BME Design: Working with Clients

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Background:

Graduate Degree: U of Michigan, Biomedical Engineering
Postdoc: U of Chicago, Chemistry
Arrived at UW: Fall 2004

Research Interests:

Biomaterials
Stem Cell Bioengineering
Tissue Engineering
Drug delivery and gene therapy
Client Characteristics/Priorities

- Client is interested in the idea, but typically not an expert in engineering
  - Their solution to the design problem is not specified
  - They need your creativity, expertise, and capabilities
  - You typically must help define the design problem and solution

- Design project is typically not at the top of client's list of priorities
  - The client must be engaged in the project – that is part of your job
  - Communication with the client early and often is key

- Client interest tends to be directly proportional to student initiative
  - The more you accomplish, the more you encourage client involvement
  - Thoughtful, professional interaction with the client will lead to thoughtful, professional responses from the client
Design Team Priorities

• Engage the client with your creativity, enthusiasm, persistence, and progress
  • If the client is impressed, then they are more likely to be involved
  • You must make it clear to the client that this project is important

• Communicate early and often with the client
  • Set up weekly or biweekly meetings, and prepare for the meetings
  • Set a tone of professionalism and seriousness/urgency in your contacts with the client (e-mail messages appropriately titled, lists of questions and concerns adequately considered, etc.)

• Ask probing questions early in the semester to avoid confusion/delays later
  • The client is not being graded, so your understanding is more important than the client’s understanding. Don’t be too concerned about offending the client with difficult (but professional) questions.
  • You need to understand the rationale behind all design decisions (remember: you are engineers, not technicians-for-hire)
Tips: communicating with the client

• Determine who is the appropriate person to contact for specific design needs
  • Appropriate contact may not always be the client, and may instead be another member of the client’s lab or department.

• Interactions with the client should always be professional
  • In each meeting make it clear what you want to accomplish and what you need to learn and/or obtain from the client.
  • Telling the client “I’m confused about the project” is not very specific, and therefore it does not initiate a productive conversation.

• Give the client an opportunity to respond thoughtfully to your concerns
  • Assemble detailed lists of thoughtful, specific questions or concerns, and send them to the client prior to meeting with them.

• Ask probing questions early in the semester to avoid confusion/delays later
  • The client must be engaged in the project – that is part of your job
Dealing with client-related concerns

• “My client does not respond when I try to contact them”
  • Try a different form of communication (if e-mail does not work, then try a phone call or a personal visit)
  • Indicate - in a clear and professional manner - that it is very important that you get in contact with them
  • Indicate that you understand that the client is busy, and ask the client whether there is someone more accessible in their lab or office that you can contact.

• “My client does not have a clearly defined design problem and solution”
  • It is your responsibility to help define the design problem and solution in conjunction with the client. Be creative and resourceful.

• “My client and I disagree on which design solution is best”
  • The key is to understand why you disagree with the client. You should not create a design in a certain way simply because “the client says so”. It is important to understand the rationale behind design decisions.
Initial Questions for Clients

1. Who should we meet with periodically during the semester to discuss design progress and questions/concerns? Should it be the client, or an assistant?
2. What is the contact information and preferred mode of contact (e.g. e-mail, phone, personal visit) for people of relevance to this design project?
3. When is an optimal time to meet periodically to discuss design progress and questions/concerns?
4. What is the preferred protocol for ordering supplies and equipment relevant to this design project? Is there a specific person who handles ordering in the clients lab or department? If so, what is their contact information and preferred mode of contact?
5. Can you direct us toward appropriate introductory reading materials related to the design problem? Would you recommend a particular order of importance in introductory reading?
6. Are there resources we will need during this semester that require training and/or special access privileges? If so, how can we get started quickly to ensure that we have proper training and access to needed resources?