Estimated Savings: $4,560
Mark Somers, Martin Tuchman School of Management
  Course: HRM 601: Organizational Behavior
  Number of Sections: 3
  Estimated Savings: $17,872
Melodi Guilbault, Martin Tuchman School of Management
  Course: MRKT 331: Consumer Insights
  Number of Sections: 1
  Estimated Savings: $3,055
Walid Hubbi, Newark College of Engineering
  Course: ECE 341: Energy Conversion
  Number of Sections: 2
  Estimated Savings: $15,000
Junmin Shi, Martin Tuchman School of Management
  Course: MGMT 216: Business Statistics
  Number of Sections: 2

Estimated Savings: $8,250

OAT 2018 Awards
Number of Grants: Two awards of $3,000 to two course coordinators. Three awards of $1,000 to undergraduate sections. Three awards of $1,000 to three graduate sections.
Total Estimated Savings: $239,150
Accepted Course Coordinator Applications:
Megan O'Neill, College of Science and Liberal Arts
      Course: HUM 100,101, 102: Writing Speaking Thinking I and II
      Number of Sections: 80+
      Estimated Savings: $80,000+
 Kenneth Horwitz, College of Science and Liberal Arts
      Course: MATH 107: University Math
      Number of Sections: 7+
      Estimated Savings: $53,000

Accepted Undergraduate Applications:
Padma Natarajan, College of Science and Liberal Arts
      Course: MATH 105: Elementary Probability and Statistics
      Number of Sections: 1
      Estimated Savings: $7,140
Simone Marras, Newark College of Engineering
      Course: ME 304: Fluid Mechanics
      Number of Sections: 3
      Estimated Savings: $18,600
Melodi Guilbault **and** Ellen Thomas, Martin Tuchman School of Management
      Course: MRKT 330: Principles of Marketing
      Number of Sections: 6
      Estimated Savings: $45,000

Accepted Graduate Applications:
Paul Schorr, Newark College of Engineering
      Course: ENE 664, CE 320, ENE 262 Physical and Chemical Treatment, Fluid Mechanics,
      Introduction to Environmental Engineering
      Number of Sections: 3
      Estimated Savings: $12,000
Siva Nadimpalli, Newark College of Engineering
      Course: ME 620: Stress Methods in Mechanical Design
      Number of Sections: 1
      Estimated Savings: $3,810
Junmin Shi, Martin Tuchman School of Management
      Course: FIN 610: Data Drive Financial Models
      Number of Sections: 2
      Estimated Savings: $19,600

Appendix III - Lunch at ITE Schedule 2017–2018 Academic Year

1. **Tuesday September 26, 2017**: K-12 and Broader Impacts, presented by Jim Lipuma
2. **Tuesday October 3, 2017**: Teaching 101: What I Didn't Learn in Grad School, presented by Jaskirat Sodhi
3. **Tuesday October 10, 2017**: Multimedia Use for Mechanics Courses, presented by Gerry Milano
4. **Tuesday October 17, 2017**: Active Learning using IF-AT, presented by Melodi Guilbault
5. **Tuesday October 24, 2017**: Student Engagement and Success in the Classroom – Lessons Learned from Coordinating the First Year Seminar Course, presented by Ashish Borgaonkar
6. **Wednesday November 1, 2017**: Chaos: The Movie, presented by Denis Blackmore
7. **Wednesday November 8, 2017**: All Carrot, No Stick! An Iterative Approach to Active Learning in Freshman Chemistry Courses, presented by Bhavani Balasubramanian
8. **Wednesday November 15**: Inclusive Teaching and Learning, presented by Mary Konsolaki
9. **Wednesday November 29, 2017**:Digital Tools for your Technology Toolbox, presented by Padma Natarajan
10. **Tuesday, February 13, 2018**:Calculus and Structures: A New Approach to Teaching Calculus, presented by Jay Kappraff
11. **Tuesday, February 20, 2018:** Exploring the Effects of a Writing Center Outreach Program on STEM Students' Beliefs about Writing, presented by Catherine Siemann and John Wolf
12. **Tuesday, February 27, 2018:** Strategies to Improve Efficiency in Grading Student Work, presented by John Carpinelli
13. **Tuesday, March 6, 2018**: Active Learning, Peer Learning, Studio Learning: Best?, presented by Gordon Thomas
14. **Tuesday March 20, 2018**: Teaching a Computer Engineering Design Laboratory, presented by Edwin Hou
15. **Tuesday, March 27, 2018**: Undergraduate Student Preparedness for Upper-level Design Courses, presented by Matt Bandelt
16. **Tuesday April 3, 2018**: Use of a Partially Flipped Classroom to Facilitate Group Term Projects presented by Matthew Adams
17. **Tuesday April 10, 2018**: Augmenting Teaching and Learning through "Evergreen" High Quality On-line Tutorials, presented by John Cays and Andrzej Zarzycki
18. **Tuesday April 17, 2018:** RWC a new vision for increasing adolescents' interest in STEM, presented by Osama Eljabiri
19. **Tuesday April 24, 2018:** My own experience teaching at NJIT, presented by Dimitri Theodoratos

Appendix IV - ITE Workshop Schedules

ITE August Workshop
August 31st, 2017

Time		
9:00 - 9:30	**Registration, Breakfast, and Introductions** *CKB 116*	
9:30 - 10:00	**Welcome and What's New This Academic Year** *Blake Haggerty, Mike Koskinen, and John Carpinelli* *CKB 116*	
10:00 - 11:00	**Making the Most of SCALE-UP** This will be a discussion about how to most effectively use NJIT's new SCALE-UP classroom to promote student engagement and learning. I will share my recent experience teaching in the SCALE-UP classroom and report on strategies and research presented at the International Forum on Active Learning Classrooms. *Maria Stanko* *CKB G-8*	**Outdated Technology Tools and What To Use Instead** Are you tired of using the same old tech tools from year to year? If you are still using a transparency projector, Microsoft Word, PowerPoint, plain emails, and whiteboard lecture notes, attend this workshop! ODL will introduce you to the most current, trendy tools to spice up your pedagogy and tech toolbelt. *Jenna Corraro* *CKB 116*
11:00- 12:00	**Participatory Learning: Deeper Learning by Engaging Students in the Entire Problem Lifecycle** We've been using a new approach in some courses for students to learn more deeply. Participatory Learning (PL) actively engages them in the full lifecycle of homework, projects and exams. In this session we'll briefly introduce PL and give a quick demo, explore with you how it might work in your classes with the types of problems your students do, and discuss several interesting issues that arise such as students' ability to design high-quality problems and grade accurately, motivating students to learn, and trusting peers. *Michael Bieber* *CKB 08*	**What's New With You, Moodle?** This session will go over the major changes with Moodle for fall 2017 and will provide a question and answer session to assist with getting your courses ready for the semester. *Michael Koskinen* *CKB 116*
12:00	**Lunch** *CKB 116*	
12:30- 1:00	**Innovation Across Curriculum** New Associate Director for ITE John Carpinelli will discuss new ways of integrating teaching techniques into the classroom while sharing them among colleagues. *CKB 116*	

1:00-2:00	**Enhancing the Undergraduate Experience: Challenges and Opportunities** Laurent Simon *CKB 116*	
2:00-3:00	**Intro to OER: Using Open Educational Resources @ NJIT** This interactive session will help you get started finding good quality free or inexpensive web or library information sources for teaching in your subject area. Learn about the NJIT grants to help faculty replace expensive textbooks. Bring your syllabus/textbook and your laptop. Raymond Vasquez and Davida Scharf *CB G-8 (lower level Scale-up Classroom)*	**Create a Classroom Community: Connecting with Students Through Twitter Chats** This session will discuss using Twitter as a tool for synchronous chat with students outside of the classroom. Students who feel more connected to their instructors and classmates are more successful. Twitter also helps to prepare students for communicating in different discourse communities and public accountability. *Nikki Bosca* *CKB 116*
3:00-4:00	**Focus Group Spring 2017 Recap and Discussion** **Student Expectations vs Faculty Expectations** In this informal discussion we will examine some of the feedback students gave from the spring 2017 ITE focus group event and discuss with attending faculty some of the same challenges discussed from the event. Blake Haggerty & John Carpinelli *CKB 116*	
4:00	**Drawing for Prizes** *CKB 116*	

ITE January Workshop
January 10th, 2018

9:00 - 9:30	**Registration, Breakfast, and Introductions** John Carpinelli, Blake Haggerty, and Mike Koskinen *CKB 116*	
9:30 - 10:30	**5 Minute Videos for 5 Minute Millennials** One approach to constructing video instructional material employing dynamic elements to sustain attention and promote retention. The instructor's challenge is to resolve the tension between students' limited attention span and the sustained effort necessary for successful study. The face-to-face environment admits tactics not available with video based instruction. Video instruction relies on action and replay. The Short-Sharp-Shock Video is one way to address the attention challenge. Andrew Pole *CKB G-8*	**Creating Interactive Learning Objects in Moodle** Learn how to use the H5P tool in Moodle to create interactive content, including: interactive presentation slides with built-in questions, video quizzes, timelines, and flashcards. Nikki Bosca *CKB 116*

10:30-11:30	**Converged, HyFlex, Hybrid, Online. What course modalities are available to me at NJIT?** In this presentation we will review the 5 Definitions of course delivery and how can you get started in adapting your course to teach in the modality of your choice. Mike Koskinen *CKB 08*	**Savvy Researcher: Create and Manage Your Online Scholarly Presence** A professional online presence allows scholars to increase the visibility of their publications, to identify new colleagues, readers and potential collaborators worldwide, to increase the reach and impact of their work. This is a hands-on workshop where you can work on any of the various platforms with the assistance of a librarian to create and manage your online identity. Joseph Mercuri and Raymond Vasquez *CKB 116*
11:30-12:00	**Break and Lunch** *CKB 116*	
12:00-1:00	**Lunch presentation and conversation with Provost Dr. Fadi Deek** *CKB 116*	
1:00-2:00	**Kaltura: NJIT's Media Repository: What can it do for you? Presented by Kaltura** *CKB 116*	
2:00-3:00	**Teaching Teamwork in Online Classes** Instead of simply assigning "group work," we can design opportunities for students to practice humanistic understanding and robust communication that will enable them to form coherent, high-performing teams based on mutual trust. **Bernadette Longo** *CKB 116*	**Moodle Review: Open-Ended Topics** This Q&A session will deal with new features of Moodle and addressing questions from attendees. **Michael Koskinen & Nikki Bosca** *CKB 08*
3:00-4:00	**Open Educational Resources Panel** This panel will explore strategies for identifying and incorporating open educational resources into the curriculum. The panel will include NJIT faculty who have participated in NJIT's Open and Affordable Textbook (OAT) Initiative**.** *CKB 116*	
4:00	**Drawing for Prizes - CKB 116** *CKB 116*	

ITE May Workshop
May 16th 2018

9:00 - 9:30	**Registration, Breakfast, and Introductions** John Carpinelli, Blake Haggerty, and Mike Koskinen
9:30 - 10:30	**The Philosophy and Practice of Academic Makerspaces** Academic Makerspaces offer new opportunities for students of all disciplines to engage in design and prototype development and to experience project teamwork. Makerspaces come in a large variety of forms from gathering places to mini-production facilitates with powerful machinery. In this presentation we will review the major considerations encountered in developing a new Makerspace – from the basic philosophy to a host of practical issues. We will include case studies demonstrating the academic and entrepreneurial benefits of industrial Makerspaces within the engineering disciplines. Overall, we aim to provide attendees with information, insight, and an assortment of pertinent questions that will help them in thinking about how academic Makerspaces can support their own activities and curriculum. **Dan Brateris**

Time		
	CKB G08	
10:30-11:30	**Reverse Engineering the Curriculum** Mechanical and Industrial Engineering (MIE) has introduced a systemic change in the first year undergraduate program since 2011. MIE has introduced 'Reverse Engineering' (RE) as part of the curriculum for the entering freshmen with Mechanical Engineering as their major. RE has been efficiently blended with the existing Fundamentals of Engineering Design-101 (FED-101) curriculum, and this has yielded rewarding results. The session will introduce a time-tested systematic approach to implement RE. **Balraj Mani** **CKB G8**	**Mapping Assessments to Outcomes** Writing learning outcomes that are clear to students and measurable to instructors is a challenge many educators face. This session will focus on the scholarship and best practices for writing clear and measurable learning outcomes and mapping them to appropriate assessments. Examples, resources, and a list of readings for more information will be provided. **Nikki Bosca** **CKB 124**
11:30-12:00	**Break and Lunch**	
12:00-1:00	**Lunch** **Demystifying Service Learning and Building Campus and Community Partnerships** Studies have shown that Service-learning improves student academic outcomes as demonstrated through complexity of understanding, problem analysis, critical thinking, and cognitive development; when accompanying a course Service Learning improves student learning outcomes and contributes to student personal and social development. The session will consist of a panel of Faculty, Student and Agency representative that will discuss the impact Service Learning has had on them. The session will engage the audience in this high-impact educational practice, to consider implementing Service Learning into their curriculum. **Vivian Lanzot CKB G8**	
1:00-2:00	**Copyright in the Digital Age** Copyright is a complex and evolving concept in teaching, research, and scholarship. As an author and researcher, it's important to know the exemptions and limitations afforded by these laws. This presentation will touch on issues relating to author rights, teaching exemptions, publishing agreements, and other topics. We will also discuss copyright questions relating to the forthcoming institutional repository. **Danielle Reay** **CKB G8**	**Moodle Gradebook** One of the most complex parts of Moodle can be the gradebook. In this session we will learn tips and tricks to help improve your experience in grading your students Cassie Sardo CKB 124
2:00-3:00	**Increasing Diversity and Participation in Computing/STEM** New technologies and innovations in educational research afford us new and improved ways to motivate people to learn more about computing and other STEM-related topics. However, as we continue to move forward, it is	**Canvas Pilot** Get an introduction to the features of Canvas. An alternative platform to Moodle which NJIT will pilot in the fall of 2018. **Michael Koskinen** *CKB 124*

important to consider who benefits from these innovations and to adopt inclusive practices in both their design and in their use. In this presentation, we talk about efforts to increase participation in computing for females and underrepresented minorities in computing using an online educational game, Gidget (HelpGidget.org), and other technologies. We also introduce the GenderMag method (GenderMag.org), a gender-specialized cognitive walkthrough used to detect bias in software applications. **Michael Lee** **CKB G8**	
3:00-4:00	**The Future of Honors Education in the Albert Dorman Honors College** Dean Hamilton will describe his plans to renew the College focus on Strategic Priority 1 of the ADHC Strategic Plan: "Academic Excellence through Learner-Centered Education. **Louis Hamilton** *CKB G8*
4:00	**Drawing for Prizes** *CKB G8*

Appendix V- Five Modes of Instructional Delivery

Course Delivery Methods - NJIT Definitions

At NJIT, classes are offered through 5 course delivery methods. It is important to know the delivery method prior to registration because each method of instruction has varied requirements for students' time and location. Please read the definitions before registering.

1) Face-to-Face: Delivery of instruction is structured around ***in-person classroom meeting*** times. Instruction is delivered in person, and students are expected to attend class. *(sometimes referred to as traditional classroom courses[1]).* The days and times of courses will be set in advance and available on the course schedule when registering for classes.

2) Hybrid: Delivery of instruction in which some traditional face-to-face contact hours are replaced with required synchronous or asynchronous online instruction (frequently through the learning management system). The amount of online activity is set by the instructor and varies by course. Students should refer to the course syllabi for the course meeting schedule, however no Hybrid course should be more than 50% online. *(sometimes referred to as blended learning)*

3) Converged Learning: Delivery of instruction is independent of place, merging the physical and virtual classrooms. There is an ***attendance expectation*** and students can choose to attend class ***face-to-face*** or using real-time ***synchronous video conferencing*** technology. Some instructors may require occasional proctored exams. *(sometimes referred to as a synchronous distributed course).* The days and times of courses will be set in advance and available on the course schedule when registering for classes.

4) HyFlex: Delivery of instruction is independent of time and place, allowing for students to choose to attend class in any of three modes:
- ***Face-to-face*** – the traditional classroom model;
- ***Synchronous online*** – same time, different place; utilizing video conferencing technologies;
- ***Asynchronous online*** – different time, different place; utilizing multimedia learning objects and lecture capture technologies. Students are expected to follow a week-by-week schedule as outlined in the syllabus.

Students can choose to change which option they use to attend courses weekly. Some instructors may require occasional proctored exams.

5) Online: Delivery of instruction in which all course activity can be ***completed online*** through the learning management system. There are no required face-to-face sessions but students are expected to follow a week-by-week schedule as outlined in the syllabus. Work is typically done in an asynchronous mode and students can complete the coursework without coming to campus. Note: some instructors may require occasional synchronous online meetings or proctored exams.[2] *(sometimes referred to as eLearning)*

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[1] Definitions are aligned with OLN's definitions https://onlinelearningconsortium.org/updated-e-learning-definitions-2/

[2] See http://www.njit.edu/online/current-students/faq/ for more information about proctored exams.