**Construction Engineering**

The construction engineer’s role is to interface with design team members to evaluate project cost, schedule, constructability, sustainability and that over-all needs of the client are met. CEM faculty will be available during specific classes and office hours to support each team as they work through this project assignment.

**Preliminary Stage**
Due date: Thursday September 18

Group Activities:
- Constructability feedback on design options
- Discuss optional building materials including recycled sustainable products

Deliverables:
- Prepare a preliminary cost budget from schematic design (Utilize RS Mean SF Cost Data as resource)
- Develop a list of perceived project constraints and challenges (1 -2 page submittal)
- Determine key construction milestone dates i.e. contract award, start date, dried in, finish date, etc. (1-2 page submittal)
- Develop a detailed list of construction activities for the entire building (Note: these activities will be used to populate the schedule and cost estimate later)

**Intermediate Stage**
Due Date: Thursday October 30

Group activities:
- Discuss drainage/storm water runoff design options
- Discuss schedule in more detail
- Discuss site logistics and constructability of design

Deliverables:
- Complete a quantity survey and unit cost estimate for at least two floor system design alternatives. Recommend one of the floor systems. See instructions for this component of your assignment.
- Develop a preliminary bar chart schedule using a common industry software package you are familiar with.
- Develop a detailed construction site plan using CAD.
- Recommend a crane to service material lifts/handling during construction. Provide narrative of assumptions including range and load calculations.
**Final Stage**

Due Date: Thursday December 11

Deliverables

- Finalize project schedule. You may use any format or software as long as you delineate precedence between activities.
- Provide a narrative (5 page maximum double spaced) summarizing the sustainable building practices you will employ on this project.
- Assume the structural steel erection will be subcontracted and prepare a detailed subcontract and subcontractor prequalification statement. Use AGC documents # 603 and 621.
- *Revise your floor system analysis as necessary and resubmit. Note your changes by highlighting or using color.*