

JMBE Curriculum Section Review Criteria

Criteria	Acceptable as submitted; no change or simple corrections (1)	Needs modifications or improvements (2)	Fundamental revisions or additions required (3)
Content			
The grammar and writing style are sufficient.	The submission is well written with no significant surface distractions.	There are spelling and/or grammatical errors that detract from the submission. Sentence construction and writing style lead to passages that are occasionally challenging or difficult to read.	There are significant surface distractions, and/or a writing style that is unclear or difficult to follow. Significant revisions or editing are required.
The activity title expresses the content of the activity.	The activity title clearly and succinctly expresses the content of the activity.	The title does not entirely reflect the activity content.	The title fails to express the content of the activity, poorly describes the activity, suggests content inaccurately, or is overly flashy.
The abstract summarizes the activity in 250 words (or less).	The abstract is concise, communicated clearly, and within the word limit.	The abstract may seem vague or too detailed.	The abstract does not clearly summarize the activity. Word limit is exceeded.
The activity identifies and addresses applicable lab skills, cognitive skills, or safety skills.	The activity clearly addresses one or more applicable lab themes.	The activity partially addresses one or more applicable lab themes. Additional lab themes are applicable but not cited.	The activity does not address any lab themes. Inappropriate lab themes are cited.
The level of the activity is appropriate for the indicated audience of undergraduate students.	The activity challenges student to understand and apply core content theme(s) at the undergraduate level.	The activity presents core content themes in appropriate manner but does not challenge undergraduate students. Additional audiences are applicable but not cited.	The activity level is inappropriate for selected audiences.
The activity identifies appropriate science discipline, microbiology and pedagogy keywords for user searches.	All appropriate science discipline, microbiology and pedagogy keywords are cited.	Science discipline, microbiology and pedagogy keywords are cited but additional choices should be included.	Science discipline, microbiology and pedagogy keywords are not listed; inappropriate choices are cited.

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Process	Acceptable as submitted (1)	Needs modifications (2)	Fundamental revisions required (3)
Students are actively engaged in learning concepts, investigative techniques, or skills development.	Activity clearly requires hands-on/minds-on involvement of all students.	Activity requires marginal involvement and engagement of students.	Students are not engaged in active-learning or critical thinking processes.
The activity is innovative.	Activity presents concepts and meets objectives using new ideas, methods, or devices.	Activity includes some new methods and ideas.	Activity does not include any novel methods or ideas.
The activity involves at least one of the following: (1) peer collaboration or group work, (2) oral or written communication, (3) application of quantitative skills, or (4) problem solving.	The activity involves more than one of the prescribed conventions.	The activity involves only one of the prescribed conventions.	The activity does not involve any of the prescribed conventions.
The activity engages students in thinking beyond knowledge and comprehension such as application, critical thinking, synthesis, analysis, or evaluation (if applicable).	The activity challenges student to apply, analyze, synthesize, and evaluate using higher-order cognitive skills.	The activity requires students to understand core concepts; it encourages students to apply skills to new situations.	The activity fosters basic understanding but does not involve applications of knowledge to new situations.
Instruction	Acceptable as submitted (1)	Needs modifications (2)	Fundamental revisions required (3)
The time required for activity preparation and implementation appears accurate and reasonable.	Activity preparation times and required class times are stated clearly (number of minutes/hours or class periods).	Activity preparation times and class times are suggested but require clarification.	Preparation times and class times are vague or seem unrealistic.
The materials list is clear and complete. Materials are readily available. Sources for materials are provided (if applicable).	Materials list is clear, complete, and well organized as amount required per student, per group, or per lab. Sources for materials are provided.	Materials list is essentially complete, but details are not clear. Some sources for key items are not listed.	Materials list is incomplete. Items are expensive, difficult to obtain, or pose safety hazards. Sources for items are not listed.

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Recipes and storage for media and reagents are provided (if applicable).	Recipes and storage for media and reagents are clear.	Recipes and storage for media and reagents are vague or incomplete.	Recipes and storage for media and reagents are absent.
The instructions and procedures for students are clear and complete.	Instructions are provided in the form of a student handout. Procedures are clear, complete, well organized, and presented at the appropriate level.	Instructions and procedures are essentially complete, but may be unclear or need minor modifications. Instructions are not in the form of a student handout.	Instructions and procedures are incomplete or unclear. Procedures are provided at an inappropriate level. Student handout is clearly needed but not included.
The instructions and procedures for instructors are clear and complete.	Instructions are organized, succinct, and include explanations or clarifications that allow the activity work smoothly.	Instructions and procedures are essentially complete, but may be unclear or need minor modifications.	Instructions and procedures are incomplete or unclear. Specific methods or steps require additional clarifications.
Prerequisite student knowledge and skills are clearly stated.	Prerequisites are clearly stated.	Some prerequisites are listed.	Background requirements for students are lacking and/or unrealistic.
Possible modifications and extensions that broaden the appeal or usefulness of the activity are provided (if applicable).	Specific modifications are suggested that broaden the activity to other audiences, themes, or applications.	Modifications are suggested that broaden the usefulness of the activity, but additional clarifications are needed.	No modification or extensions are listed, although the activity clearly would benefit by their inclusion.
Adequate support materials (references, answer keys, appendices, etc.) are provided.	Ample support materials and references are provided.	Support materials for faculty could be improved. Answer keys and appendices are vague or incomplete. Some references are improperly cited or missing.	Support materials for faculty are poor or not provided. Answer keys and appendices are needed but missing. References are not listed.
Safety issues (microorganisms, toxicity, flammables, corrosives, combustibles, etc.) are clearly addressed (if applicable).	All safety issues (microorganisms, toxicity, flammables, corrosives, combustibles, etc.) are clearly addressed.	Some safety issues need to be clarified or further described.	Safety issues are not addressed or inadequate in their current form.

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Pedagogy & Assessment	Acceptable as submitted (1)	Needs modifications (2)	Fundamental revisions required (3)
The learning objectives are clearly stated and represent valuable learning outcomes. The learning objectives describe behaviors and outcomes that are both measureable and testable.	The learning objectives are clearly, stated, well written and have high educational value.	The learning objectives are not clearly stated or not well written, and have moderate educational value.	Learning objectives have marginal educational value.
The activity as conceived and presented will help students to achieve the stated learning objectives. The learning objectives and the activity complement each other.	The activity clearly supports the learning objectives; the approach is well conceived.	The activity somewhat supports the learning objectives; the approach is acceptable.	The activity does not seem to support the learning objectives; the approach is flawed.
Assessment methods are described well.	Assessment methods are described clearly; methods are appropriate and effectively measure the stated learning objectives.	Assessment methods are suggested but do not measure whether students have met the learning objectives.	Suggested assessment is inappropriate for activity; assessment would be applicable for this activity, but has not been provided.
Assessment results from the field test(s) indicate that the students achieved the stated learning objectives and a higher degree of comprehension or skill level has been achieved.	The activity has been field tested at two or more sites and revised accordingly. Assessment data demonstrate that it is highly effective in meeting the learning objectives.	The activity has been field tested and revised accordingly. Assessment data demonstrates marginal effectiveness in meeting the learning objectives.	Evidence from field tests does not demonstrate effectiveness of activity to meet the stated objectives. Field test component is absent or adequate assessment was not completed.
Examples of grading rubrics used to assess the activity are provided (if applicable).	Sample grading rubrics are provided for all assessment methods.	Some sample grading rubrics are provided for some assessment methods.	No sample grading rubrics are provided for some assessment methods.
Student and instructor responses from field test(s) are available and reflect favorably (if applicable).	The activity has received excellent student/instructor feedback.	Student and instructor feedback responses are good.	Student and instructor feedback responses are marginal or not included.

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Student data are included to provide faculty with full sense of the outcomes of the activity.	The activity includes useful examples of actual student data and clearly outlined student outcomes.	Suggested student outcomes are included.	Does not include examples of student data.
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