

University System of Georgia Comprehensive Program Review

A. All Program Reviews

Please complete the following information. Note that the Degree/Major Name, Degree Acronym and the CIP Code MUST be the same as that listed in [Degrees and Majors Authorized](#). You will need Adobe Reader to view this file. (<http://www.adobe.com/products/acrobat/readstep2.html>)

Please complete the following information:

Institution Name

Southern Polytechnic State University

Date (MM/DD/YYYY)

03/05/2003

Degree/Major Name

M.S. Construction

Degree Acronym

M.S.

CIP Code

15100100

Degree Level

Masters

College/School/Division

School of Architecture, Civil Engineering Technology, and Construction

Department

Construction

Were other closely related programs reviewed as part of this program review? For example, if the BA and the BS with majors in Political Science are reviewed at the same time, provide that information.



Yes [\[Click here if you selected this choice\]](#)



No [\[Click here if you selected this choice\]](#)

Provide the names of these other programs so that we may connect these reviews.

| | |
|-----------------|--|
| BS Construction | |
|-----------------|--|

Were external reviewers used to evaluate the results of the program's self-study?



Yes [\[Click here if you selected this choice\]](#)



No [\[Click here if you selected this choice\]](#)

If yes, please describe their role.

| | |
|---|--|
| 1. Review of Course Offerings | |
| 2. Review of Registration/Enrollment for last three years | |
| 3. Review of Draft Report | |
| a. Post-Baccalarete Courses | |
| b. Required Courses | |
| c. Elective Courses | |

Year of Next Scheduled Program Review

Year

Accreditations Obtained (please spell out acronyms)

| | |
|--|--|
| SACS-Southern Association of Schools and Colleges-SPSU | |
| ACCE-American Council for Construction Education-B.S. Construction Program. | |

Year of initial accreditation or last program reaccreditations review

Year

Faculty Resources. Describe the faculty resources associated with this degree program by describing the faculty dedicated to the specific program, to the general education program, to services courses for other programs, etc. Include in your discussion the use of full-time and part-time faculty.

| | |
|---|--|
| Full Time to Specific Program | |
| Khalid Siddiqi | |
| Brian Moore | |
| Arlan Toy | |
| Gournaga Banik | |
| Part-Time Dedicated to Specific Program | |
| Phil Beck-JD Law | |
| Service Classes for other programs | |
| 6000 level courses serve as electives for IET and MGNT | |
| No general education programs are necessar for M.S. Program | |

For more information on this program review, contact

| | |
|-------|---|
| Name | <input type="text" value="Khalid Siddiqi"/> |
| Title | <input type="text" value="Head, Construction Program"/> |
| Phone | <input type="text" value="770-528-7221"/> |
| Email | <input type="text" value="ksiddiq@spsu.edu"/> |

Was this review...

- Scheduled? [\[Click here if you selected this choice\]](#)
- Triggered? [\[Click here if you selected this choice\]](#)

B. Scheduled Reviews of Programs

Use the *Short Form*, and complete for each program undergoing review.

CPR Findings and Plans for M.S. Construction Program at Southern Polytechnic State University

Major findings should focus on relevant factors from the [Comprehensive Program Review Guidelines](#) in the Academic Affairs Handbook. Major findings and recommendations should address the quality, productivity and viability of this program. (limit to 1000 words)

| |
|----------|
| Findings |
|----------|

Findings

MS (Construction) was initiated in fall 1995. Since then the curriculum has been reviewed and the number of course offerings has increased gradually to meet the growth requirements. The program is offered in the evening format to enable work-study format preferred by most graduate students. Since the inception of the program the number of faculty who can teach graduate courses has also been increased.

An increase in the number of graduate assistantships will attract a larger number of graduate students. Simultaneous course offerings in a distance format, in addition to traditional format, are likely to attract a larger number of students in the MS Program.

The program needs an enhanced marketing plan to increase enrolment, through a promotional effort by the office of admissions.

Viability

The program needs to continue since it has a niche area of attracting professionals who currently work for general contractors, who already possess a BS in disciplines such as Architecture, Civil, Mechanical or Electrical Engineering, and who would like to advance their career in Construction Management by acquiring an advanced degree in Construction Management. Numerous other professionals seeking career advancement, who possess Bachelor degrees in Business Administration, Management, Industrial Engineering or degrees in other disciplines and who work in the construction industry are also attracted to SPSU MS Program in Construction. These graduates of other disciplines, like BS Construction Management graduates, are also required to meet the standard admission criteria and are also required to complete additional undergraduate courses (*Leveling Courses*) to come at par with the graduates of construction discipline. Graduates in other disciplines, who seek MS in Construction Management, are required to obtain competency in scheduling, estimating and acquiring basic project management skills/knowledge through undergraduate courses, which do not count towards meeting the graduate program requirements. The master's program courses add to the productivity of resources deployed for teaching undergraduate courses.

Productivity

As discussed above the existence of MS Program enhances productivity of the existing BS Construction degree program. The average enrollment (10 students per course) over the last three years indicates that the program is viable, since the time it came into being seven years ago. It is equally important to note that most students are working professionals who typically register for two courses per semester and take about two to three years to complete the thirty-six (36) credit hour graduation requirements. Thirty (32) students have graduated from the program during the last three years. Based on the enrolment reports of the last three calendar years (2000, 2001, and 2002) the average enrollment for all graduate classes is thirteen (13*).

*This number includes students registered for special topic courses and cross-listed courses, which does not require additional resources.

Quality

Quality of the program can be judged by the following three factors. First, the Faculty who teach the MS courses has published papers in National, International Conferences, and Journals in collaboration with graduate program students. (See publications of Siddiqi, Moore, and Banik).

Part of the (leveling) coursework for most students comes from BS undergraduate curriculum. The American Council of Construction Education accredits the BS Construction Program, and its courses constitute the leveling courses for the MS Program students.

Finally the Industry Advisory Committee, consisting of representatives from a major part of local construction industry, who are also our main employers, has appreciated the quality of MS graduates.

Plans (Recommendations and Action Plan)

Some or all of the items listed below are contingent on receiving funding and necessary approval where needed.

1. Name Change of the Program/Department from Construction to Construction Management and re-assignment of degree CIP Code to 52.2001 (Construction Management Discipline), recently added by the Department of Education.
2. Improvement and automation of Construction Estimating Lab through the use of digitizers and better computers
3. Devise an improved outcome assistance program, at the institutional level, tied to the graduate program goals. The outcome assessment program, carried out by Institutional Research and Planning of SPSU, needs indicators (measures) that show progress towards stated objectives that include data analysis and conclusions. The assessment would facilitate measurement of changes in student, alumni, and employer evaluations over time. Parts of the outcome assessment program are used but are not tied to specific goals and objectives of the program.
4. Administrative policy and adequate funding support is needed to insure that opportunities for professional development are made available and used by the entire faculty. With an increasing emphasis on scholarly activities, time and resources are not adequate to accomplish such activities. Adequate funding for the program budget would enable the program to achieve its intended goal.
5. Support staff is needed for maintenance and replacement of recently acquired computer equipment.
6. Additional funding is needed for library holdings related to the Construction Program.
7. The library hours of operation need to be extended to 10 PM from Monday through Saturday.
8. To support graduate programs related research, SPSU library needs to subscribe to databases such as West Law, ISI Citation Index etc.
9. Establishment of an endowment fund to insure long-term stability of income for program support (Funding from Industry).
10. Promotion and marketing of the program to a larger demographic area by the Office of Admissions.
11. Add distance learning course options, which involves faculty re-assigned time and financial incentives.

Brief Clarification of the Planned Allocations and Sources of New Resources to be Dedicated to Program's Improvement in Future

No new resources identified at this point and time.

MS Construction Program Review

Construction Program Vision and Mission

The Construction Program enrolls approximately 185 students in the four-year bachelors degree program and 40 in the masters program. The bachelors degree was started in 1985, the masters degree in 1995. We have two-degree programs and a minor. The undergraduate degree is a four-year Bachelor of Science in Construction. There are three concentrations in the BS Construction: General, Development, and Specialty Construction. The minor consists of a cross-section of CNST courses for NON-Majors. In addition, the program offers three certificate programs paralleling the concentrations. The graduate degree is a Master of Science in Construction.

The mission of the Construction Program is to prepare students for project management and executive roles in the construction industry. We offer comprehensive undergraduate and graduate programs comprised of a balance of general education, business and technical courses. We maintain close contact with firms that hire our graduates and with our alumni, and work in partnership with them to insure that what we teach remains current and meets the needs of the construction industry. We are a teaching faculty dedicated to helping students in their professional development. We fulfill our mission primarily through high quality instruction, but also through social interaction, counseling, advising and networking students into the construction industry. Our faculty is expected to maintain currency in their areas of expertise and to give full value to the students, our customers, who invest in one of our degree programs.

The following long (six years) and short-term goals were arrived at after consulting the Construction faculty at last year's annual retreat. These goals will be used to measure the program achievements.

Short Term Goals

The direction for the Construction Program established in the five-year strategic plan is centered on the following challenges:

- Review and update the undergraduate and the graduate curriculum by including more technology and e-commerce emphasis in courses
- Horizontal integration with other programs in the School of Architecture, Civil Engineering Technology, and Construction by expanding list of elective courses offered by other programs within the School for Construction students.
- Provide students a greater choice of electives through opportunities provided by the university.
- Reinforce the internship program to provide more hands-on-real-world experience through greater integration with industry professionals and alumni.
- Improve and upgrade instructional technologies and labs for traditional and distance education.
- Increase student access to faculty.

Longer Term Goals

- Establish a Ph.D. Program in Construction.
- Establish M.S. in Construction Engineering in collaboration with Electrical, Mechanical and Civil Engineering Technology Programs.
- Motivate research activities within the Construction Program and collaborate with other private and public institutions.

- Focus on national and international construction markets, for support, direction, and influence.
- Build upon and expand the core program competencies into broader areas to serve the rapidly changing construction industry demands, and prepare our students to be the leaders and adaptable to construction e-commerce trends.
- Support the strategic directions of the University and School in improving visibility, enrollment and resources by challenging the existing institutional and operational paradigms of the present and preparing a course of action for the future, which contributes to the transformation of the institution into the nation's premier technological university.
- Serve as the model for excellence in the State of Georgia and the US for construction education
- Maintain accreditation of the Construction Program by the American Council for Construction Education.

Frequency of Course Offerings

Figure 1. Post-Baccalaureate

| Courses | | Actual Enrollment | | | | |
|---------------|--------------------------------|-------------------|------|------|------|------|
| Course Number | Course Name | 1998 | 1999 | 2000 | 2001 | 2002 |
| CNST 5030 | Descriptive Structural Systems | 12 | 5 | 8 | 4 | 4 |

Figure 2. Required Courses

| Courses | | Actual Enrollment | | | | |
|---------------|-----------------------------------|-------------------|------|------|------|------|
| Course Number | Course Name | 1998 | 1999 | 2000 | 2001 | 2002 |
| CNST 6000 | Information Methods | -- | 21 | 8 | 14 | 8 |
| CNST 6100 | CNST Law | -- | 13 | 16 | 11 | 8 |
| CNST 6200 | Controls Strategic Bidding & Est. | 15 | 13 | 9 | 14- | 7 |
| CNST 6600 | CNST Risk Analysis & Control | -- | 14 | 15 | 14 | 8 |

Figure 3. Electives

| Courses | | Actual Enrollment | | | | |
|---------------|---------------------------------|-------------------|------|------|------|------|
| Course Number | Course Name | 1998 | 1999 | 2000 | 2001 | 2002 |
| CNST 6110 | Commercial CNST Transactions | 10 | -- | -- | -- | -- |
| CNST 6120 | Dispute Resolution | -- | 17 | 4 | -- | -- |
| CNST 6130 | Case Studies in CNST | -- | -- | -- | 16 | -- |
| CNST 6310 | Adv. Scheduling & Integrated | -- | -- | -- | -- | -- |
| CNST 6320 | CNST Information Systems | -- | -- | -- | -- | -- |
| CNST 6330 | Advanced Operations | -- | 32 | 8 | 13 | 8 |
| CNST 6410 | Building Failures & Defective W | -- | 15 | -- | 14 | 11 |
| CNST 6420 | Tall Buildings | -- | -- | -- | -- | -- |
| CNST 6430 | Automation & Robotics | -- | -- | 15 | 6 | -- |
| CNST 6510 | Marketing of CNST Services | -- | -- | -- | -- | -- |
| CNST 6520 | International Construction | -- | -- | -- | -- | 13 |
| CNST 6530 | Construction Markets | -- | -- | -- | -- | -- |
| CNST 6540 | The Construction Company | -- | -- | -- | -- | 11 |
| CNST 6800 | Seminar | -- | -- | -- | 12 | 7 |
| CNST 6901-04 | Special Topics | 4 | 9 | 28 | 15 | 11 |
| CNST 7701-04 | Masters Project | -- | 1 | -- | -- | -- |
| CNST 7801-04 | Masters Thesis | -- | -- | -- | -- | -- |

Course Descriptions

CNST 5030 Descriptive Structural Systems

A descriptive study of structural behavior with an overview of statics, strength of materials, design of beams and columns for concrete, steel and timber structural systems.

CNST 6000 Information Methods

A course in communications technique improvement and preparation for functioning in information based society. Conceptual and methodological issues in construction research will be explored with emphasis on construction specific resources. Data development and analysis will be studied to include the concepts of validity, reliability, and applications of statistics.

CNST 6100 Construction Law: Contracts and Claims

This course focuses on the legal problems and concerns frequently encountered by constructors and others who participate in the construction process. Topics include the formation of contracts and the various contractual relationships; methods of modification and termination of the contracts; exploration of licensure and professional liability of the construction practitioner.

CNST 6110 Commercial Construction Transactions Prerequisite: CNST 6100

This course is an extension of CNST 6100, with course topic discussion being devoted to commercial construction transactions in relation to the construction contracting process. Discussion is devoted to UCC Article 2, 3, and 9 as applicable to construction vendor contracts. Also, discussion is devoted to the hybrid contracting process and the legal implications of bidding for goods and services that qualify under commercial contract law.

CNST 6120 Dispute Resolution

Prerequisite: CNST 6100

This course will survey the growth of the alternate dispute resolution field, giving emphasis to alternative dispute resolution theory and its application to the construction industry. A student will be exposed to different resolution processes relative to the construction industry; namely, negotiations, mediation and arbitration.

CNST 6130 Case Studies in Construction

Prerequisite: CNST 6100

This course is designed to explore the multiple contractual complications that typically arise within the construction contracting process. Topics will develop and explore the technical aspects of procurement, implementation, construction operations, through to post contractual obligation and liabilities inherent in the construction industry.

CNST 6200 Strategic Bidding and Estimating

A review of all normal bid-preparation activities that should take place in a prime contractor's organization from the initial decisions on project selection and receipt of drawings and specifications, through the estimating process and sub-bid research, final bid assembly, markup and submission, to postmortems and necessary follow-up actions. Significant attention will be devoted to bidding techniques, strategies, practices, and methods recommended to handle these functions.

CNST 6310 Advanced Scheduling and Integrated Controls

An exploration of current techniques and practices of integrated project control systems for construction. Subjects covered include various methods of project scheduling and monitoring, resource management, time-cost tradeoffs, organizing and managing schedule data, forecasting and trend analysis, and presentation of schedule information. Special emphasis is placed on the use of modern integrated scheduling practices and associated computer tools.

CNST 6320 Construction Information Systems

The interaction of information technology with the construction industry. Opportunities and risks for individuals and organizations are examined in the realms of information flow, decision making and a changing world.

Human and ethical issues are considered. Students are introduced through laboratory exercises to construction specific products, to construction applications of conventional database systems and to data transfer technologies.

CNST 6330 Advanced Operations: Constructability, Value Engineering, Productivity

An exploration of project processes and organization including procurement, startup, documentation, payment, change order administration and job closeout. Included is project analysis for constructability, value engineering, and productivity analysis and improvement techniques.

CNST 6410 Building Failures and Defective Work

A study of problems, trends and issues related to workmanship and product failures during a time of rapid change in the construction industry. It will discuss concepts, philosophy and technology behind the subject issues and seek the exchange of ideas and views. Students will be expected to gain knowledge in the subject topics and develop skill in researching for facts extended to effective written and verbal presentation of the findings.

CNST 6420 Tall Buildings

A study of tall buildings in the society of today and tomorrow. Form giving factors will be identified and problems of planning, design and construction explored. The project manager's role in the tall building process will be related to specific building examples. International differences in the role of tall buildings will become apparent, yet common threads will be found which can be useful in a shrinking world and a more universal construction industry.

CNST 6430 Automation and Robotics

A study of the level of application of automation and robotics to construction. Techniques and equipment in varying stages of development as well as current applications will be presented for analysis and discussion. Students will be challenged to conceptualize new ways of applying technology to improve industry productivity through automation and robotics.

CNST 6510 Marketing of Construction Services

An examination of how construction services are marketed in the various sectors of the construction industry. The relevant characteristics of construction organizations and target clients will be explored with various scenarios structured to highlight critical parameters of search and match. The potential contributions of the media and conventional planning/analysis techniques will be considered.

CNST 6520 International Construction

An introduction to the construction industry in the international arena. Projects and processes will be studied. Issues of contract law, industry regulation, currency exchange, payment guarantees and risk management will be examined and related to respective countries of concern. Operations under different cultural norms will be projected in realistic scenarios.

CNST 6530 Construction Markets

A study of the dominant factors at work in different construction markets. Geographic, technological, economic, political, organizational, and social influences on construction markets are included. Market groupings by type of construction are identified and paradigms of construction are explored.

CNST 6540 The Construction Company

Organization of the construction firm is covered in this course. Financing of the firm, marketing the various construction services of the firm and exploring the economics which are unique to the

construction industry are analyzed. Strategic planning and planning for growth of a construction firm are included in the course. Insurance, bonding, employee development, and labor relations are studied. The continuing relationships with clients, bankers, bonding companies and design professionals are explored.

CNST 6600 Construction Risk Analysis and Control

This course focuses on the safety practices mandated by government regulation and required by good business practice. The costs of safety and the lack of it is examined. Workers' compensation insurance cost is integrated into the issues of safety. Exposure analysis, risk management, risk transfer and the costs associated with each are examined in this course.

CNST 6901 - 6904 Special Topics variable credit-1 to 4 hours

Prerequisite: Consent of the program head

Special topics offered by the program when the demand warrants such offerings.

CNST 7701 - 7704 Master's Project variable credit-1 to 4 hours

Prerequisite: CNST 6000 and Consent of the program head.

This course is designed for the students who want to focus their course of study on a particular aspect of construction. The student works independently under the supervision of the course professor on a project or an inquiry that is significant in the construction industry. The topic of the project or inquiry must be prior approved and the student must continue the work in a manner that is satisfactory to the course professor. The student is expected to submit a substantial report and to defend this submittal and the course work taken in the degree program. This course may be repeated but no more than 8 hours may be applied toward the requirements for graduation.

CNST 7801 - 7804 Master's Thesis variable credit-1 to 4 hours

Prerequisites: CNST 6000. Completion of 24 hours of graduate Construction degree course work or consent of the program head, approval of thesis proposal.

Intensive research project that results in a formal written thesis. Usually in an area of interest discovered by the student in early stages of the Construction program or work experience.

Students may enroll for a maximum of 4 hours per quarter for thesis credit. The student works independently under the supervision of the thesis

advisor on an inquiry that is significant to the construction industry. The topic must be prior approved and the student must continue the work in a manner that is satisfactory to the thesis advisor. The student is expected to submit a substantial body of research work and to defend this submittal and the course work taken in the degree program. This course may be repeated but no more than 12 hours may be applied toward the requirements of graduation.

Enrollment

Number of graduate students enrolled semester; during the last five years.

| Year | Fall | Spring | Summer |
|------|------|--------|--------|
| 1998 | 52 | -- | -- |
| 1999 | 39 | 46 | 28 |
| 2000 | 32 | 34 | 17 |
| 2001 | 29 | 28 | 22 |
| 2002 | 26 | 26 | 14 |
| 2003 | - | 33 | - |

Cost Effectiveness

Based on the enrolment reports of the last three calendar years (2000, 2001, and 2002) the average enrollment for all graduate classes is Thirteen (13*).

*This number includes students registered for special topic courses/cross-listed courses.

Faculty Contributions

DR. BANIK

Banik, G.C. and W. C. Barnes. "Issues and challenges for the Construction Industry". Accepted for presentation and publication in 2002 ASEE annual conference, Construction Engineering Division, Montreal, Canada, June 2002. **refereed.**

Banik, G.C. "Introductory Computer Applications for the AEC Education". Accepted for presentation and publication in 2002 ASEE annual conference, Architectural Engineering Division, Montreal, Canada, June 2002. **refereed.**

Banik, G.C. "Research Needs in Management and Organization of the Construction Industry". Accepted for presentation and publication in 2002 Associated School of Construction (ASC) annual conference, Virginia Tech., April 2002. **refereed.**

Banik, G.C. "Criteria for Construction Safety Incentive Program". Accepted for publication in American Professional Constructors, Journal of American Institute of Constructors, January 2002. **refereed.**

Banik, G.C. "Construction Productivity Improvement-Current US Perspective". *Journal of Construction Productivity*, CIB, Vol 7, No. 2, pp. 60-69, UK, Nov 2001. **refereed.**

Banik, G.C. "Water Shortage and Possible Solutions in Metro Atlanta". Published in Georgia Engineer, Aug 2001, pp.45-46. Generated enormous interests among the academia, the community and the government agencies.

Banik, G.C., "Teaching Temporary Structures: Style, Content and Outcome". Proceedings of 2001 ASEE annual conference, Albuquerque, NM, June 2001. **refereed.**

Banik, G.C., "Risk Allocation in Design-Build Contracts". Proceedings of 2001 ASC annual conference, pp. 125-136, Denver, CO, April 2001. **refereed.**

Banik, G.C. "Mid Level Site Managers Responsibilities." Presented in *International Risk Management Institute Construction Insurance Conference*, Atlanta, GA, Nov. 2000.

Lars Angenent, Banik, G.C. and Sung, S. "AMBR Treatment of Wastewater at Low Temperature". Proceedings in 2000 WEFTEC annual conference, Anaheim, CA, Oct. 2000. **refereed.** Revised version is selected for publication in Water Research.

Banik, G.C. "Construction Safety Education Satisfying Industry Needs". *Proceedings of 2000 ASEE Annual Conference*, St.Louis, Missouri, June 2000. **refereed.**

Banik, G.C., "Robotics and Hazardous Construction Sites." Presented in 2000 IRMI Construction Insurance Conference, Chicago, IL, Nov 2000.

Banik, G.C., "Construction Productivity Improvement." *Proceedings of 1999 ASC Annual Conference*, San Luis Obispo, California, pp. 165-178, April 1999. **refereed.**

Banik, G.C., "Robotics Applications in Hazardous Construction Sites." *Implementation of Health and Safety on Construction Sites (Edited by Dr. Hinze et al)*, March 1999, pp.593-600. **refereed.**

Banik, G.C., "Construction Productivity Improvement." *Presented and published in ASC Regional Conference*, Atlanta, GA, Nov. 1998.

Banik, G.C., Viraraghavan, T., and Dague, R.R., "Temperature Effects on Anaerobic Kinetic Parameters." *Environmental Technology*, Vol. 19, pp.503-512, July 1998. **refereed.**

Banik, G. C., and Dague, R.R., "Influence of Substrate Concentration on ASBR Treatment Performance and Kinetics at Psychrophilic Temperatures." Proceedings of 1997 CSCE-ASCE Environmental Engineering Conference, Vol. 2, pp.1069-82, Edmonton, Canada, July 1997. **refereed.**

Banik, G.C. and Dague, R.R., "Structure and Methanogenic Activity of ASBR Granules Treating Dilute Wastewater at Low Temperature." Proceedings for IAWQ conference (8th Anaerobic Digestion) Sendai, Japan, May 1997. **refereed.**

Banik, G.C., Sung, S., and Dague, R.R., "ASBR Granule Size Distribution Model under Psychrophilic Conditions". Proceedings of American Filtration and Separation Society (AFS) Conference, Minneapolis, MN, April 1997. **refereed. Best paper award.**

Banik, G.C. and et al., "Road Construction in Dhaka City". Proceedings of 1990 7th Conference for Senior Officials in Transportation, University of Philippine, Manila, Philippine, Oct. 1990.

Banik, G.C. and Nooruddin, S., "Aspects of Road Constructions in Relation to Traffic and Accidents-A Case Study." *Annual Engineers Conference-Engineers Institution*, Dhaka, Bangladesh, November 1988. **refereed.**

Banik, G. "Planning uplift in keeping view of possible sea level rise". The *Bangladesh Observer*, October 1988.

Banik, G., "Highway Financing- Bangladesh". The *Bangladesh Observer*, June 1988.

DR. MOORE

PROFESSIONAL PAPERS/ PRESENTATIONS:

"Teaching from a Distance with WebCT," (in preparation) a paper to be presented at *Construction in the 21st Century*, a conference to be held in Miami, FL in July 2002.

"Retaining Knowledge: The Achilles Heel of Corporate America," (in preparation) a paper being prepared in collaboration with Dr. Syed Ahmed, Florida International University, that will be submitted to the International Journal of Project Management in June or July 2002.

"Safety Among the Hispanic Workforce," a paper co-authored and presented at the Associated Schools of Construction conference in Birmingham, AL--November 2001.

"CIM & CIC: An Overview," a paper presented at the First International Conference on Information Systems in Engineering and Construction, Cocoa Beach, Florida--June 2001.

"Construction Education: A Change In Direction," a paper presented at the First International Conference on Information Systems in Engineering and Construction, Cocoa Beach, Florida--June 2001.

"Construction in Space: Fact or Fiction," a presentation made to the Atlanta Chapter of the Construction Management Association of America, Atlanta, Georgia—October 1995.

"Animation of Automated Space Construction," in Proceedings of ASCE Construction Congress '91, held in Cambridge, Massachusetts—April 1991.

ARTICLES AND COLUMNS:

Moore, B. (1995). "AirSolar," an article that discusses the use of photovoltaics and other means of conserving energy at the Hartsfield Atlanta International Airport, Nov. 13, 1995.*

Moore, B. (1996). "Airport Wind Power," an exploration of natural and artificial wind power at airports, Jan. 8, 1996.*

Moore, B. (1996). "Electric Vehicles in the Space Age," a brief discussion of the evolution of the electric vehicle and the reasons for its emergence as the preferred transportation technology for the twenty-first century, March 18, 1996.*

* Appearing in a bulletin published at the Hartsfield Atlanta International Airport.

DR. EI-ITR

PUBLICATIONS--ACKNOWLEDGED CONTRIBUTION:

EI-Itr, Z. and R. Kangari (1994). "Improving the Effectiveness of Equal Business Opportunity Programs." *J. of Professional Issues in Engineering*, ASCE, 120(3), 195-313, New York, NY.

EI-Itr, Z. and R. Kangari (1994). "Minority Contractors: Framework for New Policy Development." *J. of Construction Engineering and Management*, ASCE, 120(3), 632-649, New York, NY.

Kangari, R. and Miyatake, Y. (1993). "Computer Integrated Construction in the U.S.: Part I - Industry Review." *J. of Architectural Planning and Environmental Engineering*, AIJ, 446(April), 175-182.

Kangari, R. and Miyatake, Y. (1993). "Experiencing Computer Integrated Construction." *J. of Construction Engineering and Management*, ASCE, 119(2), 307-322, New York, NY.

DR. SIDDIQI

Siddiqi, K.M. et.al. (2002). *Partnering Impact On Change Orders For Mid Size Construction Projects*, published at Construction in 21st Century, organized by the Florida International University, Miami Florida June 2002.

Siddiqi, K.M. et.al. (2002). Value Engineering Benefits for Over Budget Commercial Projects, published at *10th International Symposium, Construction Innovation and Global Competitiveness, CIB Joint Working Commission 65 and 55. Organized by the University of Cincinnati, September 2002.*

Siddiqi, K.M. et.al. (2001). *Safety Among the Hispanic Work Force*, published in the ASC Regional Conference proceedings held at Montgomery, Alabama, November, 2001.

Siddiqi, K.M. et.al. (2001). *Using Benchmarks And Metrics To Evaluate Project Delivery Of Environmental Restoration Programs*, published, in The Journal of Construction Engineering and Management, American Society of Civil Engineers (ASCE), March 2003.

Siddiqi, K.M. (2000). *Distance Education Media: Technology Assessment*, published in the First International Conference proceedings on Information Systems In Engineering and Construction, Cocoa Beach Florida, June 6-8, 2001.

Siddiqi, K.M. et. al. (2000). *Value Engineering options for Over-Budge Projects*, published in the ASC Regional Conference proceedings held at Atlanta, Georgia, November 1-3, 2000.

Siddiqi, K.M. et. al.(1999). *Conceptual Estimating For General Contractors* published in the ASC Regional Conference proceedings held at Jacksonville, Florida in November 1999.

Siddiqi, K.M. et. al. (1998). *A case study of inner city Brownfield Redevelopment* published in the Associated Schools of Construction Regional Conference proceedings, held at Atlanta, Georgia, November 5-7, 1998.

Siddiqi, K.M. et. al. (1997). *Strategic Environmental Technology Policies Impacting the US Army's Global Readiness*, Contract number DACA88-94-D-0025, research project awarded to Georgia Institute of Technology by the US Army Contracting Office, Atlanta Georgia. Research project completed at US Army Environmental Policy Institute from January 1996 to June 1997.

Siddiqi, K.M. (1997). *Framework for Analyzing Construction Alternatives With Respect to Environmental Laws*, Ph.D. dissertation, School of Civil and Environmental Engineering, Georgia Institute of Technology, 1997.

Siddiqi, K.M. and Gregory, R. (1996). *Environmental Costing for Weapon Systems Acquisition*, Society of Cost Estimating and Analysis 1996 Conference, Orlando, Florida USA. June 25-28, 1996.

Other Publications And Research

Post Doctoral Research Faculty, *Assessment technology for sick buildings renewal within environmental compliance constraints*, National Science Foundation sponsored project, Georgia Institute of Technology, School of Civil and Environmental Engineering October 97 to August 1998.

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Dr. MENCH

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Electrical Education for Constructors

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APPENDICES

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Institutional Research Reports

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FACULTY & STAFF RESOURCES

A. Current Staff

ig. 19 Current Faculty List

| Name | FTE | Highest Degree | Years on Staff | Tenured | Tenure Track | Non-Tenure Track | 9 Month | 12 Month |
|--------------------|-----|----------------|----------------|---------|--------------|------------------|---------|----------|
| Wilson C. Barnes | 1.0 | Ph.D. | 8 | X | | | | X |
| Khalid Siddiqi | 1.0 | Ph.D. | 5 | | X | | X | |
| Arlan Toy | 1.0 | Ph.D. | 13 | X | | | X | |
| Brian Moore | 1.0 | PhD. | 3 | | X | | X | |
| David R. Pierce | 1.0 | MBA | 11 | X | | | X | |
| Zuhair Itr | 1.0 | Ph.D. | 7 | | X | | X | |
| Gouranga Banik | 1.0 | Ph.D. | 5 | | X | | X | |
| John Mench | 1.0 | Ph.D. | 2 | | | X | X | |
| Part-time | | | | | | | | |
| Professors: | | | | | | | | |
| Nancy Turner | | MS | | | | | | |
| James Mullinax | | MS | | | | | | |
| Tore Knos | | Ph.D | | | | | | |
| Phil Beck | | JD. | | | | | | |
| Richard Martin | | MS | | | | | | |

A. Current Staff

Current Support Staff

| Name | % Full Time | Assignment |
|---------------|-------------|--------------------------|
| Maria Sanchez | 100 | Administrative Secretary |

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Graduate Program CNST Faculty

| | |
|----------------|----------|
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| Khalid Siddiqi | ksiddiqi |
| Brian Moore | bmoore |
| Zuhair Itr | zitr |
| Gouranga Banik | gbanik |