

**2023 Instructional Material Summer Review Institute**  
**Review Team Appraisal of Title**  
**Grades 7-12 Career and Technical Education**

This appraisal form is provided for use by educators responsible for the selection of instructional materials for implementation with districts and charter schools across New Mexico to meet the need of their student populations.

[NMPED Adoption Information](#)

<b>Text Title</b>	Biotechnician 1a/1b one year student license	<b>Publisher</b>	eDynamic Holdings LP
<b>SE ISBN</b>	9781959433149	<b>TE ISBN</b>	
<b>SW ISBN</b>		<b>Grade Level/Content</b>	9-12 CTE

**Core Instructional Material Designation** (*Core instructional material (CIM) is the comprehensive print and/or digital educational material, including basal material, which constitutes the necessary instructional components of a full academic course of study in those subjects for which the department has adopted content standards and benchmarks.*)

**Recommended**  
(90% and above)

**Recommended with Reservations** (80-89%)

**Not Recommended and Not Adopted**  
(below 80%)

**Total Score** - The final score for the materials is averaged between the team of reviewers.

Average Score

81%

**Cultural and Linguistic Relevance Recognition** - Materials are reviewed for relevant criteria pertaining to the support for teachers and students in the material regarding cultural relevance and the inclusion of a culturally responsive lens. Those materials receiving a score of 85% or above on the CLR portion of the review are recognized as culturally and linguistically relevant.

**CLR Recognized**

Average Score

80%

**FOCUS AREA 3 CULTURAL AND LINGUISTIC PERSPECTIVES AND RESPONSIVENESS:**

**Instructional materials represent a variety of cultural and linguistic perspectives and highlight diversity in culture and language through multiple perspectives.**

*Statements of appraisal and supporting evidence:*

Instructional materials are not intentionally aligned to represent a variety of cultural and linguistic perspectives. However, the tools and resources included allow the instructor to edit any of the content areas to support the needs of their students appropriately. Instructors may edit each unit to have themes, websites, documents, and other resources to meet the needs of their students. The instructor can embed specific cultural, religious, and local activities. Many diverse cultures, genders, and ethnicities are represented in the images and videos embedded throughout the course. Critical thinking and discussion activities often present varying perspectives on how to resolve controversial topics within the Biotech world.

**CTE Standards Review** - Materials are reviewed for alignment with the state adopted content standards, benchmarks and performance standards.

Average Score
70%

#### OVERALL ALIGNMENT

Materials align with the CTE standards overall, including strands 1-10: Academic Foundations; Communications; Problem Solving and Critical Thinking; Information Technology Applications; Systems; Safety, Health, and Environmental Management; Leadership and Teamwork; Ethics and Legal Responsibilities; Employability and Career Development; and Technical Skills.

*Statements of appraisal and supporting evidence:*

Overall, the eDynamic Learning Biotechnician material partially aligns with the New Mexico Career and Technical Education Standards and the Common Career Technical Core Standards. The eDynamic Learning materials include sequential units designed to support today's students in a blended, online, or project-based environment. Embedded throughout are projects, activities, assessments, and resources related to careers as a Biotechnician. The reviewers did not observe leadership and teamwork initiatives, such as employing leadership skills within an organization, and the opportunity to work in meetings to accomplish work tasks. Ethical and legal responsibilities, application of laws and regulations, and knowledge of copyright laws to biomedical work were also not observed.

#### STRAND ALIGNMENT

Materials align with specific CTE content strands. *(Optional)*

<b>Strand:</b>	<i>Statements of appraisal and supporting evidence:</i>
Academic Foundations	Instructional material provides students with opportunities to enhance their academic knowledge and skills in Language Arts, Mathematics, and Science required to complete a CTE program that will prepare them for employment in a specific career field. For instance, students must use Language Arts skills to research a topic such as "How Do You Plan for a Career in the Reproductive Health Field?".
Information Technology Applications	Instructional materials teach sophisticated research-based modern Information Technology Applications such as DNA profiling, worldwide healthcare information systems, and genetic mapping lessons. However, day-to-day Information Technology applications like Personal Information Management, digital microbial imaging, and Medical Artificial Intelligence information databasing are not included.
Communications	Throughout the materials, students use oral and written communications skills to demonstrate concepts such as completing biosafety level labs and CPR. The written collaboration includes legal lab notebooks, aseptic procedures, chemical safety, and practical and ethical implications of genetic testing.
Leadership and Teamwork	Instructional material provides knowledge and leadership/teamwork skills that prepare students for a career in the biotechnology field, from relevant information about safety protocols to conflict resolution skills. However, it does not provide information about business laws and regulations, including copyright laws.
Choose CTE Content Strand (optional)	

**CCTC Standards Review** - Materials are reviewed for alignment with the state adopted Common Career Technical Core Career Cluster and Career Pathway standards.

Average Score
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89%
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**OVERALL ALIGNMENT**

**Materials align with the CCTC standards.**

*Statements of appraisal and supporting evidence:*

Instructional material meets CCTC standards by providing students with health science career and biotechnology research and career development opportunities. Students apply the fundamentals of biochemistry, microbiology, molecular biology, genetics, mathematical concepts, and chemistry. Related governmental agencies, binding protocols, and humane philosophies are embedded in lessons, activities, and critical thinking requirements. Statistical analysis in regard to conducting research and development of products is not consistently observed within the materials.

**CAREER CLUSTER**

**Materials align to the CCTC standards for the Career Cluster reviewed.**

*Statements of appraisal and supporting evidence:*

Instructional Materials align with New Mexico CCTC standards by providing students with lessons and hands-on projects that prepare them for specific career pathways and employability in the biotechnology career field. For instance, students learn about the various disciplines under the biotechnology field umbrella, such as bioengineering, bioethicists, or forensic biotechnology. Students are informed of proper safety protocols in the workplace, such as the disposal of hazardous and non-hazardous materials. Additionally, instructional materials provide information about an employee's role in the biotechnology career field, such as how employees' habits and behaviors affect the work environment and the ethical issues and controversies behind DNA and genetic research. However, the instructional materials do not give information about high school graduation requirements necessary to pursue a career in health science.

**CAREER PATHWAY(s)**

**Materials align to the CCTC standards for the Career Pathway reviewed.**

*Statements of appraisal and supporting evidence:*

Instructional materials align well with standards relating to bioethics, individual responsibilities, and safety/hazard training. There are no distinct references to teamwork and leadership standards.

**CTE Content Review** - Materials are reviewed against relevant criteria pertaining to the support for teachers and students in the specific content area reviewed.

Average Score
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81%
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**FOCUS AREA 1 SEQUENCING AND ARTICULATION**

**Instructional materials show sequencing and articulation within and across grade bands and/or pathways.**

*Statements of appraisal and supporting evidence:*

Instructional materials follow a sequence described in the Teacher's Pacing guide and Student's Course Syllabus. Students acquire skills that will make them employable, such as knowing the different types of cloning and its ethical issues and controversy. Students also learn about career certification information related to Biotechnician Assistant and Biotechnician Assistant Credentialing. Sequential courses and seamless transitions are not consistently observed within the materials.

**FOCUS AREA 2 ENGAGING INSTRUCTION**

**Instructional materials are engaging for students.**

*Statements of appraisal and supporting evidence:*

Instructional materials provide students with project-based and inquiry-based learning opportunities that can be completed in collaborative groups or individually. These activities promote critical thinking, practice of research skills, use of technology software, and use of oral discourse.

**FOCUS AREA 3 CAREER DEVELOPMENT**

**Instructional materials provide career development information for students.**

*Statements of appraisal and supporting evidence:*

The Biotechnician instructional materials did well in providing overall career development training. Each sub-field of biotechnology in the course gives the students what they can expect to be daily routines and basic knowledge required for each sub-field. However, instructional materials did not emphasize the connection between academic and technical knowledge and skills and lacked cross-disciplinary collaboration.

**FOCUS AREA 4 TECHNOLOGY**

**Instructional materials incorporate opportunities to use industry appropriate technology.**

*Statements of appraisal and supporting evidence:*

Within the Biotechnician instructional materials, students must use technology to research and present their information in various formats. Students also learn about modern biotechnologies such as organisms, cloning through DNA, and the use of embryonic stem cells in regenerative medicine. However, the instructional material often lacks providing hands-on opportunities to use technology to enhance productivity in a biotechnology employment setting.

**All Content Review** - Materials are reviewed against relevant criteria pertaining to the support for teachers and students in the material regarding the progression of the standards, pacing, assessment, individual learners, and cultural and linguistic relevance and responsiveness.

CLR Recognition Average Score	Average Score
80%	85%

**FOCUS AREA 1 RESOURCES AND SUPPORTS FOR TEACHERS AND STUDENTS:**

**Instructional materials provide teacher resources to support planning and supports for all students.**

*Statements of appraisal and supporting evidence:*

The instructional material provides a Teacher's Pacing Guide and a Student's Course Syllabus. It also has digital components that enhance student learning, such as a course navigation guide and a Literacy Support Toolbar that provides translations to various languages and reading assistance. Each unit offers videos, discussion questions, project-based learning projects, and inquiry-based projects that require students to use online search engines and different kinds of software (writing and presentation software). Resources and supports for teachers and students are strongly apparent throughout the materials reviewed.

**FOCUS AREA 2 ASSESSMENT**

**Instructional materials offer teachers a variety of assessment resources and tools to collect ongoing data about student progress related to the standards.**

*Statements of appraisal and supporting evidence:*

Assessments are strategically placed in the course for lesson knowledge checks (informal), unit quizzes (formative), and 4-unit completion (summative). The formative and summative questions can be accommodated and modified individually (for struggling readers) through an instructor assessment control panel. However, standards for each formative and summative assessment question are not provided to students to self-review their standards-based achievement.

**FOCUS AREA 3 CULTURAL AND LINGUISTIC PERSPECTIVES AND RESPONSIVENESS**

**Instructional materials represent a variety of cultural and linguistic perspectives and highlight diversity in culture and language through multiple perspectives.**

*Statements of appraisal and supporting evidence:*

Instructional materials are not intentionally aligned to represent a variety of cultural and linguistic perspectives. However, the tools and resources included allow the instructor to edit any of the content areas to support the needs of their students appropriately. Instructors may edit each unit to have themes, websites, documents, and other resources to meet the needs of their students. The instructor can embed specific cultural, religious, and local activities. Many diverse cultures, genders, and ethnicities are represented in the images and videos embedded throughout the course. Critical thinking and discussion activities often present varying perspectives on how to resolve controversial topics within the Biotech world.

**Reviewers' Professional Summary** - These materials are reviewed by Level II and Level III educators from across New Mexico. The reviewers have brought their knowledge, experience and expertise into the review of these materials. They offer here their individual summary of the material as a whole.

Reviewer #: 34

*Background and experience:*

This reviewer has 25 years of experience in education and is a Level III Educator and Administrator with licenses in K-8 Elementary Education, K-12 Health, Special Education, Reading, Educational Diagnostician, and Administration. This reviewer has the following degrees: AA Early Childhood Education, BA Elementary Education, MA Curriculum & Instruction, EdSpec Education Administration, MS Special Education, and EdD Education Administration. This reviewer also has ten years of experience as an adjunct instructor in higher education.

*Professional summary of material:*

I recommend with reservations the eDynamic Biotechnician materials for New Mexico students. The materials are comprehensive and adaptable to all learners. Alignment to New Mexico CTE standards were initially strong but became more difficult to observe. However, the CCTC standards are strongly aligned and the interactive activities provide ample opportunities for critical thinking and opportunities in the biomedical field. Although local cultural alignment is not readily apparent in the materials, instructors may edit each lesson to include ethnic-related themes, activities, and resources to meet NM cultural and linguistic standards.

Reviewer #: 35

*Background and experience:*

This reviewer has a Master's degree in LLSS (Language, Linguistics & Socio Cultural Studies) combined with 21 years of teaching experience in General Education, TESOL and Special Education. This reviewer also has 4 years work experience as a Med tech and 1 year as a lab Assistant.

*Professional summary of material:*

The eDynamic Biotechnician course has a strategic progression from the basic ideas of biotechnology to the details of being a biotechnician in several sub specializations. It achieves many standards in the Common Career Technical Core (CCTC) areas but tends to lack in fulfilling the the Career and Technical Education (CTE) standards. Overall, the material is modern, contains diverse topics and bridges easily from one lesson/unit to the next.

Reviewer #: 36

*Background and experience:*

The reviewer has 18 years of teaching experience in General Education. BS in Psychology. New Mexico Teaching Certification K-6, 5-9, 6-12, with endorsements in TESOL, Bilingual Education, and Modern, Classical & Native Languages. Currently enrolled in a Master's Degree Program in Language, Literacy and Culture.

*Professional summary of material:*

Overall, these instructional materials partially align with New Mexico CTE standards. Students are exposed to lessons, projects, discussions, and critical thinking questions that engage them and prepare them for a future career pathway in biotechnology. They follow a sequence for both teachers and students and provide support for students to be successful in this course, such as the Literacy Support Toolbar and Career Certifications information. However, I recommend these instructional materials with reservations because they do not provide lessons, information, activities, or projects that relate to New Mexico's historical and cultural realities and perspectives.