

## EVALUATION RUBRIC FOR ASBMB ACCREDITATION

<b>Infrastructure Categories</b>		
<b>Critical</b>	<b>Desirable</b>	<b>Feedback Only</b>
Laboratory facilities	Evidence of institutional support for diversity	Degrees awarded
Safety programs	Professional-development activities for faculty	Title IX compliance and description
Faculty – number & expertise		
Faculty – postdoctoral training		
Faculty – scholarship & research		

<b>Curriculum Categories</b>		
<b>Critical</b>	<b>Desirable</b>	<b>Feedback Only</b>
Experiential learning – quantity & breadth	Course timeliness	Assessment of student performance
Core curriculum: Energy	Inquiry components	Mechanisms for program review
Core curriculum: Structure & Function	Data collected on internship/research participation	
Core curriculum: Information Storage	Communication skills	
Core curriculum: Quantitative	Teamwork skills	
Underlying concept: Evolution		
Underlying concept: Homeostasis		
Internship and research opportunities		
Ethical conduct of research		
Career and academic advising		

If the application is missing a letter of support, the application will be returned to the applicant without further review.

Out of the 15 critical categories:

- 1 “unsatisfactory” = reject
- 3 or more “needs improvement” = provisional
- 7 or more “needs improvement” = reject

Out of the 7 desirable categories:

- 4 or more “unsatisfactory” = provisional
- 4 or more “needs improvement” in total across both desirable AND critical categories = provisional

Feedback-only categories do not have any impact on the accreditation decision and are present only to help provide useful feedback to applicants. Scoring “strong” in any category does not counterbalance any deficiencies. The “strong” score is only to help provide positive feedback.

Category (Application Section)	Strong	Appropriate	Improvement Needed	Unsatisfactory
<b>INFRASTRUCTURE</b>				
<b>Degrees awarded (1.8)</b>		<p>[Program awards 3 or more degrees per year] OR [(Accommodations made to engage BMB majors with other STEM students so as to provide communication and team-building experiences) AND (Program articulates commitment to continuing program or outlines realistic plans for increasing the number of students enrolled.)]</p>	<p>Program awards fewer than 3 degrees per year AND curriculum lacks provisions for engaging BMB majors with other STEM students, especially during years 3 &amp; 4 OR Small/declining student numbers adversely affect course availability and faculty commitment to program.</p>	
<b>Laboratory facilities (2)</b>	<p>Students work in pairs (with the exception of exercises intentionally designed as team-building experiences). Equipment exceeds "Appropriate"; additional high-end equipment is integrated into laboratory courses.</p>	<p>Teams of 2 to 3 students. Sufficient laboratory equipment is available to allow hands-on experiences. Six of 9 listed items, or others appropriate to lab exercises, available and per team.</p>	<p>Less than "Appropriate" category. Six of 9 listed items, or others appropriate to lab exercises, available, but insufficient quantities.</p>	<p>Important items are missing. Fewer than 6 listed items available, and no other equivalent.</p>

<b>Safety programs (3.1)</b>	All 4 training requirements (formal training for: students in lab courses; students doing independent research; faculty and staff initial; faculty and staff refresher) and assessments are in place and no corrective action is needed.	All 4 training requirements are met, but not all assessed. Corrective plan addresses assessment.	Some, but not all, requirements are met and the corrective action plan is insufficient.	No safety training is available. None of the safety requirements are met.
<b>Evidence of institutional support for diversity of faculty and students (4.1, 4.2, 4.3, 4.4)</b>	Institution-wide programming in place and utilized by BMB program to support underserved populations. Meets "Appropriate" category requirements, and program outcomes are documented.	Demographic data for students and faculty at institutional level and faculty in program are provided. Application cites institutional support programs for underserved populations. Diversity programs are described for both faculty and students.	Demographic data lacking in one or more categories; pro forma commitment to diversity.	Little awareness of issues involved or support for diversity not mentioned.
<b>Title IX compliance (4.5, 4.6)</b>		Compliant with Title IX requirements and describes programs in place.	Compliant with Title IX requirements but no description of programs.	No evidence presented.
<b>Faculty – number and expertise (5.1, 5.2, 5.3)</b>	Three or more BMB faculty. Faculty expertise is representative of both biology and chemistry. Biology and chemistry expertise is relevant to BMB. Large number of faculty members relative to program size.	Three or more BMB faculty. Faculty expertise is representative of both biology and chemistry. Biology and chemistry expertise is relevant to BMB. Ratio of students to faculty in the program is 25:1 or less.	Three or more BMB faculty members, but range of expertise lacks balance across chemistry and biology.  OR Ratio of students to faculty in the program is greater than 25:1.	Fewer than three BMB faculty members.  OR Expertise is so unbalanced that loss of a single faculty member would jeopardize the program.

<b>Faculty – postdoctoral training</b> (5.2, 5.3)	Greater than 60% of listed faculty members have postdoctoral training in BMB disciplines.	30-60% of listed faculty members have postdoctoral training.	Less than 30% of faculty members have postdoctoral training.	No faculty members have postdoctoral training.
<b>Faculty scholarship &amp; research</b> (5.2, 5.3)	Most (2/3 or more) listed faculty members have recent (past 5 years) BMB-related publications in refereed journals and current grants.	Multiple (1/3 or more) listed faculty members have recent (past 5 years) BMB-related publications, grants, invited talks, and/or poster presentations.	Few faculty have recent publications, recent grants, or other evidence of scholarly activity.	No evidence of scholarship activity in any form.
<b>Professional development activities for faculty (includes research, scholarship, and pedagogical development)</b> (5.4)	Institution provides formal mechanisms and generous funds for faculty development around research/scholarship/pedagogy.	Formal mechanisms in place for faculty to engage in sabbaticals or other professional-development activities. Some funding available.	Mechanisms in place but funds are lacking.	No funds and mechanisms, release time or programs are available.
<b>CURRICULUM</b>				
<b>Course timeliness</b> <b>Adequacy of offerings</b> (6.2)		Required core courses offered every year; upper level required electives every 1 to 2 years.	Not all required core courses offered annually.	
<b>Experiential learning – quantity &amp; breadth</b> (6.3)	400 hours across STEM, integrated across courses.	400 hours minimum across STEM in required courses for every major in program (either hands-on or <i>in silico</i> , as appropriate). Must include a laboratory in biochemistry and molecular biology.	Meets 400 hours minimum but not balanced across STEM.	Below 400 hours.

<b>Core curriculum – Energy (6.4)</b>	Covered at introductory, intermediate and advanced levels and is integrated across BMB courses.	Covered at an introductory level and intermediate level.	Covered at an introductory level only.	Is missing.
<b>Core curriculum – Structure &amp; Function (6.4)</b>	Covered at introductory, intermediate and advanced levels and is integrated across BMB courses.	Covered at an introductory level and intermediate level.	Covered at an introductory level only.	Is missing.
<b>Core curriculum – Information Storage (6.4)</b>	Covered at introductory, intermediate and advanced levels and is integrated across BMB courses.	Covered at an introductory level and intermediate level.	Covered at an introductory level only.	Is missing.
<b>Core curriculum – Quantitative (6.4)</b>	Covered at introductory, intermediate and advanced levels and is integrated across BMB courses.	Covered at an introductory level and intermediate level.	Covered at an introductory level only.	Is missing.
<b>Underlying concept: Evolution (6.4)</b>	Covered at introductory, intermediate and advanced levels and are integrated across BMB courses.	Covered at an introductory level and intermediate level.	Covered at an introductory level only.	Is missing.
<b>Underlying concept: Homeostasis (6.4)</b>	Covered at introductory, intermediate and advanced levels and are integrated across BMB courses.	Covered at an introductory level and intermediate level.	Covered at an introductory level only.	Is missing.
<b>Inquiry components (6.5)</b>	Extensive opportunities for open-ended projects or discovery (active learning) in both lab and classroom.	Opportunities for open-ended projects or discovery (active learning).	Few or no opportunities for open-ended projects or discovery (active learning).	

<b>Internship / research opportunities (6.6)</b>	Research/internship experience is required for every student in the program, and sufficient opportunities exist for such experiences in BMB.	Mechanisms are in place to ensure sufficient opportunities for every student to have research/internship experience of some kind, with opportunities in BMB available.	Some opportunities for research/internship, but mechanisms are not in place to enable every student required or desiring to take advantage.	Few or no opportunities.
<b>Data collected on internship / research participation (6.6)</b>		Data provided on % or number of students undertaking research / internship as BMB majors OR Data provided on the number of BMB students supervised by participating BMB faculty.	Few or no opportunities described OR no data provided.	
<b>Communications skills (6.7)</b>	Curriculum features several assignments that assess writing and speaking, scaffolded throughout the curriculum. Could include participation in a capstone.	Curriculum has assignments that assess both writing and speaking.	Curriculum has assignments that assess writing or speaking but not both.	Curriculum does not require assignments that assess either writing or speaking.
<b>Teamwork skill opportunities (6.8)</b>	Curriculum has several assignments that address and assess teamwork, scaffolded throughout the curriculum. Could include participation in a capstone event.	Curriculum has one or more required assignments that address and assess teamwork.	Curriculum lacks required assignments that address and assess teamwork.	

<b>Ethical conduct of research (6.9)</b>		Professional code of conduct is addressed in either coursework or research program, at a minimum plagiarism.	Professional code of conduct is addressed solely through student agreement with an honor code.	Some or no attention paid to code of conduct.
<b>Career and academic advising (6.10)</b>	BMB program provides career-advising activities in addition to institutional resources.	Provides evidence that career and academic advising is available.		Insufficient evidence that career and academic advising is available.
<b>Assessment of student performance (6.11)</b>	Criteria for "Appropriate" are met, and evidence provided that learning outcomes are used to modify program.	Some attention to student learning outcomes outside of course grades.	Course performance is the only measure of student performance.	
<b>Mechanisms for program review (6.11)</b>	Criteria for "Appropriate" are met, and evidence provided that review outcomes are used to modify program.	Active mechanisms for regular review of programs ( $\geq$ every 10 years) are in place at the institution.	Limited or no regular review of programs is in place at the institution.	