

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 there 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?**