**BCN 5705C - Project Management for Construction**

**Fall 2025**

**Section - 1917 / Course - 10915**

**Schedule: Period 4 - 5 M, W (10:40 AM - 12:35 PM)**

**Location: RNK-238**

Instructor: Avinash Aruon, Ph.D.

Office Location: RNK330

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Phone: (352)-273-1150

Office Hours: Tuesday & Thursday 1pm-3pm or by appointment

Course Description:

By the end of this course, you would have acquired the necessary competence as a project manager to manage a construction project. This course will cover core areas of construction project management principles, strategies, and tools that are applied in the industry. With emphasize on real-world, case-based learning, the course will equip you with the knowledge and skills necessary to effectively manage complex construction projects across their entire lifecycle—from project inception through closeout.

Topics include project delivery methods, bidding and estimation, scheduling, cost control, contracts management, procurement strategies, resource planning, project closeout, construction safety, and leadership and negotiation tactics. Through interactive case studies and group assignments, you will explore how project managers navigate the technical, contractual, and human dimensions of construction projects to deliver value to stakeholders.

This course is ideal for anyone aspiring to assume leadership roles in construction management, capital project delivery, or infrastructure development.

Course Delivery: Content will be delivered in face-to-face sessions for this class. Reading materials, assignments and grades will be posted on Canvas. Weekly reading materials will be assigned, and students are expected to read the materials prior to class and engage in class discussions, activities and other in-class deliverables.

Recommended Textbook:

Class lecture and reading materials will be available on the course Canvas site. However, the course also has reference textbooks from which reading will be assigned:

* Harris, Frank, Ronald McCaffer, and Francis Edum-Fotwe. *“Modern Construction Management”*. 7th ed. Hoboken: John Wiley & Sons, Incorporated, 2013.

E-book can be accessed through UF library:

<https://ufl-flvc.primo.exlibrisgroup.com/permalink/01FALSC_UFL/6ad6fc/alma99383959328506597>

Student Learning Outcomes:

The course is designed to give students an understanding of the project lifecycle from the initial conceptual design phase of a project through the completion of construction and start-up. Emphasis is upon the construction and management aspects of this process. By the end of the course, students will be able to:

1. Explain the lifecycle of a constructed facility from initial programming through to close-out.
2. Describe and evaluate the predominant project delivery methods used in construction and delineate the process followed to request proposals or bids for a project.
3. Explain conceptual and detailed construction cost estimates for a project or activity and develop details cost estimates for construction projects.
4. Describe construction project scheduling process and apply scheduling tools and methods for project planning and controls.
5. Interpret construction contracts with a focus on risk allocation, dispute resolution, change management, and legal/ethical considerations.
6. Explain principles of quality management in construction project and apply quality control methods to comply with project requirements.

Course Schedule:

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| **Week** | **Session** | **Date** | **Topic** | **Assignments Due** |
| 1 | 1 | Mon, Aug 25 | Course Introduction; Project Lifecycle Overview |   |
| 2 | Wed, Aug 27 | Overview of Project Delivery Methods |   |
| 2 |   | Mon, Sep 1 | \*\*No Class – Labor Day\*\* |   |
| 3 | Wed, Sep 3 | Contract Types |   |
| 3 | 4 | Mon, Sep 8 | Project Documents |   |
| 5 | Wed, Sep 10 | Project Finance 1 (Investment Decision, NPV) | Assignment-1 |
| 4 | 6 | Mon, Sep 15 | Project Finance 2 (Cash flow) |   |
| 7 | Wed, Sep 17 | Conceptual Estimation |   |
| 5 | 8 | Mon, Sep 22 | Parametric Estimation | Assignment-2 |
| 9 | Wed, Sep 24 | Bid Preparation |   |
| 6 | 10 | Mon, Sep 29 | Project Procurement-1 (Procurement Process, Documents) | Assignment-3 |
| 11 | Wed, Oct 1 | Project Procurement-2 (Bid Evaluation, Contracts Management) |   |
| 7 | 12 | Mon, Oct 6 | Scheduling Overview |   |
| 13 | Wed, Oct 8 | Critical Path Method | Assignment-4 |
| 8 | 14 | Mon, Oct 13 | Resource Planning & Management-1 | Team Project Part-1 |
| 15 | Wed, Oct 15 | Resource Planning & Management-2 |   |
| 9 | 16 | Mon, Oct 20 | Project Control-1 (Process, Variables) |   |
| 17 | Wed, Oct 22 | Project Control-2 (EVM, Reporting) | Assignment-5 |
| 10 | 18 | Mon, Oct 27 | Quality Management |   |
| 19 | Wed, Oct 29 | Construction Safety | Assignment-6 |
| 11 | 20 | Mon, Nov 3 | Qualitative & Quantitative Risk Analysis  |   |
| 21 | Wed, Nov 5 | Project Close-out (Processes & Documents) |   |
| 12 | 22 | Mon, Nov 10 | GUEST LECTURE (TBC) | Assignment-7 |
| 23 | Wed, Nov 12 | Leadership, Negotiation and Team Building |   |
| 13 | 24 | Mon, Nov 17 | Construction Technology | Team Project Part-2 |
| 25 | Wed, Nov 19 | Resilience & Sustainability in Construction Projects |   |
| 14 |   | Mon, Nov 24 | \*\*No Class – Thanksgiving Break\*\* |   |
|   | Wed, Nov 26 | \*\*No Class – Thanksgiving Break\*\* |   |
| 15 | 26 | Mon, Dec 1 | Course Wrap-up | Individual Project |
| 27 | Wed, Dec 3 | Final Team Project Presentations |   |

Assessments:

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| **Assessment Type** | **Points** | **Description** |
| Assignment-1 | 50 | Delivery Methods & Contract Types |
| Assignment-2 | 50 | Project Finance |
| Assignment-3 | 50 | Estimation |
| Assignment-4 | 50 | Procurement |
| Assignment-5 | 50 | Scheduling & Resource Planning |
| Assignment-6 | 50 | Project Controls |
| Assignment-7 | 50 | Project Risk Management & Analysis |
| Team Project Part-1  | 200 | Bid Submission (Team) |
| Team Project Part-2 | 200 | Project Execution (Team) |
| Project Presentation | 50 | Presentation of Team Project from Bid to Execution |
| Individual Project | 150 | Mini-Case Study (Individual) |
| Miscellaneous Assignments | 50 | In-class discussions, problems, exercises etc. |

Assignments: Assignments are individual tasks and are intended to evaluate your fundamental understanding of concepts. Assignments will test your ability to apply concepts to real-world construction projects or tasks. Each assignment will be worth 50 points and a rubric for grading will be shared along with the assignment. Team or collaborative work on assignments are not acceptable and will be subject to disciplinary action.

Team Project: Students will be assigned a team for entire semester to work on team-based project. Details of a construction project or activity will be provided earlier in the semester and teams will progressively work on the project throughout the semester. Part-1 of the project will deal with pre-construction phase where teams will be asked to submit their bids for the project. Part-2 will focus on the execution phase where teams may be developing the schedule, resources, procurement plan, project control tools and reporting structure along with risk management for the awarded project. Team project will be evaluated based on the effective implementation of project management principles, tools, and methods learnt in the course and will culminate with a team presentation of the project details.

Individual Project: Students will be given a choice of construction projects and will be expected to carry out in-depth research on their preferred project. The aim of this mini-case study is to encourage students to go beyond the general context of the project and focus on a specific aspect, an event or phase of the project that interests them and submit a case report of 3-5 pages based on their research. Guided by a research question, students will dive deeper into the case and provide documentary evidence to substantiate their findings, recommendations, and conclusions. The report shall include a general background on the mega project covering the description, scope, stakeholders, delivery methods, financial aspects, construction schedule, challenges, lessons learnt etc., followed by the research part that includes the research question, methodology, finding/results, conclusions, and references.

Grading Policy:

Final grades will be assigned according to the following scale. The total points you earn from all the graded deliverables will be divided by the total possible points to obtain your percent.

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| **Percent** | **Letter****Grade**  | **Grade****Points** |
| 93.0 - 100  | A | 4.00  |
| 90.0 - 92.99  | A- | 3.67  |
| 87.0 - 89.99  | B+ | 3.33  |
| 83.0 - 86.99  | B | 3.00  |
| 80.0 - 82.99  | B- | 2.67  |
| 77.0 - 79.99  | C+ | 2.33  |
| 73.0 - 76.99  | C | 2.00  |
| 70.0 - 72.99  | C- | 1.67  |
| 67.0 - 69.99  | D+ | 1.33  |
| 63.0 - 66.99  | D | 1.00  |
| 60.0 - 62.99  | D- | 0.67  |
|  0 - 59.99  | E | 0.00  |

More information on grades and grading policies at UF Graduate School is available at: <https://gradcatalog.ufl.edu/graduate/regulations/>

Class Demeanor:

1. You should ask questions when you desire more information or need clarification about a topic. This is a “low-risk” environment. More than likely, others have the same question that you have. I will never belittle you or suggest that your question is silly or unimportant.
2. All deliverables such as in-class exercise, assignments, projects, and presentations shall be submitted before the due date set on Canvas. If you need additional time to submit then please reach out to me explaining your situation and all such requests will be considered on its own merit. Unexcused late submissions made more than 24 hours are subject to 25% deduction of points. Assignments submitted after 72 hours of the deadline will not be accepted.
3. It is expected that every deliverable submitted for a grade will be professional, with correct spelling and grammar. The expectations and caliber of the work expected in this course are elevated to the level of the business community and evaluated against that baseline. When available, use software to produce your work.
4. You must attend exam/presentation sessions; if you have a conflict with an exam/presentation session or miss a session, then you must provide me with an official document indicating why you have a conflict at least 2 weeks in advance or why you missed the session. Missing the session without a valid reason will result in a “0” grade for the exam/session. Refer to Graduate School’s attendance policy <https://gradcatalog.ufl.edu/graduate/regulations/>
5. I will typically respond to all e-mail sent to me within 24 hours, unless I give you notice of unavailability for some reason.
6. I will endeavor to return all homework assignments and project reviews within one week.
7. If you have detailed questions about assignments, you should consult me well in advance of the deadline. Last minute questions or clarifications will not be encouraged.
8. You shall only collaborate with other students from the class on team projects or team assignments. All individual projects and assignments should be attempted solely by the individual student without any outside collaboration or help. Any deliverable that is substantially similar to the work of other student(s) from current or previous semester(s) will be subject to rejection and in violation of UF honor code.

Research Expectations

Plagiarism includes but is not limited to quoting oral or written materials, including but not limited to those found on the Internet. UF expects all of its students to pursue research with integrity and responsibility. All research to be submitted for a grade should follow UF’s Honor Code. Refer to Graduate School Academic Regulations <https://gradcatalog.ufl.edu/graduate/regulations/>.

AI Policy:

Use of generative artificial intelligence (AI) for addressing course deliverables is strictly prohibited, unless otherwise explicitly stated by the instructor. All deliverables submitted by the student will be the true work of the student without any AI assistance. All submitted works are subject to electronic verification by TurnItIn® or other technologies.

Honor Code:

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Refer to UF Honor Code at <https://policy.ufl.edu/regulation/4-040/>. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Students Requiring Accommodations:

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation:

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online. Students can complete evaluations in three ways, 1) the email they receive from GatorEvals, 2) their Canvas course menu under GatorEvals and 3) the central portal at <https://my-ufl.bluera.com>. Guidance on how to provide constructive feedback is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

Accessing University Academic Policies and Campus Resources:

To support consistent and accessible communication of university-wide student resources, please use this link to academic policies and campus resources: <https://go.ufl.edu/syllabuspolicies>.

Counseling and Wellness Center:

Contact information for the Counseling and Wellness Center is available at <https://counseling.ufl.edu/resources/> or by phone at (352) 392-1575; and the University Police Department: (352) 392-1111 or 9-1-1 for emergencies.