

**MCB422 Cricket: how the code was won (updated 10-28-14)**

Cricket is named in honor of 'Crick et al.', who *demonstrated* the genetic code consists of three-letter words. This without sequencing proteins or genes; a work of sheer ingenuity plus a simple, elegant system. Each scenario builds on insights or tools from the last. The following rubric covers all scenarios\*. We anticipate *about one page of text* excluding diagrams and figures. Note that -----(+)- is a phage with +1 insertion!

Requirement	Description	Expectation	Loss of points if
Goal <b>10 points total</b>	A brief statement of the desired strain or determination	2-3 sentences. Include purpose or utility of technique or strain/product if apparent	Imprecise, unclear, wordy
Strategy/plan of attack <b>35 points</b> (10 = getting 'permission to proceed'. <u>excessive</u> attempts or guidance => points lost here)	Graphic from <a href="http://lucidchart.com">lucidchart.com</a> or similar. DNA can be shown as lines; frameshifts designated simply as (+) or (-) and stop codons as @1 (stop in +1 frame). Use x to designate points of crossing over	Ideally this should be a clean, spare <i>visual</i> presentation. If called upon, you should be able to explain your ideas and approach	Messy, incoherent, poorly thought out, lacking refinement, could be enhanced by second draft
Crosses & outcomes <b>15 points</b> <i>Each individual should submit their own stored strains IF called for ('create a strain that')</i>	An annotated list of <u>essential</u> crosses <b>performed</b> in determinations and/or strains created. Referenced by strain number and accompanied by a sketch	Only elements on the pathway to solving the problem. No penalty if others are stored/created, but they should not be mentioned	Incorrect identification of strains; omission of essential strains or steps Only 1 per team
Checks/confirmations <b>15 points</b>	Argument or tests that demonstrate that you have what you sought. Brief discussion of any ways you could be fooled and steps needed to rule out.	NOT laundry list of outlandish possibilities. Example: a compensated (+ and -) double mutant phenotypically resembles wild type... could it <i>be</i> wild type?	Incorrect assignments of values, misinterpretation of result, inappropriately set up
Required statement <b>15 points</b>	"I did not use internet resources other than those assigned, nor did I consult folks who have taken the course before, tutors, or other inappropriate resources"	Both names should appear after this statement if it is a joint submission.	Absent

**10 points:** Spelling, grammar, overall organizational clarity. 10% of grade!!

**5 bonus points available:** Insightfulness, sparseness & clarity of graphical presentation; novelty of approach *if superior to norm*

**Loss of points** if both last names not in filename of submitted file, or not .pdf format

\*Exceptions: the deletion mapping task may have a separate rubric; exercises marked Honors/Advanced receive bonus points for EXECUTION; otherwise crosses and outcomes can be *described* hypothetically