

# WPI Bangkok Project Center C'08 Guidelines and Procedures Manual

## *On-site Faculty Advisors*

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You are about to embark on what you can expect to be a highlight of your WPI education and a milestone in your personal and professional development. We are eager to share this experience with you, and to learn along with you. We want to help you realize your potential and exceed your own expectations of what you can learn and accomplish. Our eight weeks in Thailand are likely to be a whirlwind of struggles and triumphs and self-discovery. We will be a mini-WPI community with a different set of responsibilities and stressors than we typically have back on campus. Thus, we have put together this document in order to address some important issues up front.

In this document, we outline our expectations for your performance and conduct, our philosophy about WPI project experiences and teamwork, logistical details and instructions regarding reports, presentations, meetings, and project expenses, and criteria for how your projects will be evaluated. We also offer some advice on staying healthy—emotionally, mentally, and physically. At the end of the document you'll find a calendar of events and deadlines intended to keep your project on schedule, along with writing guidelines for each of the chapters of your report. We will surely need to make some minor adjustments in the schedule at times, but it should give you an idea of the pace at which the projects will progress.

***Please read this document up to and including the calendar carefully before arriving in Bangkok. We will expect you to be familiar with its contents, and to use these guidelines during the term. Thanks.***

## *Basic Performance Parameters*

You are going to Thailand to do your IQP; it will be a full-time activity for you. We expect each student to put in at least 50 hours per week toward the project. This is about the amount that most full-time professionals work. On weekdays, you are expected to work a full day on your project, during *standard business hours*. This may take place at your sponsoring agency, or at the university, or even in your dormitory, and it will also involve doing fieldwork and gathering data. There may be times when deadlines or availability of resources require you to work late or on weekends, especially when doing field work; this is part of being a professional. As you will see from the calendar, you have a lot to accomplish, and a full slate of deadlines and activities. We have scheduled one weekend trip, and if you work aggressively and effectively enough, you should have most other weekends (except the last one or two) free to explore and travel.

You will not be punching a clock, but rather will be expected to maintain an aggressive pace, and do what is necessary to make your project a success. We encourage you to enjoy your time in Thailand, but that enjoyment must not preclude at least five full days of productive work per week during regular work hours.

## *Code of Conduct*

While you are in Thailand, you will be representatives of WPI and of *farang* culture 24 hours per day, 7 days per week. It is expected that your behavior in relationship to your project partners, other WPI student and faculty colleagues, and the Thai people will be above reproach. We depend upon you to enhance and safeguard WPI's reputation with the sponsoring agencies, the university, and the housing staff. We also depend upon you to act in a way that does not in any way threaten your safety and well-being, or those of anyone else. Remember that your actions and conduct will reflect upon WPI. Think carefully about how you will be perceived by the Thai people among whom you live, work, and socialize. Consider carefully the implications of any jokes, sexual references, or other behavior that may be inappropriate or upsetting to anyone around you. Let's be sensitive to some of the negative stereotypes of Americans around the world (e.g., loud and self-absorbed), and set a goal of surprising people with our model behavior.

When you are working on your project, you are expected to dress in a manner consistent with how *other professionals* (such as your liaison) tend to dress at your organization. Keep in mind that certain occasions (presentations, meetings, etc.) might warrant more formal dress. If you have any questions about this, ask your advisors. When in doubt, dress up, not down. Your housing is located a short distance from the Chulalongkorn University campus, and you will be traveling to the campus regularly for meetings, access to the library and offices, etc. When you go to campus, dress in a respectful fashion—no shorts or t-shirts. Notice how Thai students dress on campus.

Our group's behavior must be consistent with both WPI and Thai norms and policies. The culture of Thailand, as you already know, has different views toward social issues, including drinking, drugs, and prostitution, than does American culture. Even though you are in Thailand you are expected to adhere to the WPI Code of Conduct and Academic Honesty Policy, and should be aware that faculty advisors are empowered to act in lieu of the Campus Hearing Board in event of any difficulties. *Any behavior that has negative impact upon your project, your partners, your other student colleagues, your advisors, your liaisons, or WPI's reputation will not be tolerated.* We expect that each of you will behave in a reasonable and responsible fashion, and will not engage in any behavior which is illegal or unethical, or which puts your health or well-being, or that of anyone else, at risk. *We will not hesitate to send you home in the middle of the term, without an IQP completed, if your behavior has negative impact upon our activities in Thailand, or if it puts you or anyone else at risk.* Have a good time, make new friends, see the sights, but *be careful, be safe, and take care of each other.* Don't do anything that you, or anyone else, will regret later.

## **Educational Philosophy—How to Excel in Your IQP**

Because WPI students have more freedom than students at other universities, they also must assume considerably more responsibility for meeting educational goals. *You are expected to take personal responsibility* for the success of your entire team and your project. Some of the ways in which IQP students can assume personal responsibility should be fairly obvious: be proactive about preparing for meetings and presentations, starting written material early enough for effective peer editing, setting appropriate goals and monitoring your progress toward them, and being a helpful and supportive contributor to the team effort.

You will probably not benefit much from your IQP, or contribute much to it, if you just sit back waiting for someone—your partners, your advisors, your liaison—to tell you what to do. It is up to you to set your own goals, determine your own strategies, and assess your own progress. Be an

active participant during this project. Think about the “big picture” of the project all of the time. Regularly look ahead to what you need to do tomorrow, next week, and beyond. Try to understand the connection between what you've learned in the project preparation and what you observe doing your project. Discuss ideas with your partners, with your liaisons, and with your advisors. Ask questions. Do something extra that wasn't “assigned.” We have found that students who succeed in their IQP typically focus less on getting an A and more on going beyond what they thought they were capable of and developing skills pertaining to open-ended problem solving, critical thinking, teamwork, communication, responsibility, and leadership. If you do this successfully, then the A is just a happy byproduct of a successful educational experience that will help prepare you for future endeavors. The best way to do well on an IQP is to “get into it.” *Make your project extraordinary.*

Of course, your advisors have an obligation to work with you in a manner consistent with these educational goals. As paying customers, you have the right to expect prompt and useful feedback on your work, thought-provoking questions that illustrate key points, and sufficient access to us. We will work in earnest to provide you with a valuable learning experience in this project; if you are willing to assume responsibility as described above, you can expect to benefit significantly. If, at any time, you have concerns about the way in which your project is being advised or your access to us, please come to talk to us about it. If you feel that there is a problem you cannot bring to us, we encourage you to contact Natalie Mello ([nmello@wpi.edu](mailto:nmello@wpi.edu)) in the IGSD or Charlie Morse ([cmorse@wpi.edu](mailto:cmorse@wpi.edu)) in the WPI Student Development and Counseling Center.

## Project-Related Expectations and Guidelines

Since project activities are so different than courses, we feel it's important to clarify our expectations for your performance. In this section, we'll describe expectations for written drafts, presentations, meetings, teamwork, and leadership, and we'll provide the list of criteria we'll use to evaluate each student's efforts throughout the term.

### *Written Report Draft Material*

This document includes a calendar with due dates for written materials. You will be writing your report as you go along, not at the end. Unless we negotiate otherwise, you should consider the due dates and times as *deadlines that you are expected to meet*. Deadlines are necessary in order to keep the projects on schedule and to provide us sufficient time to review and return draft materials. Each revision and feedback cycle is a major opportunity to move the document forward, so if you miss one, the outcomes are likely to suffer. To meet deadlines you will need to plan ahead and not take the chance that a printer or copying machine will malfunction or not be available to you at some key time. Similarly, it is your responsibility to manage document revisions and back up your work systematically. Wherever you do your work, you will probably be sharing computer resources with other people. If you do not wait until the last minute, then you should have fewer problems in this regard.

We will place an emphasis on a well-organized, tightly written report. The organization of the ideas will be particularly important since it requires a synthesis of ideas and critical thinking. Grammar, spelling, and syntax are also important but we will not note every grammatical problem. We expect that you know or will learn basic rules of grammar and style.

***Each student is expected to critically edit each submission by the group.*** This means that anything you submit belongs to the whole group, and should represent the best writing that your group can produce. The quality of your draft submissions will influence your final grade, since final drafts may

well reflect a lot of input from your advisors and liaison. Draft material should be neat and complete; content and form are both important.

***With every draft you should also submit the current Table of Contents of the report,*** showing your organization of sections and subsections. Remember that section headings should be sufficiently descriptive such that someone could predict accurately the content of that section without reading it.

***Responding to the advisor comments is an essential part of the draft process.*** The purpose of these comments is both to improve the writing and to advance your critical thinking and argumentation. Our comments will sometimes be in the form of a question, or a description of how we're feeling as a reader at a particular point in the document. *All types of comments, even if they do not suggest exactly what you should do, require some sort of revision.* Since we value independent thinking, we do not want or expect you to blindly "do what we say" but we do expect you to consider and act on our feedback sincerely and thoughtfully. We encourage you to fix problems in your own way, or clarify your position in a way that addresses comments. If you submit a draft in which you have not made changes in response to suggestions we made or questions we asked on the previous draft, attach some explanation as to your reasoning, or explain what you're still working on. Similarly, if you do not understand our feedback, please ask for clarification. *Without evidence otherwise, we assume that lack of response to feedback means lack of effort or close-mindedness.*

***For each new writing assignment, we will expect to see lessons learned from other assignments to be incorporated.*** We will be looking for you to apply our previous comments as you draft new chapters of the report. For example, the importance of introductory paragraphs, "researcher's voice", logical and coherent organization, and use of evidence applies to all chapters of the report. The "first drafts" that you should submit to us should not be *your* first draft. For example, in first drafts of a section or chapter, we will expect to see tight paragraphs with topic sentences and introductory paragraphs for sections and chapters.

***With each draft you should also return the previous set of comments from the advisors for that section of the report. Keeping these in a three-ring binder is very useful.*** Both advisors will read the drafts, but we will take turns in providing detailed feedback. Whether the feedback is written on the draft or provided as a separate critique, always include the comments from the previous draft, so that the advisors are aware of the "history" of each section. This will help us to give you clear and consistent feedback.

***With each draft, we would also like a brief cover letter that provides an overview of the changes you have made and any specific requests for feedback.*** This is especially important when you have only revised certain sections, or have left some parts of the draft unchanged from the previous draft. *Please don't make us waste time that can be better spent helping you.* In this letter you can explain why some of our comments may not have been addressed, or can point out sections that are incomplete. See the example cover letter on p. 24 to get a better idea of what we mean.

### ***Presentations***

The calendar also indicates approximate dates for interim and final presentations. Learning to give effective and informative presentations is a key objective of your project experience, and our evaluation of your work will be influenced by the extent to which you participate in these presentations in a professional and appropriate way.

It is important that your presentations be *well-rehearsed*; you will be kept to strict time limits. You should always have professional, attractive, and appropriate visual aids. When you are using

PowerPoint, it is your responsibility to make sure the equipment is set up, and to come in early to load your presentation and make sure everything will work. Some backup plans are a very good idea for final presentations, due to the unpredictable nature of technical problems.

Whether you are giving a final presentation for a distinguished audience or an interim presentation for a handful of other students and the advisors, the most important thing is to show respect for your audience. This can be done by preparing carefully, by keeping your presentation informative and enjoyable, by staying within your allotted time, and by dressing in an appropriate fashion. Even for interim presentations, baseball caps, t-shirts, shorts, or sneakers are not appropriate.

Another important component of presentations is attending and participating in other groups' presentations. The project teams will be presenting to each other and to the advisors, usually in groups of two or three projects. All students are expected to attend all of presentations in their session, and to participate in question and answer periods. Your primary role as an audience member should be to think critically about the content of the presentation and to ask insightful questions about the projects. Learning to handle difficult questions gracefully is a key to making successful presentations; the "question and answer period" is often the most important part of a presentation.

### *Meetings*

Although there will be many informal gatherings of the group, advisors, and liaisons throughout the course of the project, in most cases you will also be having weekly scheduled project meetings. As with the preparation, we expect you to lead these in a professional manner and to be on time. We may ask your help in arranging the meetings for a regular time each week, depending on the availability of your advisors and liaisons. You may also be responsible for finding a place to hold them, and to make sure everyone who needs to know about the meeting is informed. You will need to exhibit a lot of flexibility; some liaisons may expect you to run the meeting, while others may have plans for how the meeting will proceed.

Remember that your audience includes people for whom American accents may be challenging to understand. This means you need to make a conscious effort to *speak clearly and precisely*, avoid slang and idiomatic expressions, and in general do what you can to make yourself understood. This is a good opportunity to work on any unfortunate verbal habits you may have, such as saying "like" or "um." Mumbling or speaking too rapidly will also cause difficulty. In your written agendas and conversation, aim for direct, clear, conventional English.

Specifically, for each meeting you should prepare and distribute a *concise* but complete written summary of the group's *major* accomplishments and activities since the last meeting and your plans and objectives for the immediate future, in the form of a *Weekly Progress Report* that can also serve as the framework of the meeting agenda. (It is not necessary for you to distribute the agenda in advance of the meeting.) One page will usually suffice. Also include any problems or questions you want to discuss. An exception is questions about writing the report, which should be discussed with just the advisors since the liaisons typically aren't involved in its development. We will schedule separate meetings as needed to discuss the report. *Do not give long lists of trivial accomplishments, and do not include mention of drafts that you've completed!* For example, instead of writing "Worked on draft of Background," which advisors already know about and which isn't particularly important to liaisons, "Found more background material on cross-cultural marketing strategies" would be more informative to all of us, and in the meeting you could expand on key points that you learned and ideas you have for applying them. *Focus on significant findings and important, underlying issues.* As part of the agenda packet you should also include copies of any materials you have developed or are working on, such as interview questions, data analysis, or

any other project content you wish to discuss at the meeting. Please leave plenty of time for feedback from advisors and liaisons.

One member should be prepared to run the meeting, but each member is expected to attend and participate in all meetings. *Aim for equal participation in meetings.* So that advisors and liaisons might be aware of your contributions and roles, it is important that each member take responsibility for some aspects of the project and handle the corresponding portions of the meetings. (At the same time, however, all team members should be reasonably articulate about all aspects of the project.)

Meetings just between advisors and students can be less structured, but you are still expected to plan the meeting by identifying topics to discuss, have materials to hand out as appropriate, and run the meeting yourselves.

*Please note that all data gathering instruments (e.g., interview protocols, observation protocols) **must** be reviewed by both advisors and your liaison before use, and should be pre-tested wherever possible.* This type of review is essential to make sure that your questions will be understood, that there are not “leading questions,” and that the information you gather from them will be useful in meeting your goal and objectives. Be sure to schedule in time for this review and pre-testing.

Much happens in one week at project center, so in order to give us and your liaison the opportunity to provide you with useful input and feedback, it is important that you keep us all updated regularly. The advisors will generally be available for meetings in the late afternoon and early evening—it is up to you to arrange these as needed. If something important comes up between meetings, do not wait until the next regularly scheduled meeting to address it—get in touch with your advisors as soon as possible.

### *Teamwork and Leadership*

Your career success will largely depend on your ability to work effectively with people who have different perspectives, attitudes, and backgrounds than you. One of the most challenging and important skills you will be asked to develop during this project is that of effective teamwork. The basis of good teamwork is a shared desire for the team, and not just individuals, to excel. *Although you will receive individual grades for this project, you will be evaluated on how well you have worked within the context of the team, not as an individual achiever.*

It is very important to have lots of team discussion time prior to meetings with advisors and liaisons and as major decisions about the report need to be made. Your partners should always know what you are going to say during a meeting—*never “spring surprises” on each other.* Avoid passing in material that you have worked on alone and not shown to your partners. Put everyone's name on everything, in alphabetical order. Do not denigrate the performance of your partners in front of your advisors or liaisons. Spend meetings performing as a team rather than highlighting your own accomplishments. In meetings, you should find yourself saying “we” more than “I”—just make sure that you have discussed and agree upon statements where you use “we”!

A major challenge that advisors face is evaluating the teamwork component of projects. Although we will see you in action during formal and informal meetings and will see the outcomes of your work, we rarely see the “daily grind” and process of teamwork behind the scenes. Some teams try to hide concerns about individuals' efforts or their team processes thinking that bringing it out in the open will reflect poorly on their group dynamics. Judgments that advisors make in such situations can be inaccurate and unintentionally unfair. Of even more concern in these situations is the fact that teams do not learn much about effective teamwork. Even teams that work very

smoothly together may not in fact learn much about teamwork if they do not reflect on the processes that they used. Imagine yourself in an interview with a potential employer: “I was lucky. My team got along really well!” does not convey that you learned anything about teamwork development.

To address these limitations of advisors’ evaluation of teamwork, to promote deeper learning about teamwork, and to prepare you for professional work environments, **each team will be responsible for developing and proposing its own TEAMWORK ASSESSMENT PROCESS.** The assessment process must have each of the following components and characteristics:

- It must include a formative (i.e., for purposes of improvement) component at least once during the term, as well as a summative component at the end of the project.
- Individual contributions to the team must be assessed as well as the team as a whole. Your assessments of self, other team members, and the team as a whole must be shared and discussed as a team before being given to advisors.
- The assessment reports must be persuasive to advisors. There should be tangible evidence of learning about teamwork. *Actions planned as a result of the formative assessment process should be stated clearly.*
- The assessment reports should be sincere and self-critical, showing introspection about multiple aspects of teamwork.

Overall, we want to see individual and group formative and summative assessments that show deep reflection about the teamwork process and about individuals’ contributions. Following are examples of what teamwork assessments could include. This list is not exhaustive and is not meant to be prescriptive; *propose what you think will be useful:*

- The group could define rules, process guidelines, and/or team norms and a way to monitor them, and can show evidence that the monitoring process was implemented in a thoughtful manner.
- Important attributes of good team members could be defined, with a rubric that describes various levels of performance. Team members could do periodic self- and peer-assessments using this rubric and identify changes and actions taken as a result.
- The group could submit examples of managerial documents it uses to coordinate individual and group efforts. (This in and of itself would not be sufficient but could be an element of your process.)
- The group could reflect on the various co-authoring strategies being used, assessing the strengths and limitations of each.

In developing your teamwork assessment proposal, we encourage you to reflect on your experience in B-term, the challenges you faced, and your strengths and weaknesses.

We want to emphasize that this teamwork assessment process is *not* a game; we are trying to develop your ability to self-assess since that will be so important in your professional career. *Ultimately, we advisors will still need to make a judgment about your teamwork process, but it will be an evaluation of your team’s self-assessment.* Critical, thorough, reflective assessments that reveal team dysfunctions and successes will be evaluated much more highly than superficial, self-congratulatory assessments that show little learning about the complexity of teamwork. We expect that you will face challenges in working together and managing conflicts in a constructive way. Our goal is to bring those challenges out in the open to promote communication and most especially, learning.

There are instances where it may be appropriate for individual students to consult with advisors regarding a team situation they are struggling with. In these cases we would want to hear how you and the team have attempted to address the problem. In our experience, many challenges arise from the fact that most students have not had much experience in active listening and giving constructive feedback to others. Following are a few best practices:

- Team members' *opinions* are not really relevant or useful in project work. What really matters and what will advance your project is your *analysis* of choices and issues. Here analysis is distinguished from an opinion in that it involves use of evidence and/or use of criteria in decision making.
- Instead of formulating a response in your head while others are speaking, listen to them with the intent of understanding, then paraphrase what you think they said. Repeat until you get it right.
- Constructive feedback depends upon the following realizations: each of us can be an expert on our own feelings and on how other peoples' behavior affects us, but we have no idea of other peoples' feelings and how our behavior is perceived by others.
- Try using the following method when giving feedback to others: *When you/we...* (FACTS of observable behavior, without judgment or exaggeration)...*I feel...*(explain how their behavior affects you)...*because I...*(explain connection between observable facts and your response). *I would like...*(describe the change you would like to see)...*because...* (why you think the change will help). *What do you think?...* Listen to response, ask for and give clarification, discuss options, and agree on a solution.

Many of these suggestions were drawn from <http://lowery.tamu.edu/Teaming/Morgan1/sld054.htm>, which contains more information and examples.

## Evaluation

Project grading is difficult, particularly since students and advisors develop a working relationship during the project. Project grading is also very different from course grading. In a class, "correctly" completing all assignments and evaluations (designed by the professor) earns a student an A grade. However, projects have no "correct" solution! An A project grade requires that students go beyond what is expected and demonstrate originality, initiative, and creative technical and non-technical skills. Students sometimes feel that lots of hard work warrants an A. Most professors—including us—do not, unless there is real analysis, originality, and depth in the total project effort.

Following is a more extensive list of the type of evaluative criteria that pertain to project activities. Note that some relate to product and some to process. This list is not exhaustive, but it provides a good guide as to what we will be looking for when it comes time to assign grades. Project students are expected to:

- *Formulate and complete a project that addresses a combination of social, cultural, humanistic, and technical issues, which includes:*
  - Communicating a good understanding of the problems and issues underlying the project.
  - Developing a clearly stated, achievable goal for the project and then achieving it.
  - Striving to achieve as much balance possible between the technical and social/humanistic aspects of the project topic, even if doing so is beyond the interests of the sponsor
  - Developing knowledge of the relevant literature and other background sources; evaluating and synthesizing this material critically and applying it appropriately to the project work.

- Designing and applying appropriate methodologies to achieve the goal, understanding and communicating their limitations.
  - Analyzing the data or information collected in a systematic and useful way
  - Developing conclusions and recommendations that are based on valid interpretation of the findings.
- *Communicate the process and outcomes of the project persuasively and professionally both in written and oral form*
  - *Work productively as a team, making effective use of all available person-power, and be able to reflect critically and constructively on their teamwork process*
  - *Demonstrate self-awareness and understanding of Thai culture, both generally and in two written assignments about cultural difference and cross-cultural dynamics*
  - *Show professionalism, which includes:*
    - Putting in steady, consistent effort and fulfilling responsibilities
    - Taking initiative, being proactive, and being self-directed as much as possible
    - Running meetings effectively
    - Having a positive attitude: being flexible, showing enthusiasm, taking adversity in stride, learning from mistakes, and being open to constructive feedback.

During the term, we will give you regular, specific feedback as often as we can, relative to the above criteria, to make sure you understand our assessment of your progress.

*Your PQP grade will have no effect—positive or negative—on your final grade.* The structure of the PQP didn't really give the advisors as much of a chance to work with you as individuals, discuss issues in detail, etc., as we will have in Bangkok. We will discuss our impression of each group's PQP performance at one of our first meetings, but for C-term, it's a whole new ballgame. Note that there will be no extensions or continuations beyond C-term; all of the projects must be completed on site.

Upon completion of the project, you will receive an *individual project grade*. As mentioned above, each team member should be assuming the primary responsibility for certain aspects of the project. At the same time, however, each team member should be familiar with all aspects of the project and be able to discuss the project in an in-depth, articulate manner. Also remember that individuals are assessed in the context of team effort.

It is important to note that project grades reflect not only the final products of the project (e.g., results, reports, presentations, etc.), but also the process by which they were attained, including steadiness of effort, teamwork, quality and timeliness of drafts, and self-direction. *No amount of last-minute scrambling can turn a mediocre project effort into an A.*

As a reminder, the available project grades and their interpretations are as follows:

**A:** This grade signifies *consistently excellent work* that attains, and perhaps exceeds, project goals. Characteristics of A work include meeting all requirements of the B grade, then exceeding them in several areas such as development of particularly effective or creative goals and/or methodologies, initiative, originality, depth and critical thought in analysis and recommendations. Students take the lead in discussions and analysis rather than simply responding to faculty questions and suggestions (particularly as the project matures). The teamwork self-assessment shows critical thought and tangible evidence of learning. Any individual earning an A will have been assessed

positively by his or her team members, with tangible and appropriate evidence to support the assessment.

**B:** This grade signifies *consistently good work* that attains project goals. Characteristics of B work include: following up on suggestions from advisors; setting clear project goals; writing a clear, professionally presented report with good and improving drafts along the way; completing all work in a timely and satisfactory manner; demonstrating sound analysis that includes logical interpretation of findings; delivering useful recommendations to the sponsor; coming to meetings well prepared, and working hard, consistently, and diligently. A B grade means the team did a good, strong job, but perhaps did not show lots of initiative, originality, or critical thinking in a self-directing and proactive manner. The teamwork self-assessment shows reflective ability and tangible evidence of learning. Any individual earning a B will have contributed consistently to the team effort, with tangible and appropriate evidence to support that assessment.

**C:** This grade signifies acceptable work that partially obtains project goals. Characteristics of C work include meeting some but not all of the requirements for a B grade; writing that is readable but didn't show much progress between drafts and required lots of faculty input; weaknesses in methodology and analysis that could have been anticipated and addressed, and demonstrating little or no originality and initiative. Missing deadlines, missing meetings without prior notification, and lack of response to faculty comments on report drafts are traits common to C-level performance. The teamwork self-assessment may show little evidence of critical introspection or learning about teamwork. An individual may earn a C, even if the project as a whole is evaluated more positively, if he or she is assessed negatively by his or her team members, with tangible and appropriate evidence to support the assessment.

**NR:** This grade denotes effort insufficient for registered credit. Characteristics of NR work include doing very little throughout the project; missing several meetings without prior notification; coming unprepared to meetings or having little to show; repeatedly missing deadlines; turning in substandard work; not completing assigned tasks and showing little or no initiative and originality.

**NAC:** This grade is reserved for performance that is unacceptable for credit. It means that a student's performance (or lack of it) has seriously impeded group progress, or it has embarrassed the advisor, the project sponsor, and WPI. Note that this grade remains on the transcript.

Based on the PQPs, we believe that each team has the potential to complete an excellent project. We are here to help, but it is largely up to you to keep pushing yourselves to bring your project to the highest possible level.

## Guidelines for Daily Life on Site

Be sure to read the Bangkok-specific section in the *Going Global at WPI Handbook*, which contains detailed information about expectations and WPI policies. We will not repeat all of that information here, but we do expect that you will read it and comply with the guidelines. A few guidelines are worth repeating here:

- You are living in university housing and are responsible for any damage.
- You are not allowed to have any overnight guests in your rooms.
- Do not do anything to jeopardize WPI's relationship with Chulalongkorn University.

We are lucky to have such an excellent location—away from the tourist area, but near attractions, shops, restaurants, buses, and the Skytrain. Suksitnives is international student housing; please

make a good impression and be courteous to your neighbors! Don't make a lot of noise at night (especially in the hallway), and don't cause scenes (which are very un-Thai) in the lobby or on the street. Other students are probably your best source of information to find the closest laundry service, good places to eat, etc.

Thai universities differ from their American counterparts in many ways. People cannot simply wander in and out of various buildings at will; this applies particularly to residences and libraries. Anyone who wants to get into the library normally has to show an ID. If you need to use the library we can arrange to have a letter written in Thai which you can show to get access. *Remember that wearing shorts is not appropriate in the library and other academic buildings.*

### *Email, Cell Phones, and Other Communication*

Students can get local e-mail accounts by paying a nominal fee, filling out forms, and producing a passport-style photo. Professor Supawan has told us she will help to arrange access to computers in the Science building at Chula. There may be a time limit for usage. She will also help us get you connected to the internet via Chula's wireless system. However, this access is not always reliable or immediately available upon arrival. Thailand has a good telecommunications infrastructure for a developing nation, but it will not provide you with the ease of access or speed of connection that you are used to in the US. We encourage you to keep your expectations for internet connectivity modest, and prepare to be patient during the first week or two as access issues are addressed.

During the term we will need to communicate with each other to arrange meetings, find each other when lost, or say we are delayed. E-mail will be a useful means of regular communication; it's probably a good idea for at least one person from each team to check e-mail daily. However, the most convenient way to communicate simple (and urgent) messages will probably be text messaging with cell phones. **We strongly recommend that at least one person in each group have a cell phone with local, Thai service.** Make sure you always have your cell phone with you, charged, and on. Of course, you should be sure the ringer is off when you are in meetings, at the library, in a restaurant, or in other places where cell phone use might annoy someone. If we as advisors need to get information to a team or to the whole group, we will consider the job done if we contact one student and ask the student to relay the message. It is your job to spread the word regarding meetings, etc. to your partners and to other groups when you are asked to do so.

If you have something to discuss with us that can't be sent by a text message, call us on our cell phones or at Sasa from the phones in your dorm rooms. Just call the main Sasa number (on the front of this handout) and ask for our name or room number. Once we know everyone's land-line phone numbers and cell phone numbers, we will distribute a list.

We look forward to talking with you—either arranged meetings or just informal chat—after you get home from work. We're interested to hear how things are going. But please don't call or stop by after 9:00 PM, or before 7:00 AM, unless of course there is an emergency. **Note that in the event of any emergency, you should not hesitate to call us, or to call Ruth Gerson or Aacaan Supawan, at any time of day or night.**

### *Printing Needs*

We will try to handle drafts electronically to the extent possible, but you will need to print things on occasion. The ideal case is for you to use printers that may be available through your liaison. If that is not possible, there will be several printers owned by WPI for you to use in your rooms at Suksitnives International House. Of necessity, the printers will need to be kept in particular rooms.

Please be cooperative and sensitive to each others' needs by making sure they are accessible to every team. For example, if a printer is in your room but you will be going away for the weekend, make sure that you transfer it to someone else's room where it will be accessible (and let others know where they can find that particular printer.)

### *Project-Related Expenses*

The first source to approach politely for support is your agency or liaison; after all, they are getting valuable work from you. If your liaison or agency is willing to provide you with services, supplies, etc., you are expected to gratefully take them up on this offer! After you have explored that avenue, WPI can provide you with reimbursements for some project-related expenses that your liaison cannot cover, with the following qualifications:

- You will not be reimbursed for the first \$75 per student; this must be paid out of your own pocket. This is WPI policy—the idea is that students are expected to cover some level of expense, such as books or supplies, associated with any activity. *You will need to provide evidence (i.e., receipts) of these initial expenses before we begin reimbursing you for additional project expenses.*
- Students are responsible for purchasing their own paper for submission of drafts. These paper costs should not be included in the \$75 requirement. Printing and binding of the final reports is a reimbursable project expense, although we expect most teams can do this at the agency.
- WPI will cover the cost of printer cartridges that you use for the printers that will be kept at Suksitnives, although it's up to you to keep them in stock. Only black and white cartridges will be used for drafts.
- Students are responsible for daily commuting expenses (bus tickets, taxis).
- All expenses should be borne equally by team members.

Note that it is unlikely you will need to spend enough to qualify for reimbursement, unless you have significant project-related travel. If you anticipate reimbursable expenses, please talk to your advisors early on. (Mae Moh and Sakon Nakhon teams – you will be in a special situation. We'll meet with you to discuss payment for your project-related travel and housing.)

In order to avoid confusion or misunderstandings, you must follow these procedures to get reimbursed:

- All expenses must be approved by the advisors before you spend the money (with the exception of things like printer cartridges and printing and binding of final reports.)
- Anyone incurring approved expenses who wishes to get reimbursed must provide an expense summary listing what the expenses were, as well as the receipts. *You will not be reimbursed for any expense unless you have a receipt.* This includes travel, communication, or any other expense.

### *Staying Healthy*

In order for you to perform well on your project, it is essential for you to stay healthy on several levels—physical, mental, and emotional. Very simple things like getting plenty of sleep and eating well are especially important when your system is under the strain of culture shock and living in a new place. You will need to drink much more water than you do back home—several liters a day at a minimum, preferably more. You might also want to try adding some electrolytes, which are available in any pharmacy in little envelopes. Remember also to wash your hands whenever you have the opportunity, and always before eating. Get plenty of rest; since you should be up and working on your project by 8 or 9 each weekday, you should be getting to bed by midnight or 1:00 at the latest.

If you are in the habit of regular exercise, you might want to continue that in Bangkok as time allows. However, start off slowly, and be sure to keep yourself hydrated. Given the air quality, condition of the sidewalks, and traffic situation, running in the streets is pretty much out of the question. We will look into the university facilities to see what's involved in getting you access to them. If you can afford it, you might want to look into a private health club.

We are all likely to be missing people from back home, and it is important to stay in touch with them. However, spending hours a day sending email or IMs is only going to make matters worse on multiple levels. It generally tends to exacerbate feelings of loneliness, and you should not divert that much time away from your project on weekdays. A much more effective means of coping with loneliness is to stay busy, to take advantage of being in Thailand and explore Bangkok and the country thoroughly, to talk to others, and perhaps to keep a journal and send old-fashioned letters. It would also be wise to discuss these communication issues with loved ones before you leave.

Throughout this experience we will all be questioning our own cultural assumptions and attempting to understand Thai culture. Culture shock can be manifested in physical symptoms such as headaches, stomach aches, and fatigue. The best way to cope with all of this is to talk to us and to each other about it!

### *Weekend Travel and Related Safety Issues*

Each weekend you must use the form in the *Going Global Handbook* to let us know your plans, even if you are staying in Bangkok. This information is due to the advisors by noon each Friday. *If you are not staying at Suksitnives during the weekend, before you leave you must tell us your destination, where you're staying, the phone number, how you plan to get there, and the time you plan to return.* This is not optional; it is essential that we know where you are, in case someone from home needs to contact you. Be sure to bring key telephone numbers with you (advisors, other students, Ruth Gerson, WPI/IGSD) in case of an emergency. *We will not take late returns lightly; spare us and your family a lot of worry by calling us if for any reason you are going to be returning later than expected.*

Consider avoiding high-profile areas frequented by American tourists, such as the beach areas of Phuket, Pattaya, and Ko Samui. Also, to be on the safe side, you might want to avoid the Patpong area of Bangkok for a variety of reasons including the likelihood of pickpockets, the unpleasantness of sex-trade solicitation, and the embarrassment of being associated with some very inappropriate behavior by other Western tourists.

## WPI Bangkok Project Center – C Term 2008 at a Glance

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>W E E K</b>				<b>January 2 Arrival</b>	<b>3</b> 10 AM Orientation, Part I: Meet at Suksitnives	<b>4</b> 8:30 AM Orientation, Part II: Meet at Suksit, then to Chula	<b>5</b> Trip to Kanchanaburi
	<b>1</b>	<b>6</b> Kanchanaburi	<b>7</b> Return from Kanchanaburi	<b>8</b> First day of fulltime work on projects	<b>9</b>	<b>10</b> Introduction outline, goal and objectives due at 9 AM	<b>11</b> Team assessment proposal due at 5PM
<b>2</b>	<b>13</b>	<b>14</b>	<b>15</b> Background and Methodology outlines due at 9AM	<b>16</b>	<b>17</b>	<b>18</b> Introduction full draft due at 9 AM	<b>19</b> <i>Teams leave for Mae Moh and Sakon Nakhon</i>
<b>3</b>	<b>20</b>	<b>21</b> Individual posting of cultural observations	<b>22</b>	<b>23</b> Background draft due 9AM	<b>24</b>	<b>25</b>	<b>26</b>
	<b>Presentations this week: locations and times TBD</b>						
<b>4</b>	<b>27</b>	<b>28</b>	<b>29</b> Methodology draft due 9AM	<b>30</b> Findings (Results & Discussion) outline due at 5PM	<b>31</b>	<b>February 1</b>	<b>2</b>
						Three day weekend	Three day weekend
<b>5</b>	<b>3</b>  Three day weekend	<b>4</b>	<b>5</b> Findings draft due 9AM*	<b>6</b>	<b>7</b> Conclusions & Recs outline and 1st part of Exec Sum due at 9AM Chinese New Year	<b>8</b>  Chinese New Year	<b>9</b>  Chinese New Year
	<b>Presentations: locations and times</b>						
<b>6</b>	<b>10</b>	<b>11</b>	<b>12</b> Conclusions & Recs draft due at 9AM	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b> <i>Teams return from field work</i>
<b>7</b>	<b>17</b>	<b>18</b> Some full reports due at 5PM*	<b>19</b> Other full reports due at 5PM*	<b>20</b>	<b>21</b> Some reports returned at 9AM	<b>22</b> Other reports returned at 9AM	<b>23</b> Practice Final Presentations
<b>8</b>	<b>24</b> Chapter revisions due as needed	<b>25</b>	<b>26</b>	<b>27</b> Final Presentation s	<b>28</b> Final Report & Deliverables due at 5PM Confirm flights	<b>29</b> Team assessments and cultural reflections due. Return stuff, say goodbye, pack your bags!	<b>March 1</b> <i>Departure from Suksitnives</i>

\*Include all project deliverables that might be in Appendices, such as teaching materials and communication materials.

*All details subject to change. Similarly, if you expect to miss a deadline, let us know ahead of time!*

## WPI Bangkok Project Center, Term C 2008 Guidelines for Writing the Report

*Chrys Demetry, Tom Robertson, and Rick Vaz  
Resident Advisors*

### Contents and Structure

A full IQP report usually has the following sequence of components. The components in **bold font** are the chapters that comprise the main body of the report – those chapters could be structured differently based on the nature of your project. The rest is standard content, and we request you include it all.

Title Page

Abstract

Acknowledgements

Executive Summary

Authorship Page

Table of Contents

List of Figures

List of Tables

*Everything up to this point is “forematter” and is numbered with small Roman numerals that begin after the title page. Arabic numbering (1, 2, 3,...) begins with the Introduction.*

**Introduction**

**Background**

**Methodology**

**Findings (or Results and Analysis, or another more suitable title)**

**Conclusions and Recommendations (or Summary, or another suitable title)**

References

Appendix A: Descriptive title

Appendix B: etc.

WPI now requires electronic submission of project reports. The process is described at [www.wpi.edu/Pubs/E-project/](http://www.wpi.edu/Pubs/E-project/).

### The Writing and Feedback Process in General

The following sequence describes the rhythm that we envision for coaching your continuing development as writers in C-term. You'll note in the term schedule that for each chapter we typically ask for an outline and then a full draft a week or so later. More specifically, for each chapter of the report we ask that you:

- Read carefully the guidelines and tips for the chapter in this document, focusing on the rhetorical purpose and conventions of the chapter (e.g., What do researchers try to establish in this chapter? How is the chapter typically organized?)
- Look over one or more chapters in model IQP reports (see listing below)
- Meet as a team to discuss your approach (the substance and sequence of your argument, what evidence you will draw upon)
- Prepare and submit a narrative outline for the chapter (see details below)
- After advisor(s) review outline, meet with them for feedback and discussion

- Prepare a full draft that responds to that discussion
- Revise and edit the draft as a team after reading guidelines and tips again. At this point you should be focusing on the detailed issues of “researchers’ voice,” clarity, and conciseness in addition to your overall argument
- Submit full draft. Advisors will provide detailed comments on the full draft.
- Use advisors’ comments and additional face-to-face discussion as necessary to further revise each chapter for the full draft of the report due at the beginning of Week #7.

## Narrative Outlines

Our goal in having you submit narrative outlines is so that you might benefit from feedback and discussion before investing the time necessary to create a full draft of a chapter. At the same time, the outlining process will not be useful unless it involves deep thinking about the coherence of your argument and the evidence you will draw upon; topical outlines generally do not require that type of thinking. In addition, many writers find it necessary to begin writing in order to explore issues of argument and organization. Each narrative outline should include the following:

- The introductory paragraph to the chapter
- Section headings and a topic paragraph for each major section
- Topic sentences for the paragraphs within each section. Together these topic sentences should convey the main points you will be establishing, as well as the connections and transitions between those points.
- An annotated listing of the types of evidence you will draw upon in each paragraph (particular studies, etc.)

The Introduction chapter is a bit different; see requests for its outline later in its section below.

In introductory paragraphs and topic paragraphs, the purpose is to explicitly and deliberately forecast the storyline for the chapter or section– the sequence of the argument that’s coming up and what your purposes are. With this type of forecasting, readers are more likely to identify the major points in your argument as they are reading.

## Model IQP Reports

The first three projects in this listing were chosen as finalists in the President’s IQP Awards Competition. The fourth is also a strong project report from the Bangkok Project Center that we decided to list because of its relevance to some of this year’s projects.

- Nicole J Labbe, Nicholas S McBride, and Ethan Malcolm Ray, *Erosion and Flood Control in the Informal Settlements of Windhoek, Namibia*  
<http://www.wpi.edu/Pubs/E-project/Available/E-project-050406-032633/unrestricted/FinalIQP.pdf>
- Derrick K DeConti, Danielle Dionne, and Jessica Sullivan-Keizer, *HIV/AIDS Prevention Education: A look at the HIV/AIDS Awareness Activities at the Polytechnic of Namibia*  
[http://www.wpi.edu/Pubs/E-project/Available/E-project-051607-213008/unrestricted/PoN\\_HIV\\_Program\\_Assessment\\_Report\\_2007\\_A4.pdf](http://www.wpi.edu/Pubs/E-project/Available/E-project-051607-213008/unrestricted/PoN_HIV_Program_Assessment_Report_2007_A4.pdf)
- Jason P Frey, Ryan Kendrick, Jodi Michelle Lowell, and John M Rothermel, *Energy Profiling for Off-Grid Energization Solutions in Namibia*  
<http://www.wpi.edu/Pubs/E-project/Available/E-project-050307-071942/unrestricted/EPOGESFinalReport.pdf>

- Timothy W Frost, Lauren Christine Gray, John N Lake, Jessica D Roy, *Educational and Social Development in Doi Ang Khang: A Comparative Study of the Khob Dong & Nor Lae Villages*  
[http://www.wpi.edu/Pubs/E-project/Available/E-project-031605-095614/unrestricted/Angkhang\\_IQP\\_2005.pdf](http://www.wpi.edu/Pubs/E-project/Available/E-project-031605-095614/unrestricted/Angkhang_IQP_2005.pdf)

## The Introduction Chapter

The *Introduction* chapter of an IQP report serves to introduce the reader to your general area of inquiry, clarify the specific challenge you will address, and explain why the work is worthwhile. The Introduction is usually brief (around one to three pages in length) and follows a set of “rhetorical moves” that you may have seen when reading experimental or research papers. The five moves, in order, are to:

1. Establish the general topic, problem, or field that your project addresses;
2. introduce the specific problem or issue;
3. define the scope of problem or issue by summarizing previous work, what is already known, and/or what has already been done;
4. create a research space by identifying a gap in previous work or opportunities for extension or new work; and
5. establish your project by stating its goal, how it was achieved (objectives), justifying it, and suggesting its implications and possible impact.

You have already done some thinking and writing along these lines in your B-term essays, but we encourage you to start with a blank slate and try to plan one (or at most two) tight, well-written paragraphs to achieve each move. Make sure that you have an explicit goal statement in the “fifth move.” Since the report will be read in the future, use past tense to describe your specific efforts, e.g., “The goal of this project was to...” Check the wording of your goal statement to make sure it is *specific, measurable (in 8 weeks), attainable (in 8 weeks), realistic, and tangible*.

The narrative outline for the Introduction chapter can consist of the topic sentence for each paragraph followed by some annotated explanation of the evidence or other information that you plan to use to establish key points within each paragraph.

## The Background Chapter

The *Background*, also sometimes called the *Literature Review*, can be thought of as a longer and more detailed version of the first four moves of the Introduction. This chapter presents and interprets previous related research to help the reader understand the problem at hand and what others have done. By the end of this chapter, the reader should find your project important, should understand how your work relates to previous work, and should have a sense of how you are likely to proceed. By drawing on evidence from *credible sources*, you will lead the reader up to the point at which your own work will begin.

Since your project aims to build new knowledge, a primary audience for this chapter is the research community, including future researchers who may wish to learn from and build on your work. In order to help those readers, you should have these purposes in mind<sup>1</sup>:

1. To acknowledge and give credit to fellow researchers
2. To demonstrate that you are aware of the body of work other researchers have done

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<sup>1</sup> Adapted from “Teaching the Literature Review” by Lorraine Higgins, presented at WPI on September 27, 2007.

3. To build on and take advantage of that work by integrating and interpreting it
4. To justify your own research by showing how it fits in, or how it fills a gap in what's known
5. To direct readers to relevant resources for more information
6. To update other researchers on the current status of knowledge in the field
7. To influence future work by suggesting important and fruitful directions

In addition to synthesizing prior research, you may want to present background on the local context of your project: the sponsoring organization(s), the community, and its demographics. This local context should help readers understand the formulation of your project.

You have already done much research that will inform your background chapter, and should be able to draw on material from your B-term essays, along with new material you discover in Thailand. Start by developing a logical outline for the chapter – the first draft we'll ask for will take the form of an annotated outline with one or two complete sentences describing both contents and purpose of each section. Note that like all lengthy chapters, the Background chapter should have a brief introductory paragraph whose purpose is to introduce and motivate – but not to summarize – the chapter.

The following list of suggestions and questions is intended to help you shape your Background chapter.

- Proceed from the general to the specific, just as you did in your Introduction chapter. The final sections of your Background chapter should lead the reader “up to the brink” of your work.
- Your research and essays from B-term are just a start. Look for additional resources from your sponsor and be open to adjusting your conception of the project. Discuss where to expand your Background chapter and where to contract it. As research projects progress, it's a good sign when you are able to distinguish information that is helpful and relevant from information that doesn't add much insight into your formulation of the project
- Remember the background chapter is for readers, not for you. Ask whether your Background section provides readers all they need to understand your project. Does this section formulate clearly the problem you're working on? Does it analyze the causes of the problem? Does it explain what approaches have been or could be taken to address the problem? Does it provide readers with needed information so they'll see the significance of what you're doing? Does it display this information so it's easy to understand? Does it explain the *meaning* of the information? This Background section should set you up so that the Methodology you propose in the next chapter will seem to be the logical and inevitable response to the problem you've formulated.
- Is there a logical “storyline” and sequencing of topics?
- Do you prepare readers for that storyline with a good introductory paragraph at the start of the chapter and at the start of each major section?
- Are there smooth transitions and connections between sections?
- Do the sections and subsections have clearly defined themes? Does each have a topic paragraph that introduces, motivates, and overview? Do topic sentences tie paragraphs into a theme?
- Check your writing at the paragraph level: is there a good topic sentence that conveys the main point of each paragraph, and is all information in the paragraph related to that theme?
- Are you *synthesizing* information into key points for readers rather than merely transferring information? You should be integrating multiple sources, contrasting alternative viewpoints, and telling readers what they should draw from your background research.
- Are you distinguishing between fact and opinion? Are you acknowledging source materials correctly? Are claims tied to authoritative sources within the text, not just with a citation?

- **Have you cited all your sources? Every paragraph should probably have *at least* one citation. Check to make sure that you are not plagiarizing others' intellectual work. Are you paraphrasing appropriately? If in doubt, ask!**

## Some Guidelines for Acknowledging and Discussing Source Materials<sup>2</sup>

Often the most difficult challenge in writing a Background chapter is to develop a “research voice” that presents evidence and arguments in a factual, unbiased way. You should have no claims that might cause a reader to wonder “Says who?” This requires an understanding not only of how to cite reference materials, but also of when and how to discuss them.

First, carefully read pages 120 and 121 of Lunsford’s *The Everyday Writer*. Note that the only parts of a research report that do not require acknowledgement are *common knowledge, facts available in a variety of sources, and your own findings* (which don’t belong in a background chapter). That implies that everything else requires acknowledgement! However, certain types of material require more than a reference; they require explicit discussion of the source in the text, to establish the nature of the authority behind the quote or assertion.

**Direct quotations** should be used very sparingly; rarely should an entire sentence be quoted. In general, you should be summarizing and interpreting source materials (see Lunsford for help on doing this). However, sometimes the actual wording itself, or the person who said it, will be of interest to the reader. In that case, it is typically appropriate to *explicitly acknowledge the source in the text* as well as providing a citation:

Thai food is very complex; experienced world traveler Rob Krueger has referred to it as “a party in your mouth.”<sup>3</sup>

**Facts not widely known or easily available** are cited in the normal way. Because they are facts, there is typically *no need for you to identify the source explicitly* in the text:

Pad Thai is a noodle dish with origins in both Chinese and Indian cuisines.<sup>4</sup>

**Judgments, opinions, claims, and arguable assertions** are by far the most challenging type of content to properly acknowledge, since they fall on a continuum. The findings of previous researchers often fall into this category. *The more controversial, extreme, or subjective the content, the more necessary it is to explicitly indicate or discuss the source.* Some examples follow.

Although the following statement is not a fact, it is a *mild assertion* that few would argue with, and you could probably get away with stating it as long as it was followed by some evidence:

Thai food is considered one of the great cuisines of the world.

However, note that you can actually *turn the statement into a fact* by attributing it:

Several renowned critics have identified Thai cuisine as one of the world’s greatest cuisines.<sup>56</sup>

As the assertion, judgment, or opinion gets more controversial or subjective, *the writer must get more careful.* The following is one researcher’s conclusion, and probably not agreed on by all:

Demetry concluded that Thais have developed the world’s most complex and interesting cuisine.<sup>7</sup>

**Extreme positions require great care, and perhaps some balance.** The following is one writer’s claim, presented in a way that makes clear its extreme nature:

Vaz has gone so far as to claim that Thai food will bring diners total consciousness<sup>8</sup>; however, most authors have been content with praising the food’s physiological effects.

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<sup>2</sup> Note that all of the material and sources used as examples in this section have been fabricated. Normally, you will cite sources using APA citations to your list of referenced works, but here we’ll use footnotes for convenience.

<sup>3</sup> Krueger, J. Robert. *Slow Food Around the World*. Achewood Press, 1995.

<sup>4</sup> Tantayanon, Supawan. *Eat Like Me!* Chula House, 1998.

<sup>5</sup> Robertson, Thomas. *Good Stuff*. McGraw-Hill, 2007.

<sup>6</sup> Demetry, Chrysanthe. *All My Luncheons*. WPI Press, 1999.

<sup>7</sup> *Ibid.*

<sup>8</sup> Vaz, Richard. *Meals and Mysticism*. Prentice-Hall, 2001.

When you find a particularly relevant piece of previous research, you will want to help the reader understand both that research and its findings, and to tie those findings to the authors. Note how each sentence of the following paragraph makes clear where the information came from:

A 2003 study by Krueger described an attempt to categorize the varieties of *Tom Yum* by analyzing over 100 versions of the soup in terms of ingredients, preparation, and subjective effect on tasters. Krueger concluded that no matter how it's prepared the soup is "damn fine stuff," but was able to define three distinct categories based on the extent to which foreign palates were accommodated. The study also developed a useful scale of spiciness based on volumetric measurement of forehead perspiration.<sup>9</sup>

When proofreading your background chapter, if you find yourself (or anticipate us) asking "Says who?" then you probably need to provide an explanation of the nature of the source.

## The Methodology Chapter

The *Methodology* chapter explains to the reader the process you used to achieve your goal. Typically, the chapter is organized in terms of a set of *project objectives* that lead toward the goal. Objectives, in turn, typically involve answering certain *research questions*. This chapter should not read like a diary or timeline of what you did – rather, it should make clear what you set out to do, and why, and how, with a focus on information – what you wanted to learn, and how that knowledge was subsequently used.

Typically, there are many methods a researcher can choose from, or combine, to answer research questions and achieve objectives, so your job is not to present your approach as the only correct one. However, the reader should conclude that everything you did was *intentional, purposeful, planned ahead of time, and based on good practices*. The following tips are intended to help you with this chapter.

- Consider all of the *what, why, who, how, where, when* information associated with your objectives. Someone should be able to repeat your work using information provided in this chapter and in associated Appendices. (For example, a general idea of the nature of interview questions should be evident in this chapter, but you could put the actual schedule of interview questions in an Appendix if you decide it would disrupt the main body of the document.)
- Make sure that the *purpose* of all the steps are clear (how do they lead to your goal) before jumping into details of technique
- Justify your choice of methods (the *whys*) and acknowledge their limitations as well. Drawing upon best practices for methods in the literature gives you more credibility as researchers.
- This chapter should include analysis methods – that is, describe not only how you collect information, but also how you use that information to achieve your goal. Wherever possible, think in terms of *CRITERIA* that you will use to find meaning in your data or to make decisions using data. Sometimes lists or tables or charts are helpful for laying out criteria and judging options with respect to them.
- Use the past tense, even for steps that you haven't yet completed. For example, "We will accomplish our goal by..." should be changed to "We accomplished our goal by..."
- In a similar manner as the start of the Background chapter, write an introductory paragraph, positioned between the Methodology heading and the first section heading, providing a preview of the chapter for the reader. Don't try to summarize the chapter – just introduce and motivate it.

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<sup>9</sup> Krueger, J. Robert. "Tom Yum Deconstructed," *Journal of Tasty Things*, February 2003.

- This chapter is not a chronology of your project. *Don't give a timeline of what you did, but rather establish what you set out to do and why.* This is a subtle issue of voice. Following is an exaggerated example of the voice to avoid: “First we contacted key government officials who had knowledge about building regulations.... After speaking to government officials we met with representatives of advocacy groups for the hearing impaired.... Then we...” See how that sounds like a diary? Getting rid of the “time stamps” in this passage would help a lot. Keep the focus on types of information you sought.
- Avoid use of “We needed to interview..” or “It was *necessary* to find information on....” or “It was *important* to...” There is no single way to do any project, so these are not very convincing phrases. Just say what you did. You can state things much more clearly in *active voice*: “We interviewed...in order to....” “We sought information on...for the purpose of...”

## The Findings Chapter

The *Findings* chapter presents what you have found—the key discoveries and/or creations you have made while following your project methodology. It is sometimes called *Results and Analysis*, or you can give it an even more informational title specific to your project.

This chapter should *not* be a wholesale information dump of all of your “raw data” organized by technique (e.g., with section headings of “Interview Results”, “Questionnaire Results”, etc.), but rather should tell the reader what meaning can be constructed from your data gathering. You need to do some processing of the data and decide what key findings or patterns have emerged, and then figure out how to present them effectively. For example, in a project that gathers opinions from various stakeholder groups, you could arrange results according to stakeholder group if you want to emphasize those different perspectives, or you could identify themes in the results and then present the views of each stakeholder group within each of those themes. To make choices like this, decide on the messages you think are most important to convey and then which type of organization would be more effective to accomplish that. Consider how your *research questions* might be answered in this chapter.

As a group, brainstorm ideas for organizing this chapter, and analyze those ideas. Often you can follow the same sequence of objectives or moves that you laid out in the Methodology chapter, but depending on your findings and the nature of your project, other organizational strategies might be more effective. Whatever organization you choose for this chapter, prepare the reader for your approach by writing an introductory paragraph to the chapter, prior to the first section. While you should not present all of your raw data, you also need to support your claims; be sure to draw upon your data as *evidence* for any claims that you make. For example, you could include some quotations from interviews and present summaries of your data in tables or figures.

The topic paragraph of this chapter would be an overview of your findings, setting up the rest of the section to support those findings. A possible format would then be to state a finding and then to support it. It is often tempting to do the reverse; we find that stating the finding first generally works best for a reader. Note that a finding would not be the following, “The average yearly wind speed at the Princeton wind farm is 13.5 mph.” This would be a piece of data. The finding goes deeper and is supported by data. For example, the finding might be, “An expansion of the Princeton wind farm to two 750 kW turbines would pay for itself in eight years.”

Remember that when you include **Figures and Tables**, you do so to *reinforce* points you're making in the narrative, not to replace narrative. Refer to them in the text and interpret them for the reader. For example: “Table 2 (*not* ‘The table below’) shows a summary of the results of interviews with the various stakeholder groups, divided into the areas of Strengths, Weaknesses, Opportunities, and Threats. Note that grass-roots contacts and interpersonal connections were a theme among strengths identified by both groups A and B..., whereas ...” Then Table 2 should be

included in the next available space following this paragraph, and the table should have a fully descriptive caption that is also included in the List of Tables and Figures following the Table of Contents at the front of the report.

It is critically important to weave in discussion about the *limitations* of your findings—to distinguish between what you can and can't claim—and to acknowledge alternative interpretations and alternative viewpoints. Although it may seem counterintuitive, your work will seem *more* credible if you acknowledge limitations and concede some uncertainty. Your job is not to “sell” any particular results—your job is to help the reader understand how well the results are supported by evidence.

## The Conclusions and Recommendations Chapter

Often a reader will want to skim through this final chapter and be able to pick out quickly your specific conclusions and recommendations, so in that sense it should be able to be persuasive on its own. Often you can make this chapter more readable by using formatting like **bold**, *italic*, or underlining.

*Conclusions* can be thought of as a summary of the key findings of your project. In this sense, it may seem a bit repetitive from your Findings chapter. That's OK, because sometimes people read only this chapter and not the Findings chapter. This chapter, however, should be much more succinct. Instead of giving complete evidence to back up your findings, just suggest the nature of the evidence.

Almost all projects will also deliver *Recommendations* appropriate to your work. Make sure the nature of this chapter is consistent with what you said you would produce in your goal statement. Generally, very little in this chapter should come as a complete surprise to the reader since findings have already been presented; recommendations should fall out naturally from that discussion. Note that there are two types of recommendations, those made to address the problem you studied, and those made on next steps of study. For many of you, making recommendations is a key part of your goal. Also consider making recommendations to the sponsor on the next steps they might take to further your studies. There may be some overlap.

There are always different options for organizing and formatting this chapter. Sometimes it can be effective to present conclusions and recommendations separately. This structure can be forecast with a good introductory paragraph. Depending on the nature of your project, you might emphasize recommendations more than conclusions or vice versa. In other cases, it may work well to present “pairs” of conclusions and recommendations. For example, you could say, “*Our results showed that.... In order to address this problem, we recommend that ...*”

*In a similar manner as the Executive Summary, make strategic use of formatted lists in this chapter so that readers can easily identify specific conclusions and recommendations. (See example given with Executive Summary.)*

Take care in wording your recommendations. A common mistake for recommendations—both in writing and in presentations—is to use statements like “*We feel that the Patent and Trademark Office should change its prior art search services by...*” No one should take an action based on how you *feel*. Rather, you should make clear that your conclusions and recommendations are based on evidence. Therefore, use wording like “*We recommend that...*” and then accompany that with evidence and justification: “*Our results showed that .... Moreover, there was broad support for... Therefore, we conclude...*” Keep an objective tone throughout and focus on developing persuasive arguments. Use *active voice*, and make clear who you are recommending should implement each recommendation: “*We recommend that Organization X...*” Use word choices that convey an

appropriate level of confidence in your results and recommendations. Point out any limitations of your project, and be careful not to make the scope of your claims more broad than is justified by your results; your argument will be more persuasive if you acknowledge limitations and alternatives you considered.

Often it is difficult to figure out how to conclude this chapter, and a concept that may be helpful is to think of it as an inverse funnel. The whole report up to that point has been funneling down to the specific findings and the accomplishment of your goal, but then you want to funnel back out and point out things like the long-term implications of your work, who will benefit from your work, possible uses of your findings and recommendations by individuals or groups other than your project sponsor, and/or interesting questions that your work raises that could be pursued by others in the future. You'd like the reader to be thinking "WOW!" at the end of this chapter, which you can only accomplish with meaningful rather than superficial concluding remarks.

## The Abstract

The *Abstract* is one of the last portions of your project to be written. It should mention the sponsor, describe the problem and goal of the project, perhaps give an overview of the methods, and give a sense of the nature of the findings, conclusions, and recommendations. It needs to fit in the box on the CDR form; this is described as 80 words, but generally a bit more than that can fit in. Typically that's 4-6 sentences: perhaps one describing the problem, one stating your goal, one giving a sense of the methods, and two or so suggesting the nature of conclusions and/or recommendations.

## The Executive Summary

As the name implies, the *Executive Summary* is intended for the busy executive who does not have time to read your whole report but may make some decisions based on your work. Therefore, the Executive Summary should be able to stand alone, independent of the report, and be succinct and persuasive. The Executive Summary may be more widely read than the report, and you are likely to write many such documents with very similar purposes throughout your professional careers.

You can think of the Executive Summary as a microcosm of your entire report. You should convey an understanding of the problem succinctly and state your project goal and objectives such that its importance and relevance is clear; provide an overview of the methods at a level that makes it obvious that you have used established and valid methods (such that the executive will trust your conclusions); highlight key findings; compare alternatives where relevant, and present and justify your recommendations.

Executive Summaries generally end up being in the range of 3-5 pages. It begins with introductory material including the problem or issues your project addresses, your project goal, objectives, and methods. This part is often between 1- 1.5 pages. (Of course that varies by project.) Often you can "borrow" from parts of your report to put together the Executive Summary, using a subset of the same rhetorical moves. Don't worry about repetition since it's meant to be a stand-alone document. The bulk of the document should be Findings, Conclusions, and/or Recommendations. Sometimes they can be combined in creative ways.

Consider carefully the **visual design** of the Executive Summary. It is often helpful to include headings and lists to aid understanding and readability. An example follows:

### Recommendations

Based on our findings from X, Y, and Z, we recommend that the Royal Botanical Gardens Education Division include the following materials in the packet it sends to teachers in advance of field trips:

- **A site map.** Teachers requested that parking areas, toilets, and the meeting place be clearly identified.
- **Suggestions for pre-trip activities.** These activities should introduce key terminology that will be used during the excursion. Three example activities have been developed and are presented in Appendix C.

### Example Cover Letter for Draft Submissions

Date: March 25, 2006  
To: Professors Jones and Smith  
From: Water Park Team (Alice, Bob, Fred, Yolanda)  
Subj: Background Draft #38

Attached is the latest draft of our Background chapter, along with your written comments from the previous draft. Sections 2 and 3 have not changed much, so please focus your attention on the following substantive changes:

- **The introductory paragraph**—based on your comments, we completely rewrote this to make it a more direct explanation of the chapter’s content and flow.
- **Section 1 on water resources**—we have added material from two new sources our liaison pointed us to, and we hope that strengthens our case. We also worked on the flow between topics as you suggested.
- **Section 4 on case studies** has been extensively reworked to include more relevant and detailed case studies, and we have added a section at the end to draw general conclusions based on all four case studies.

Please note that we **did not make any major changes to the material in section 2** on water parks, despite your suggestion. Your comment was that it seemed “too detailed and not relevant enough to our project,” but we believe this level of detail will be necessary for the reader to understand how we plan to develop our own park—we plan to draw directly on this material in the focus groups. If you still have concerns, we’d be happy to discuss this in person.

We do have a few questions relative to your comments last time:

- We tried to improve the “research voice” throughout, and did a lot of rewriting in particular to the first section to address that. We think there are no more unsubstantiated claims—were we successful?
- Do you think the case study summary is an effective way to end the chapter? We were considering writing a brief summary of the entire chapter to lead into the Methods.
- You indicated that some of our writing was “choppy” and that we would benefit from learning to use semi-colons to form compound sentences. Some examples of changes we made can be seen on p. X, but we’re not sure how successful we were.

Thanks!

## Guidelines for Individual Essays on Cultural Learning

Researchers of study abroad and cross-cultural learning have found that students can benefit more from an international academic experience when they are prompted to reflect on their experience and learning. We have also heard clearly from previous IQP students that they are looking for a holistic learning experience that extends beyond the project and the project report. Discussion about our cross-cultural encounters during the term and reflection at the end of the term will help you better describe (to people like interviewers) how what you learned and did can be applied generally to a variety of professional contexts. This discussion will also help all of us manage cultural stress and frustration that we may be feeling.

We encourage everyone to keep a personal journal of your cultural observations and particular situations, encounters, or incidents that you think show cultural differences and/or give you a better understanding of your own culture. It may be helpful to think back to and consult with the *What's Up With Culture* website regarding common areas of cultural difference that underlie differences in behavior.

Around Week 3 of the term, each student will be asked to share their description and thoughts on one such encounter or incident or observation with the rest of the group. (Note that an "incident" is not meant to convey disaster or drama.) This piece of writing need not be lengthy—one or two pages should suffice. We will figure out later the logistics of sharing documents. After everyone has had a chance to read a subset of these pieces, we will gather together in small groups to discuss each others' observations.

At the end of the term each student will submit a refined personal essay about their own cultural learning. Again, this can be just one or two pages and can describe the same encounter or incident that you wrote about earlier, or something entirely different. We will ask that these essays be collected in an Appendix of the final report that gets submitted to WPI so that we can begin to document more clearly the nature of the cross-cultural learning that occurs during off-campus projects. The depth of thinking and reflection evident in the essay will be considered as one aspect of the individual project grades that we give.

## COMMON IQP FRUSTRATIONS

<b><i>If you're feeling or thinking this...</i></b>	<b><i>it might mean ...</i></b>	<b><i>What you can do (learning opportunities)...</i></b>
<p>Frustration because your advisors are suggesting different things</p>	<p>They are trying to show how the same problem can be addressed in multiple ways. Or they may be “thinking out loud,” trying to sort through the possibilities and promote critical thinking.</p>	<p>Seek to understand multiple perspectives. Establish criteria for your analysis and decision making so that you can explain your reasoning. Ultimately, you are empowered to make decisions about your project, but you need to be able to justify them persuasively orally and in writing.</p>
<p>Feeling pulled between sponsor and advisors</p>	<p>Advisors are more broadly focused on educational objectives of the IQP, while sponsors have a narrower set of deliverables in mind.</p>	<p>Realize that both sponsor and advisors can be satisfied with a “superset” of deliverables and evidence of critical thinking. Understanding the needs of multiple stakeholders in a project is a valuable career skill. Keep communication lines open.</p>
<p>How come the advisors didn't make that comment on the previous draft? Why did they change their mind about something?</p>	<p>Everyone's understanding and insights about the project change as the project progresses. Advisors don't want to overwhelm you with feedback. “Global issues” (your overall thinking and clarity, organization of ideas) are addressed first before local writing issues.</p>	<p>Take the initiative to reexamine your own writing as the project progresses and make sure it reflects your advancing understanding of the issues. If you are confused by advisor's comments, ask for clarification.</p>