

GUIDE TO SUCCESSFUL PROJECTS
DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY
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1. PROJECT PROCEDURES

1.1. Introduction

You are about to embark on a valuable and exciting educational experience which is unique to WPI, and which will prove invaluable to you as you begin your career in the real world. In fact, the projects system may well be why you chose to come to WPI in the first place! In order to maximize everyone's benefit from and enjoyment of the experience, and minimize misunderstanding, here are the BB Department's ground rules. Please discuss questions of interpretation and exceptions with your project advisor, the sooner the better.

1.2. What Will Happen When

One unit projects (IQP's and MQP's) usually take 3 terms (@1/3 unit each) to complete. You may wish to discuss with your advisor alternative strategies for scheduling the 1 unit of work, for example 1/6 – 1/3 – 1/3 – 1/6. Especially in MQP's, a fourth term of work beyond the original 1 unit is frequently needed. A one term overrun will not necessarily adversely affect your grade, but completion of an assignment on schedule is recommended. Except under special circumstances, additional registration beyond 4 terms of work will be awarded a grade of NR. (You must be registered for 1/6 unit in the term in which the project report is completed, but you need not receive a passing grade for that term.) BB faculty will only advise project work for which you are registered for an amount of project credit that reflects your effort during that time period. If you are doing project work over the summer, you **must** be registered for credit.

Your attendance at a scheduled weekly project group meeting is **required**. If your project is off-campus, consult your advisor to determine a schedule of on- and off-campus meetings appropriate for your project. If you cannot attend due to illness or a bona fide emergency (a death in the family counts, the pressure of work for other courses doesn't), please notify your advisor and your partners in advance to schedule a makeup meeting. Missing more than one meeting without a legitimate reason will adversely affect your grade. Check with your advisor as to whether s/he would like you to come to each meeting with a one-page written progress report, which outlines what you accomplished during the previous week and what you intend to accomplish in the following week. Please note that 1/3 unit of registration (whether for a project or a course) is assumed by the faculty to represent about 17 hours per week of total effort.

Most of the first term is generally used to become familiar with the literature and to organize your efforts to ensure success. This effort will culminate in the submission of a project proposal or other written evidence of your preparation. Your grade for the first term of the project will be based largely on the quality of your proposal or other written document. If your advisor wants you to write a formal proposal, it will probably include most of the following sections:

Introduction
Literature review
Project objectives
Proposed methodology
Timeline and budget (optional)
Literature Cited (for details on correct reference formats, consult the section at the end of this document entitled “Format for Citations for BB MQP’s”)

Consult with your advisor for details about specific proposal requirements. An excellent source for use in all phases of writing for your project is *Writing Papers in the Biological Sciences* (McMillan, 2001), available at the WPI bookstore. You are strongly advised to purchase a copy—consider it the textbook for your project.

The middle terms of the project are spent actually working to accomplish your objectives. The final term is spent finishing the remaining tasks and writing up the project report. Different advisors may have different expectations about how to proceed, but all projects must result in a final report which includes an abstract, a literature review, methodology, results, and a final discussion of the work including conclusions that are supported by the data you presented. Be certain to establish with your advisor a set of specific written objectives and a timetable for completing them to maximize your chances of successfully completing your project on time. Consult with your advisor for more details about the project report, and the schedule for producing it. Graduating seniors should note that “project panic day” generally falls 3 or 4 days prior to the end of classes for D term.

If you are registered for a BB MQP, you are **required** to make an oral presentation of your results, usually on Project Presentation Day in mid-April. If you are finishing at a time other than C or D term, be certain to check with your advisor about an alternative presentation date. Consult with your advisor for details.

1.3. Grading

It is important that we communicate how we evaluate projects and assign grades. 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, an A project grade requires that students go beyond this level and demonstrate originality, initiative, and creative technical skills. Students generally feel that lots of hard work and a nicely presented report deserves an A. Most professors (including us) do not, unless there is real analysis, originality and technical depth in the total project effort.

The following list describes overall project expectations.

Project students are expected to:

- Demonstrate knowledge of the relevant literature and other background sources; evaluate this material critically and apply it appropriately to the project work.

- Have clearly stated, achievable goals.
- Achieve the goals.
- Design a sound approach; understand and apply appropriate methodologies; use appropriate controls.
- Arrive at conclusions that are supported by the results.
- Effectively present the methods, results, and conclusions, orally and in writing.
- Take initiative: students should make the project their own, and pursue its completion independently. (Advisors advise and consult; they should not have to dictate.)
- Work smoothly with each other and with advisors, meeting deadlines and conducting work in a timely fashion.
- Lead meetings with advisors. It is your responsibility to make sure they are productive.
- Fulfill responsibilities to partners, advisors, and other students.
- Effectively document and report information about the project, in written and oral form. Your progress reports, drafts and presentations are the primary means by which you convey your work to your advisors; we expect that these materials will represent your best efforts.
- Be flexible, and take adversity in stride.
- Grow and learn.
- Have some fun doing the project!

Listed below are some specific guidelines on how we determine project grades. Your advisor may provide brief written term evaluations of the project, including a term grade. Please ask if you have any questions about their meaning. Note that final project grades can be different from the term grades, and that term grades are an indication of your progress. Many of the grading characteristics described below are subjective and open to some degree of interpretation. Student attitude throughout the project can also affect how we, as advisors, make these subjective judgments. Students often ask at the end of a project how they can improve their grade. No project grade can be changed by last minute work; rather, only sustained quality effort over time will result in a good grade.

A: This grade represents a consistently excellent effort that exceeds explicit project goals. Characteristics of A work include meeting all project goals, and exceeding them in several areas such as development of project objectives, initiative, originality, depth of analysis, and creativity.

B: This grade represents a consistently good effort that attains the project goals. Characteristics of B work include doing all that was asked in a substantially correct form; setting clear project goals, writing a clear, professionally presented report that has not required many drafts; completing all work in a timely and satisfactory manner; demonstrating sound analysis that includes logical interpretation of results; coming to meetings well prepared; and working hard, consistently, and diligently. A B grade means the group worked well and did a good, strong job.

C: This grade represents an acceptable effort that partially attains the project goals. Characteristics of C work include meeting some but not all of the project goals; and writing a readable but average report requiring many drafts and lots of faculty corrections. Missing deadlines, missing meetings without prior notification, and ignoring faculty comments on report drafts are traits common to some C projects.

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; repeatedly missing deadlines; turning in substandard work; not completing assigned tasks and showing little or no initiative and originality. Sometimes we use the NR grade to limit credit for a project, even though acceptable work occurred during the NR'd term. Except in special circumstances, total credit on a project is limited to 1 and 1/6 units.

SP: a grade denoting an effort sufficient for the granting of the credit for which you are registered. It will be used only under the rare circumstance in which the project advisor is unable to judge the quality of the work, yet can still determine that the granting of the credit is appropriate. This is a term grade only, not a project grade.

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.

For each term of registration for a project, you will receive a grade reflecting judgement of your accomplishments for that term. Upon completion of the project, you will receive an overall project grade. It is important to note that this grade reflects not only the final products of the project (e.g. results, report, etc.) but the process by which they are attained.

At the discretion of the advisor, members of the group may receive the same or individual grades. Thus, demonstration of individual contribution as well as group effort is important. Note that if a co-advisor or an off-campus sponsor is involved in the project, the evaluation is agreed upon by all the project advisors.

1.4. A Few Words of Wisdom

Communication, among project partners and between students and faculty, is an important key to an enjoyable and successful project experience. Discuss questions and concerns early, before they become problems.

Your project experience at WPI is like no other undergraduate academic experience. It is what sets you apart from your peers at other colleges. This experience, including recommendations from project advisors, will be a major part of your resume when you go job or graduate school hunting, and will put you ahead of your competition. Work hard and work smart, and make the most of it!