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MODULE 2: TRANSCRIPTION PART I

SUBMISSION DETAILS

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LESSON OVERVIEW

Lesson abstract:	This module will introduce you to the use of the Genome Browser to illustrate the process of transcription and help you identify regulatory elements, using the *Drosophila melanogaster transformer* (*tra*) gene as an example. You will use the UCSC Genome Browser Mirror developed by the Genome Education Partnership (GEP), which contains RNA expression data, to identify the different parts of the gene that give rise to pre-mRNA through transcription.
Lesson keywords:	Genome Browser Transcription Initiation Transcription Start Site Transcription Termination Signal
Organism(s) that are the focus of this lesson:	*Drosophila melanogaster*
Type(s) of student learning assessments:	Short answer formative and summative questions

Websites and online databases used:	GEP UCSC Genome Browser (http://gander.wustl.edu)
Resources in addition to the lesson instructions	YouTube videos

Learning Topics

Topics in scientific fields:	Bioinformatics Genomics Molecular Biology
Topics in mathematics or statistics:	None
Topics in bioinformatics or data science:	Data visualization

Student Prerequisites

Recommended prior course work:	High school level biology
Recommended computer skills:	Basic: Familiarity with web browsers, word processing

Instructor Prerequisites

Recommended computer skills:	Basic: Familiarity with web browsers, word processing
Instructional requirements:	Basic Computer Lab (Access to laptops/desktops, no large memory or CPU requirements)

Implementation Recommendations

Instructional time required:	1 class period or less
Students work as individuals or teams?	Either individual or team work is possible
Number of students in a class:	10-25 students (assume no TAs and one computer for each student)

Accessibility

Available languages:	English
Additional materials for students with disabilities:	None