# Annual Report 2011-2012

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1. Introduction

This year the Department of Construction Management made history by elevating itself to OHL School of Construction. Globally known international construction company Obrascon Huarte Lain (OHL) named the FIU construction program through a generous gift. OHL School of Construction became the first named school in the history of the college. The dedication took place on March 20, 2012 in the presence of the high-ranked executives of both FIU and OHL including President Mark B. Rosenberg of FIU and Chairman of the OHL Board of Directors Juan-Miguel Villar-Mir. Many dignitaries were present as invited guests including FIU administrators, local construction industry executives, faculty and students of the college.

This year the school continued to make noteworthy accomplishments as in the previous years. A team of undergraduate students won the Associated Builders and Contractors (ABC) 12th annual student chapter Construction Management Competition during the 2012 ABC EdCon and Expo in San Antonio, Texas. FIU also took second place in safety. FIU was one of the 25 teams from colleges and universities across the nation participating in the competition. Our team competed with reputable schools such as Auburn University, Clemson University, Colorado State, Georgia Tech, Purdue University, Texas A&M University, Ohio State University, and University of Florida among others. It is the second time FIU has brought home the coveted title of Construction Management Champions. FIU team became champion for the first time in 2006.

The school began offering its first overseas MSCM (Masters of Science in Construction Management) in the Dominican Republic in May of this year. Another program is due to begin in Panama in January next year. In addition, a professional MSCM program is being launched in August this year. The professional program will be taught on Saturdays at the FIU Pines Center in Broward.

The Bachelor of Science in Construction Management program is re-accredited by the American Council for Construction Education (ACCE) for a six year period ending in 2013. The school will be revisited by ACCE in the fall of 2013. The school is preparing for the upcoming visit.

Enrollment is significantly lower than last year. The fall 2011 total (undergraduate and graduate) headcount is 443 compared to 546 in fall 2010 indicating a decrease of nearly 19 percent. The graduate fall 2011 enrollment is 123, and the undergraduate enrollment is 320. The decrease is very likely due to the continuing downturn in economy. We hope that enrollment will rise as the economy improves.

The total number of students graduated this year is 138. Last year 166 students, highest in the history of the school, graduated.
It should be mentioned here that according to latest employment data published by SUS (2010-11 Florida Public University Graduates) the Masters in Construction Management has the highest employment rate in the state when compared to other universities in Florida and the Bachelor degree program in Construction Management has the second highest rate of employment.

OHL School of Construction faculty members were active in publishing their research findings in reputed construction journals and conference proceedings. Collectively, the department faculty published one book, nine journal papers, three research reports and twenty conference proceedings papers.

The school did extremely well again this year in external research funding, thanks to Dr. Yimin Zhu and Dr. Bayraktar. In addition to Dr. Zhu’s ongoing NSF grants, Dr. Bayraktar received a number of grants from the Florida Department of Transportation.

The school has been allocated funding for developing its planned construction process laboratory. Work is underway with targeted completion by December 2012. The laboratory is intended to provide students hands-on demonstrations on real-life construction processes, construction materials, components and their assembly. Half-built walls, steel structural joints and samples of various construction components will be the features of this laboratory.

In addition, the school has a 650 square feet MEP (mechanical, electrical, plumbing) studio on the first floor of the Engineering Center Building. This laboratory is equipped with HVAC, electrical and plumbing appliances/fixtures for demonstration to students, and computer hardware and software for instruction and training.

At present, undergraduate students taking the course on ‘Construction Materials’ are required to meet three class sessions in the civil engineering materials laboratory for hands-on demonstration on testing of common construction materials, such as cement, concrete, steel and timber. This arrangement provides much needed laboratory experience to our students.

The department currently has 10 fulltime faculty members and employs between 10 to 15 adjunct faculty members every term.

2. Academics

2.1. Enrollments and FTEs

Fall headcount (enrollment) history is shown in Table 1 and Figure 1. After a steady growth of more than six years between 2003 and 2009, the fall enrollment has been declining over the last two years. This year the decline is about 19 percent from
The undergraduate enrollment dropped to 320 from 374 and graduate enrollment to 123 from 172.

### Table 1. Fall Headcount History

<table>
<thead>
<tr>
<th></th>
<th>Fall 2007</th>
<th>Fall 2008</th>
<th>Fall 2009</th>
<th>Fall 2010</th>
<th>Fall 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNDERGRADUATE</td>
<td>323</td>
<td>369</td>
<td>402</td>
<td>374</td>
<td>320</td>
</tr>
<tr>
<td>GRADUATE</td>
<td>182</td>
<td>202</td>
<td>192</td>
<td>172</td>
<td>123</td>
</tr>
<tr>
<td>TOTAL</td>
<td>505</td>
<td>571</td>
<td>594</td>
<td>546</td>
<td>443</td>
</tr>
</tbody>
</table>

### Figure 1. Fall Headcount History

### Table 2. Annual Full Time Equivalent (FTE)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LOWER</td>
<td>43.7</td>
<td>42.8</td>
<td>41.3</td>
<td>34.1</td>
<td>28.0</td>
</tr>
<tr>
<td>UPPER</td>
<td>138.5</td>
<td>155</td>
<td>150.4</td>
<td>136.2</td>
<td>115.9</td>
</tr>
<tr>
<td>GRAD I</td>
<td>93.1</td>
<td>94.1</td>
<td>92.8</td>
<td>82.0</td>
<td>59.6</td>
</tr>
<tr>
<td>GRAD II</td>
<td>0.8</td>
<td>0.5</td>
<td>0.5</td>
<td>2.1</td>
<td>1.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>275.7</td>
<td>292.0</td>
<td>285.0</td>
<td>254.4</td>
<td>204.6</td>
</tr>
</tbody>
</table>
The annual full-time equivalent (AFTE) students, calculated as the fundable student credit hours divided by 40 or 32 credits for the undergraduate and graduate students, respectively, have also declined correspondingly with the headcount at both undergraduate and graduate levels over the last two years. Overall decrease in AFTE is close to 20% over the last year (2010-11). The increase in total AFTE, however, was close to 40% over the three year period from 2005-06 to 2008-09. Figure 2 shows the AFTE history of the department since 2007-08.

2.2. Online Masters Program

The school began offering graduate courses online for its Masters students in 2004. Two sections for each online course are offered, one for the in-state students and the other for the out-of-state students. Fee structures are different. FTE credits of out-of-state students are not credited to the school. Sufficient courses are offered within a four-semester cycle enabling students to graduate by taking all courses online. The enrollment has declined this year as compared to the years before as can be seen from Tables 3 and 4 and Figure 3.
### Table 3. Online (MS) Enrollment and Course Offering

<table>
<thead>
<tr>
<th>Semester/Year</th>
<th>Online Enrollment</th>
<th>Online Course Offering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer 2008</td>
<td>86</td>
<td>2</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>110</td>
<td>3</td>
</tr>
<tr>
<td>Spring 2009</td>
<td>154</td>
<td>4</td>
</tr>
<tr>
<td><strong>2008 - 2009</strong></td>
<td><strong>350</strong></td>
<td><strong>9</strong></td>
</tr>
<tr>
<td>Summer 2009</td>
<td>125</td>
<td>3</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>143</td>
<td>3</td>
</tr>
<tr>
<td>Spring 2010</td>
<td>133</td>
<td>4</td>
</tr>
<tr>
<td><strong>2009 - 2010</strong></td>
<td><strong>401</strong></td>
<td><strong>9</strong></td>
</tr>
<tr>
<td>Summer 2010</td>
<td>158</td>
<td>4</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>203</td>
<td>5</td>
</tr>
<tr>
<td>Spring 2011</td>
<td>172</td>
<td>3</td>
</tr>
<tr>
<td><strong>2010 - 2011</strong></td>
<td><strong>533</strong></td>
<td><strong>12</strong></td>
</tr>
<tr>
<td>Summer 2011</td>
<td>113</td>
<td>3</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>152</td>
<td>4</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>138</td>
<td>4</td>
</tr>
<tr>
<td><strong>2011 - 2012</strong></td>
<td><strong>403</strong></td>
<td><strong>11</strong></td>
</tr>
</tbody>
</table>

### Table 4. Online (MS) Course Registrations History

<table>
<thead>
<tr>
<th></th>
<th>Online Enrollment (Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007-08</td>
</tr>
<tr>
<td>Graduate</td>
<td>281</td>
</tr>
</tbody>
</table>
2.3. Pines Center

The school offers classes in the Pines Center campus, which is located in the Broward County for convenience of the students primarily residing in the Broward and the Palm Beaches counties. We offer a number of classes there every semester during the academic year, and fewer during the summer. Courses offered at the Pines Center during a given semester are not offered at the Engineering Center during that same semester and vice versa. During 2011-12 academic year 14 undergraduate and 5 graduate course-sections were offered with a total of 235 undergraduate and 104 graduate student-registrations in the Pines Center. The data in Table 5 show that there has been a drop in both undergraduate and graduate enrollments.

Table 5. Pines Center Course offering/registrations

<table>
<thead>
<tr>
<th></th>
<th>Academic Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009-10</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>16/448</td>
</tr>
<tr>
<td>Graduate</td>
<td>7/133</td>
</tr>
<tr>
<td>TOTAL</td>
<td>23/581</td>
</tr>
</tbody>
</table>
2.4. Degrees Awarded

The department awarded 138 degrees last year. The year before, the number of degrees awarded was 166, the highest in the history of the department. The historical numbers over the last five years for bachelors and masters are shown in Table 6 and Figure 4.

Our graduates are employed by all major construction companies in south Florida and nationwide. OHL/Arellano, Link Construction, Moss and Associates, Coastal Construction, Turner Construction, Odebrecht Construction, Balfour Beatty, MCM and Skanska are some of the major employers.

Table 6. Degrees by Students

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BACHELORS</td>
<td>45</td>
<td>34</td>
<td>59</td>
<td>77</td>
<td>68</td>
</tr>
<tr>
<td>MASTERS</td>
<td>52</td>
<td>92</td>
<td>103</td>
<td>89</td>
<td>70</td>
</tr>
<tr>
<td>TOTAL</td>
<td>97</td>
<td>126</td>
<td>162</td>
<td>166</td>
<td>138</td>
</tr>
</tbody>
</table>

Figure 4. Degrees Awarded History
2.5. ACCE Accreditation

The CM undergraduate program (BSCM) has been re-accredited in fall 2007. The program has been awarded accredited status for six years by the American Council for Construction Education (ACCE). The department’s strengths were duly recognized. In response to ACCE site visit report, the department constructed a 650 sq. ft. MEP laboratory. As mentioned earlier the department is working with the College Dean’s Office and the FIU administration for establishing a construction process laboratory this year.

2.6. Student Chapter Activities

Four student chapters are active in the Department. These are: ABC (Associated Builders and Contractors), AGC (Associated General Contractors), National Association of Women in Construction (NAWIC), and Sigma Lambda Chi Honor Society. ABC Student Chapter is the most active and works closely with the south Florida ABC. This student chapter participates in the National Construction Management Competition annually. Every year ABC East Florida Chapter organizes a golf tournament to raise funds for supporting the student team. Dr. Jose Faria serves as the advisor and Dr. Morad as the mentor of the team participating in the national competition.

The team won the National Grand Championship this year (2012) in the competition held in April, 2012 in San Antonio. It should be mentioned that FIU team also won the championship in 2006.

2.7. Overseas and Professional Programs

The department and the college’s Division of External Program took initiatives to launch two overseas programs to offer the Masters in Construction Management (MSCM) programs in the Dominican Republic and in Panama. The program in the Dominican Republic began in May 2012. It is being offered in collaboration with Universidad Iberoamericana (UNIBE) in Santa Domingo, Dominican Republic. The program in Panama will be offered in collaboration with the Quality Leadership University (QLU) in Panama City, Panama. The Panama program is set to begin in January 2013.

In addition, a professional MSCM program is being launched in August, 2012. This program is planned for the executives in the industry and courses will be offered during the weekends in the Broward Pines Center.
2.8. Other Events

2.8.1. Outreach

- ABC Golf Tournament, March 9, 2012 at the Miami-Melreese Golf Course for raising funds to support the FIU ABC student team for participating in the National Construction Management Championship competition held in San Antonio, Texas.

- The department organized its regularly held Career Expo on February 8, 2012. Eleven major construction companies including ANF, OHL/Arellano, Facchina, Hensel Phelps, Link, Moss, MCM, Skanska, Turner, and Weitz participated.

2.8.2. Industry Advisory Council Events

- Case Equipment demonstration – Held November 18, 2011 at the ARC Conference Room and EC yard.
- CM Industry Advisory Council Meeting and Holiday Luncheon – Held on December 8, 2011 at EC 2300.
- OHL School of Construction – Dedication held March 20, 2012.
- Lecture by OHL Chairman Juan Miguel Villar-Mir, held March 20, 2012 in EC 2300.
- FIU construction projects workshop - Held on April 20, 2012 for the south Florida construction industry. John Cal, Associate Vice President, Facilities Management, Bob Griffith, Director of Planning and Real Estate Development, and Sylvia Berenguer, Director, Minor Projects, were the speakers.
- The Executive Council (Chuck Nielson, Dan Whiteman, Dagobarto Diaz, Emilio Alvarez, Chad Moss, Irtishad Ahmad and Susan Jay) met several times throughout the year to assess the industry economy and strategize the fund-raising activities for the department.
3. Research and Scholarly Activities

3.1. Research Areas

<table>
<thead>
<tr>
<th>Major Research Area</th>
<th>Faculty Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Management and Decision Making</td>
<td>Irtishad Ahmad, Emre Bayaraktar, Jose A. Faria, Ayman Morad</td>
</tr>
<tr>
<td>Sustainability and Green Construction</td>
<td>Gene Farmer, Yimin Zhu, Emre Bayaraktar, Jose Faria</td>
</tr>
<tr>
<td>Information and Communication Technology</td>
<td>Irtishad Ahmad, Yimin Zhu, Ayman Morad, Youngcheol Kang</td>
</tr>
<tr>
<td>Infrastructure Systems and Management</td>
<td>Irtishad Ahmad, Yimin Zhu, Jose Mitrani, Wallied Orabi</td>
</tr>
<tr>
<td>Safety and Health</td>
<td>Gene Farmer, Jose A. Faria</td>
</tr>
<tr>
<td>Construction Education</td>
<td>Yimin Zhu, Ron Baier, Irtishad Ahmad</td>
</tr>
</tbody>
</table>

3.2. Research Funding

As shown in Table 7 and Figure 5, the department did very well again this year in external research funding, thanks to Dr. Yimin Zhu and Dr. Bayaraktar. Currently, Dr. Zhu is working on two National Science Foundation grants. He completed one last year. Dr. Bayaraktar received several grants from Florida Department of Transportation. As in the previous years, this year also a number of research proposals were submitted to various funding agencies by the faculty.
3.2.1. Active Research Projects


3.3. International Conference on Construction in Developing Countries (ICCIDC-III), Bangkok, Thailand

The department has organized the third conference on Construction in Developing Countries in Bangkok, Thailand in July 2012, in collaboration with East Carolina University, Auburn University and NED (Pakistan).

3.4. Research Productivity

In this section, a listing of the research output and faculty scholarly work is compiled.

3.4.1. Journal Editorship

Ahmad, I. Editorial Board Member, Journal of Management in Engineering, American Society of Civil Engineers.

Ahmad, I. Editorial Board Member, Leadership and Management in Engineering, American Society of Civil Engineers.

Bayraktar, M.E. Associate Editor, Journal of Management in Engineering, American Society of Civil Engineers.
3.4.2. Books and Book Chapters


3.4.3. Refereed Journal Papers 2011-12

3.4.4 Reports 2011-12


3.4.5 Conference Proceedings Papers 2011-12


4. Fundraising

4.1. Scholarships

The department offers the following scholarships to the students.

<table>
<thead>
<tr>
<th>NAME OF SCHOLARSHIP</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSUL TECH (endowed)</td>
<td>1 for $1,000</td>
</tr>
<tr>
<td>BALFOUR BEATTY (endowed)</td>
<td>1 for $1,000</td>
</tr>
<tr>
<td>CONDOTTE AMERICA (endowed)</td>
<td>1 for $1,500</td>
</tr>
<tr>
<td>CASF (endowed)</td>
<td>1 for $2,500</td>
</tr>
<tr>
<td>ASPE (endowed)</td>
<td>1 for $2,000</td>
</tr>
<tr>
<td>KELLY FOUNDATION (CM &amp; CIVIL) (endowed)</td>
<td>2 for $2,000 ea.</td>
</tr>
</tbody>
</table>

4.2. Industry Support Campaign

The historic achievement last year was the transformational gift received from the international construction giant OHL Construction. The multiyear monetary gift in terms of endowment and operational expenses transformed the department into the newly named OHL School of Construction. In addition to this gift, the school received cash donations in the amount of $46,000 from the Industry Advisory Council members. The school has launched a new campaign for naming various facilities and laboratories in the school.

The school organized several programs to keep the industry engaged and supportive. As a result, a number of successful construction companies are now interested in naming the program with significant endowment.

This campaign is ongoing on an annual basis. Please see Appendix A for IAC membership criteria.

5. Future Plans and Priorities

The school faculty members met for a full day planning session at the Doral Country Club on February 10, 2012 and developed a strategic plan for the school. The plan is included in Appendix B of this report.
5.1. Priorities

5.1.1. Research Funding

The department will strive towards establishing the CM department as a research intensive program. Hiring of new faculty in strategic areas to increase external research funding will continue to be a priority. Efforts will be made to hire faculty with proven strengths in research and to identify emerging research areas and funding agencies. One new faculty member is joining the department this fall. With five research-active faculty members in the department we expect to reach research award exceeding $500,000 this year.

5.1.2. Marketing of programs (website, visits, brochures, newsletters, postcards, mail campaign)

The department will continue its efforts in attracting students from other states and countries as well as from governmental and corporate entities. With the help of the new marketing personnel hired by the College, the department will publish redesigned brochures, program descriptions and other print materials. The website dedicated to the online program will be redesigned to make it attractive and user-friendly. Newsletters will be published on a regular basis beginning this fall. Advertisements will be placed in trade magazines and industry association publications to market the programs. An industry liaison coordinator position was created last year - the department is searching for a suitable person to fill this position. The position will help the department tremendously in its effort to market its programs effectively and to build strong ties with the industry.

5.1.3. Maintain Accredited Status

The department will continue to retain its accredited status of the bachelors program with the highest order of approval. Preparations in terms of outcomes assessment, satisfying curriculum requirements, providing oversight of instruction, achieving program goals, involving the industry in curriculum development and improvement are underway.

5.1.4. Alumni Association

The department Alumni Association will be encouraged to undertake activities such as annual gathering, sports, and other extracurricular activities. Alumni will be invited to participate in outcomes assessment survey, contribute to newsletter articles, and fundraising.
5.1.5. Construction process laboratory

The Department has been allocated funding for developing its planned construction process laboratory. Work has begun in spring 2012 with projected completion by December 2012. The laboratory will be housed in OU 104. The laboratory is intended to provide students hands-on demonstrations on real-life construction processes, construction materials, components and their assembly. Half-built walls, steel structural joints and samples of various construction components will be the features of this laboratory. This laboratory is required to satisfy the accreditation criteria set forth by American Council for Construction Education. The undergraduate construction management program is scheduled for re-accreditation in fall 2013.

5.2. Resource Needs

- Construction Process laboratory for the undergraduate students.
- Staff support for developing and maintaining relationships with the industry, alumni, and the hiring companies.
- Additional faculty lines.

5.3. New Programs

- New programs – International programs at the Master’s level in the Dominican Republic and Panama have been developed. The DR program has already started in May 2012, and the Panama program will start in January 2013. The weekend (Saturday) program for the professionals in the Pines Center (Broward County) will begin in August 2012. The school already has a successful online Master’s program. Other areas for expansion could be joint BS and MS degree programs in construction engineering together with the Department of Civil and Environmental Engineering.
- Seminars/conferences/workshops – The school can organize seminars and workshops for the industry professionals, contractors and their employees. There is a critical need for such programs as the industry needs to keep its employees updated with new knowledge and techniques in the field.

5.4. New Directions

Organizational Growth and Development

- Recruitment of two additional faculty members within two years.
- Recruitment of an additional staff position to support industry and alumni engagement activities and to secure donors support.

Curriculum Implementation

- If approved, implement the new programs, including Bachelors and Master of Science in Construction Engineering in collaboration with Civil and
Environmental Engineering, and programs in facility management.

**Enrollment Management**
- Re-evaluate the admission policy for the undergraduate and graduate programs to address the quality of students being admitted to the program and the high demand on the discipline.

**Research**
- Hire faculty with proven strengths in research and identify emerging research areas and funding agencies to capture external funding.

**Fundraising**
- Complete the ‘naming of the facilities’ campaign and begin to envision future fundraising goals. Recruit additional IAC members.