

**Sistema Universitario Ana G. Méndez, Inc.  
School for Professional Studies  
Florida Campuses  
Universidad del Este, Universidad Metropolitana, and Universidad del Turabo**

**BIOL 304L**

**BIOL 304L**

**Human Biology Laboratory II**

**Laboratorio de Biología Humana II**

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**Non-Education Courses**

**10/31/2013**

**Please include all applicable information below:**

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## PRONTUARIO/GUÍA DE ESTUDIO

**Título del curso: Laboratorio de Biología Humana II**

**Codificación: BIOL 304 Lab**

**Créditos: 1**

**Duración: 45 horas al semestre / 3 horas por semana**

**Prerrequisito: BIOL 303**

### **Descripción:**

Las experiencias de laboratorio de este curso han sido diseñadas para capacitar a los estudiantes en el aprendizaje de la anatomía y fisiología humana de manera integral. Cada experiencia y las actividades son seleccionadas para desarrollar en el estudiante la capacidad de pensamiento crítico, que puedan tener iniciativa en la solución de problemas y sean responsables de su propio aprendizaje. Se enfatizan los principios éticos que aplican al área de la biología humana.

### **Objetivos generales de contenido**

Al finalizar el curso, el estudiante será capaz de:

1. Interpretar y entender la terminología anatómica y fisiológica utilizada para analizar los órganos sensoriales, el sistema endocrino, el circulatorio, linfático, respiratorio, digestivo, urinario y reproductor.
2. Adiestrarse en el manejo y funcionamiento del equipo que se utiliza en el laboratorio.

### **Objetivos generales de lenguaje**

Al finalizar el curso, el estudiante será capaz de:

**Escuchar:** Comprender discursos orales reconociendo sus diferentes finalidades y las situaciones de comunicación en que se producen; compartir, comparar y desarrollar ideas nuevas acerca de las actividades de laboratorio y el contenido académico relacionado con las estructuras anatómicas y la fisiología de los sistemas estudiados de manera colaborativa; lograr aprendizajes significativos sustentados en la experiencia y en temas motivadores; responder a estímulos auditivos tales como videos, presentaciones audiovisuales y actividades interactivas.

**Hablar:** Expresarse oralmente en inglés y/o en español con coherencia y corrección de acuerdo con las diferentes finalidades y situaciones comunicativas y adoptando un estilo expresivo propio; analizar, opinar y comunicar oralmente puntos de vistas e ideas; desarrollar habilidades y competencias que lo capaciten para su trabajo escolar, vida laboral y vida cotidiana; utilizar la lengua para adquirir conocimientos nuevos acerca de las actividades de laboratorio y el contenido académico relacionado con las estructuras anatómicas y la fisiología de los sistemas estudiados, incluyendo discusiones en clase, presentaciones individuales y de grupo, así como otras actividades que permitan aprender a utilizar técnicas sencillas de manejo de la información mediante los medios tradicionales y la tecnología informática.

**Leer:** Investigar, analizar, resumir, parafrasear y comprender en inglés y/o en español la información recogida en los diversos medios de información sobre el tema de de las actividades de laboratorio y el contenido académico relacionado con las estructuras anatómicas y la fisiología de los sistemas estudiados; desarrollar actitudes críticas ante los mensajes de los medios, valorando la importancia de sus manifestaciones; y beneficiarse autónomamente de la lectura como forma de comunicación y como fuente de enriquecimiento cultural.

**Escribir:** Interpretar y producir textos en inglés y/o en español desde una postura personal crítica y creativa, con una correcta ortografía y con la coherencia y el énfasis que se requiere para una comunicación clara y efectiva; utilizar la escritura como forma de comunicación y para proveer información relacionada con las actividades de laboratorio y el contenido académico relacionado con las estructuras anatómicas y la fisiología de los sistemas estudiados, así como desarrollar reportes de laboratorio de una manera profesional y científicamente correcta.

**Requisitos del laboratorio de lenguaje o laboratorio electrónico:** (*Tell Me More, Net Tutor, Wimba Voice, Voice E-mail, y Biblioteca Virtual*)

- El laboratorio de idiomas y/o *E/Lab* forman parte integral de la evaluación y las actividades del curso que el estudiante deberá realizar. La información específica sobre los recursos del laboratorio de idiomas y el *E-Lab* se encuentra en el Apéndice C. Es responsabilidad del facilitador integrar el uso del laboratorio electrónico en

las asignaciones y actividades del curso. Las horas de práctica en el laboratorio de idiomas o E-*Lab* deberán ser completadas de acuerdo a estas especificaciones.

- Cada estudiante completará la documentación encontrada en el Apéndice D y lo entregará al facilitador como parte de los criterios de evaluación de este curso. La práctica en el laboratorio de lenguaje o e-lab debe de estar integrada en la sección de actividades del módulo.

**Descripción de la evaluación:**

<b>TAREA/ACTIVIDAD</b>	<b>PUNTAJE</b>
<p><b>Reporte de laboratorio</b> Talleres 2, 3, 4, 5, 6, 7, 8 (100 puntos por ensayo/ 2 puntos del grado final pro cada reporte)</p>	<p>7 x 2 puntos = 14 puntos del grado final 14% del grado final Refiérase al Apéndice B</p>
<p><b>Exámenes/pruebas</b> Talleres 4 y 8 (100 puntos por examen/ 5 puntos del grado final por cada examen)</p>	<p>2 x 5 puntos = 10 puntos del grado final 10% del grado final</p>
<p><b>Portafolio</b> Taller 8 (100 puntos/ 20 puntos del grado final)</p>	<p>1 x 20 puntos = 20 puntos del grado final 20% del grado final Refiérase al Manual de portafolio digital</p>
<p><b>Practica de laboratorio y participación</b> Talleres 1, 2, 3, 4, 5, 6, 7, 8 (100 puntos por laboratorio/ 2 puntos del grado final por cada actividad de laboratorio)</p>	<p>8 x 2 puntos = 16 puntos del grado final 16% del grado final</p>
<p><b>Tareas antes del taller</b> Talleres 1, 2, 3, 4, 5, 6, 7, 8 (100 puntos por laboratorio/ 1 punto del grado final por cada actividad antes del laboratorio)</p>	<p>8 x 1 puntos = 8 puntos del grado final 8% del grado final</p>

<b>Laboratorio de idiomas/laboratorio electrónico</b> Talleres 1 al 8 (4 puntos máximo por taller)	8 X 4 = 32 puntos del grado final 32% del grado final Apéndice C y D
<b>TOTAL</b>	<b><u>100</u> PUNTOS</b>

**MÉTODO DE EVALUACIÓN:** El facilitador proporcionará información específica para las asignaciones durante la primera noche de clase.

1. **Portafolio digital:** En el Taller ocho, los estudiantes entregarán sus portafolios digitales, el cual es uno de los instrumentos usados para evaluar el progreso lingüístico y académico de los estudiantes. Por tal razón, es imperativo que el facilitador documente el progreso de los alumnos a medida que se acercan a las metas de dominar tanto el contenido del curso como el inglés y el español. El portafolio debe cumplir con los estándares establecidos para asegurar que los estudiantes alcancen la meta de ser profesionales bilingües. El facilitador publicará el documento *Digital Performance Portfolio Assessment Handbook* en la plataforma electrónica de Blackboard, de donde los estudiantes podrán accederlo.
2. **Examen final/pruebas cortas:** El programa ahora requiere un examen final o dos pruebas cortas, las cuales serán incluidas en la evaluación final. Dicha prueba/pruebas se efectuará(n) para medir conocimientos del contenido del curso según sus objetivos, al igual que la competencia lingüística de ambos idiomas.
3. La calificación **final** del curso estará determinada por el porcentaje que obtenga el estudiante en la demostración de los conocimientos aprendidos y logro de las metas del curso (70%) y en el dominio de las destrezas de lenguaje en inglés y en español (30%).

Para poder evaluar los conocimientos del contenido del curso de los estudiantes, que se miden a través de exámenes, asignaciones, proyectos, trabajos escritos, presentaciones orales, ejercicios del laboratorio de idioma y del *E-Lab*, etc., la calificación deberá reflejar el 50% de la evaluación en inglés y el 50% en español. El facilitador es responsable de mostrar evidencia de que este requisito se cumple.

Ejemplo: Examen parcial

Si el examen parcial consta de 40 opciones, 20 deben ser en inglés y 20 deben ser en español.

Además, debe haber evidencia de que el 30% de la calificación muestra dominio de las destrezas de lenguaje de los estudiantes.

Nuestro programa *Discipline-Based Dual Language Immersion Model*® se ha diseñado para que nuestros estudiantes puedan desarrollar a profundidad las destrezas de lenguaje que los prepararán como futuros profesionales bilingües. Por lo tanto, todas las evaluaciones (criterios de evaluación) de las destrezas escritas y orales tendrán en consideración un 30% de lenguaje y un 70% de contenido. El facilitador deberá referirse al **Apéndice A** para identificar el nivel de las destrezas de lenguaje (escuchar, hablar, leer y escribir) de cada estudiante utilizando los niveles de medición de habilidades *Can Do*. El facilitador es responsable de adaptar la enseñanza para atender las necesidades específicas de cada estudiante, de modo que puedan obtener el máximo provecho académico. Los criterios de evaluación del **Apéndice B** se usarán para evaluar las destrezas analíticas de escritura.

### Escala de evaluación

PUNTOS	PORCIENTO	NOTA
100-90	100% – 90%	A
89-80	89% – 80%	B
79-70	79% – 70%	C
69-60	69% – 60%	D
59 o menos	59% – 0	F

### Requisitos de APA (versión 6) para citar los Textos a Usarse en el Módulo

Para los Textos Recomendados y Recursos utilice el estilo APA, (6<sup>a</sup>. Ed.). Incluya al menos un libro electrónico de la Biblioteca Virtual <http://bibliotecavirtualut.suagm.edu/>

La fecha de publicación de un libro no deberá ser mayor de 5 años según lo exige la Comisión de Educación Independiente de la Florida.

### Libro(s)



Tortora, G. J., and Derrickson, B. (January 4, 2011). *Principles of Anatomy and Physiology* (13<sup>th</sup> ed.). Lugar de publicación: Wiley. ISBN-10: 0470565101. ISBN-13: 978-0470565100. \$162 (new), \$140 (used).

Alcamo, I. E., and Krumhardt, B. (August 1, 2010). *E-Z Anatomy and Physiology (Barron's E-Z)* (3rd ed.) Barron's Educational Series. ISBN-10: 0764144685. ISBN-13: 978-0764144684. \$12 (new), \$7 (used).

Marieb, E. N. (2008). *Anatomía y Fisiología Humana* (9a ed.) Pearson. ISBN-10: 847829094X. ISBN-13: 978-8478290949. \$155 (new), \$153 (used).

Marieb, E. (2011). *Essentials of Human Anatomy and Physiology- Laboratory Manual* (5<sup>th</sup> ed.). Benjamin Cummings-Pearson.

### **Libro(s) electrónico(s)**

Venes, D., (2010). *Anatomy. Taber's Cyclopedic Medical Dictionary*, 21st ed, May 1, 2010. Tomado de: Biblioteca Virtual (EBSCO e-books). Nursing Reference Center.

### **Descripción de las normas del curso**

1. Este curso sigue el modelo “Discipline-Based Dual Language Immersion Model®” del Sistema Universitario Ana G. Méndez, Inc. el cual está diseñado para promover el desarrollo de cada estudiante como un profesional bilingüe. Cada taller será facilitado en inglés y español, utilizando el modelo 50/50. Esto significa que cada taller deberá ser conducido enteramente en el lenguaje especificado. Los lenguajes serán alternados en cada taller para asegurar que el curso se ofrezca 50% en inglés y 50% en español. Para mantener un balance, el módulo debe especificar que se utilizarán ambos idiomas en el quinto taller, dividiendo el tiempo y las actividades equitativamente entre ambos idiomas. **Las primeras dos horas son estrictamente en español y las últimas dos en inglés.** Los cursos de idiomas deben ser desarrollados en el idioma correspondiente, en inglés o en español, según aplique.

2. El curso es conducido en **formato acelerado y bilingüe**, esto requiere que los estudiantes sean sumamente organizados, enfocados y que se preparen antes de cada taller de acuerdo al módulo. El estudiante debe hacer todo esfuerzo para desarrollar las destrezas en los dos idiomas usando los recursos de lenguaje disponibles dentro y fuera de la institución. El convertirse en un profesional bilingüe es un proceso complejo y exigente. Cada taller requiere un promedio de diez (10) horas de preparación y en ocasiones requiere más para poder tener éxito lingüístico y académico.
3. La asistencia a todos los talleres es obligatoria. El estudiante que se ausente al taller deberá presentar una excusa razonable al facilitador. El facilitador evaluará si la ausencia es justificada y decidirá como el estudiante repondrá el trabajo perdido, de ser necesario. El facilitador puede elegir una de estas dos alternativas: (a) permitirle al estudiante reponer el trabajo o (b) asignarle trabajo adicional además del trabajo que el estudiante tenga que reponer.  
Toda tarea a ser completada antes del taller deberá ser entregada en la fecha asignada. El facilitador ajustará la nota de las tareas repuestas.
4. **Si un estudiante se ausenta a más de un taller el facilitador tendrá las siguientes opciones:**
  - a. **Si es a dos talleres, el facilitador reducirá la nota existente en un grado.**
  - b. **Si el estudiante se ausenta a tres talleres, el facilitador reducirá la nota existente en dos grados.**
5. La asistencia y participación en actividades de la clase y en presentaciones orales es extremadamente importante pues éstas no se pueden reponer. Si el estudiante provee una excusa válida y verificable, el facilitador determinará una actividad equivalente a evaluar que sustituya la misma. Esta actividad deberá incluir el mismo contenido y componentes del lenguaje como la presentación oral o actividad que requiera repuesta.
6. En actividades grupales, el grupo será evaluado por su trabajo final. Sin embargo, cada miembro de grupo deberá participar y cooperar para lograr un trabajo de excelencia. Los estudiantes también recibirán una calificación individual.
7. Se espera que todo trabajo escrito sea de la autoría de cada estudiante y no plagiado. Se requiere que todo trabajo sometido al facilitador cumpla con las reglas para citar

apropiadamente o que esté parafraseado y citado dando crédito al autor. Todo estudiante debe ser el autor de su propio trabajo. Todo trabajo que sea plagiado, copiado o presente trazos del trabajo de otro estudiante o autor será calificado con cero. El servicio de **SafeAssign™ de Blackboard** será utilizado por los facilitadores para verificar la autoría de los trabajos escritos de los estudiantes. Es responsabilidad del estudiante de leer la política de plagio de su universidad. Si usted es estudiante de UT, deberá leer la Sección 11.1 del Manual del Estudiante. Si es estudiante de UMET y UT, refiérase al Capítulo 13, secciones 36 y 36.1 de los respectivos manuales.

Se espera un comportamiento ético en todas las actividades del curso. Esto implica que TODOS los trabajos tienen que ser originales y que para toda referencia utilizada deberá indicarse la fuente, bien sea mediante citas o bibliografía utilizando el estilo APA, versión 6. No se tolerará el plagio y, en caso de que se detecte casos del mismo, el estudiante se expone a recibir cero en el trabajo y a ser referido al Comité de Disciplina de la institución. Los estudiantes deben observar aquellas prácticas dirigidas para evitar incurrir en el plagio de documentos y trabajos pues va en contra de la ética profesional.

8. Para el facilitador poder hacer cambios a las actividades del módulo o guía de estudio, deberá ser aprobado por el Director de Facultad y Currículo antes de la primera clase. Es requisito que el facilitador discuta y entregue una copia de los cambios a los estudiantes al principio del primer taller.
9. El facilitador establecerá los medios para contactar a los estudiantes proveyendo su **correo electrónico de SUAGM**, teléfonos, día y horario disponibles.
10. El uso de celulares está prohibido durante las sesiones de clase; de haber una necesidad, deberá permanecer en vibración o en silencio.
11. La visita de niños y parientes no registrados en el curso no está permitida en el salón de clases.
12. Todo estudiante está sujeto a las políticas y normas de conducta y comportamiento que rigen al SUAGM, al curso y a un adulto profesional.

**Nota:** Si por alguna razón no puede acceder las direcciones electrónicas ofrecidas en el módulo, notifique al facilitador pero no se limite a ellas. Existen otros motores de búsqueda

y sitios Web que podrá utilizar para la búsqueda de la información deseada. Algunas de éstos son:

- [www.google.com](http://www.google.com)
- [www.findarticles.com](http://www.findarticles.com)
- [www.bibliotecavirtualut.suagm.edu](http://www.bibliotecavirtualut.suagm.edu)
- [www.eric.ed.gov/](http://www.eric.ed.gov/)
- [www.flelibrary.org/](http://www.flelibrary.org/)
- <http://www.apastyle.org/>

Para comprar o alquilar libros de texto o referencias nuevas o usadas puede visitar:

- <http://www.chegg.com/> (alquiler)
- <http://www.bookswim.com/> (alquiler)
- <http://www.allbookstores.com/> (compra)
- <http://www.alibris.com/> (compra)

Éstos son sólo algunas de las muchas compañías donde puede comprar o alquilar libros.

El facilitador puede realizar cambios a las direcciones electrónicas y/o añadir otras de índole profesional y que contengan las investigaciones más recientes del tópico del módulo, de ser necesario.

### **CUMPLIMIENTO DE LA LEY DE INVESTIGACIÓN:**

**Si el facilitador o el estudiante requiriera o deseara llevar a cabo una investigación o la administración de cuestionarios o entrevistas, éstos deberán referirse a las normas y procedimientos de la Oficina de Cumplimiento y solicitar su autorización. Para acceder a los formularios de la Oficina de Cumplimiento pueden visitar este enlace:**

**[http://www.suagm.edu/ac\\_aa\\_re\\_ofi\\_formularios.asp](http://www.suagm.edu/ac_aa_re_ofi_formularios.asp) y seleccionar los formularios que necesite. Además de los formularios el estudiante/facilitador puede encontrar las instrucciones para la certificación de investigación en línea. Estas certificaciones incluyen: Institutional Review Board (IRB), Health Information Portability and Accountability Act (HIPAA), y Responsibility Conduct for Research Act (RCR).**

De tener alguna duda, favor de comunicarse con las Coordinadoras Institucionales o a la Oficina de Cumplimiento a los siguientes teléfonos:

Evelyn Rivera Sobrado, Director of IRB Office

Tel. (787) 751-0178 ext. 7196

Carmen Crespo, IRB Institutional Coordinator– UMET

Tel. (787) 766-1717 ext. 6366

Josefina Melgar, IRB Institutional Coordinator – Turabo

Tel. (787) 743-7979 ext. 4126

Natalia Torres, IRB Institutional Coordinator - UNE

Tel. (787) 257-7373 ext. 2279

### **Filosofía y Metodología Educativa**

Este curso está basado en la filosofía educativa del Constructivismo. El Constructivismo es una filosofía de aprendizaje fundamentada en la premisa, de que, reflexionando a través de nuestras experiencias, podemos construir nuestro propio entendimiento sobre el mundo en el que vivimos.

Cada uno de nosotros genera sus propias “reglas “y “*modelos mentales*” que utilizamos para darle sentido a nuestras experiencias. Aprender, por lo tanto, es simplemente el proceso de ajustar nuestros modelos mentales para poder entender nuevas experiencias. Como facilitadores, nuestro enfoque es el de mantener una conexión entre los hechos con las experiencias y fomentar un nuevo entendimiento en los estudiantes. También, intentamos adaptar nuestras estrategias de enseñanza a las respuestas de nuestros estudiantes y motivar a los mismos a analizar, interpretar, predecir información y aplicarla a la vida diaria.

### **PRINCIPIOS DEL CONSTRUCTIVISMO:**

1. El aprendizaje es una búsqueda de significados. Por lo tanto, el aprendizaje debe comenzar con situaciones en las cuales los estudiantes estén buscando activamente construir un significado.

2. Para construir “un significado” se requiere comprender todas las partes: globales y específicas (“from whole to parts”). Ambas partes deben entenderse en el contexto del todo. Por lo tanto, el proceso de aprendizaje se enfoca en los conceptos primarios en contexto y no en hechos aislados.
3. Para enseñar bien, debemos entender los modelos mentales que los estudiantes utilizan para percibir el mundo y las presunciones que ellos hacen para apoyar dichos modelos.
4. El propósito del aprendizaje, es para un individuo, el construir su propio significado, y no sólo el de memorizar las respuestas “correctas” y repetir el significado de otra persona. Como la educación es intrínsecamente interdisciplinaria, la única forma válida para asegurar el aprendizaje es hacer de la evaluación parte esencial de dicho proceso, asegurando que el mismo provea a los estudiantes con la información sobre la calidad de su aprendizaje.
5. La evaluación debe servir como una herramienta de auto-análisis.
6. Se proveerán herramientas y ambientes que ayuden a los estudiantes a interpretar las múltiples perspectivas que existen en el mundo.
7. El aprendizaje debe ser controlado internamente y analizado por el estudiante.

### **Método de instrucción del modelo bilingüe**

El currículo del modelo bilingüe integra el **Protocolo de Observación de Inglés Protegido** (SIOP, por sus siglas en inglés: *Sheltered Instruction Observation Protocol*).

El estudiante estará expuesto a los ocho componentes interrelacionados de SIOP para facilitar una instrucción comprensible. Estos componentes son:

- preparación de la lección,
- conocimientos previos,
- instrucción comprensible,
- estrategias,
- interacción,
- práctica/aplicación,
- desarrollo de la lección, y
- repaso/evaluación.

Las estrategias de instrucción están ligadas a cada uno de estos componentes, permitiendo que tanto el diseño como la presentación de las lecciones respondan a las necesidades académicas y lingüísticas de los estudiantes que aprenden un segundo idioma. Cada lección de este curso integra estrategias bilingües y enfoques de instrucción que garantizan el éxito lingüístico y académico de los estudiantes.

**Componentes de SIOP (*Sheltered Instruction Observation Protocol*)**

Las estrategias de instrucción de lenguaje dual aparecen debajo de cada componente de SIOP (A-E). Estas estrategias permiten diseñar e impartir una lección que responda a las necesidades académicas y lingüísticas de los estudiantes que aprenden un segundo idioma. El facilitador debe seleccionar las estrategias de Enfoque Académico Cognitivo de Aprendizaje de Idioma (CALLA, por sus siglas en inglés: *Cognitive Academic Language Learning Approach*), que mejor correspondan con los objetivos específicos de contenido y lenguaje de la semana, e integrarlas en las actividades de la lección para que los estudiantes puedan sacarles el máximo provecho académico.

**A. Preparación de la lección**

- Adaptación del contenido
- Enlaces con el conocimiento previo
- Enlaces con el aprendizaje previo
- Estrategias incorporadas

**Estrategias de CALLA**

(*Cognitive Academic Language Learning Approach*)

- Cognitiva
- Meta cognitiva
- Socio afectiva

**C. Opciones de agrupamiento**

- Grupo completo
- Grupos pequeños
- Trabajo en parejas
- Trabajo independiente

**B. Andamiaje (*Scaffolding*)**

- Modelaje
- Práctica dirigida
- Práctica independiente
- Entrada (*input*) comprensible

**D. Integración de los dominios de idioma**

- Escuchar
- Hablar
- Leer
- Escribir

**E. Aplicación de aprendizaje**

- Dinámica
- Significativa y relevante
- Rigurosa
- Vinculada a los objetivos
- Promueve la participación



## STUDY GUIDE

**Course Title: Human Anatomy Laboratory II**

**Code: BIOL 304 Lab**

**Credits: 1**

**Time Length: 45 horas al semestre / 3 horas por semana**

**Pre-requisite: BIOL 303**

### **Description:**

The laboratory experiments were designed to enable students to learn human anatomy and physiology in a whole manner. Each laboratory experience and other activities were chosen to encourage students to think for themselves and to take initiative and be responsible in their work. The course focuses in the ethics principles related to the study of human biology. |

### **General Content Objectives:**

1. Interpret and understand the physiological and anatomical terminology used to analyze the sensory organs, the endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and the reproductive systems.
2. Train in the management and handling of the equipment used in the laboratory. |

### **General Language Objectives:**

When this course is completed, the student will be able to:

**Listen:** Understand oral discussions in English and/or Spanish recognizing their different purposes and the communication settings in which they are produced; share, compare, and develop new ideas about the laboratory activities and the academic content related to the anatomical structures and the physiology of the systems studied in a collaborative manner; acquire significant knowledge supported by experiences and motivational topics; respond to auditory stimuli such as videos, audiovisual presentations and interactive activities.

**Speak:** Express him/herself in English and/or in Spanish correctly and coherently for a variety of purposes and in a variety of communication settings, adopting a personal style of expression; analyze, express opinions, and communicate orally different points of view and ideas; develop abilities and skills that will prepare him/her for school work, the workplace and daily life; use language to acquire new knowledge about the laboratory activities and the academic content related to the anatomical structures and the physiology of the systems studied, including class discussions, individual and group presentations, as well as other related activities that allow the students to learn to utilize simple techniques of handling information through traditional media and computer technology.

**Read:** Investigate, analyze, summarize, paraphrase and understand in English and/or Spanish information obtained from a variety of media related to laboratory activities and the academic content related to the anatomical structures and the physiology of the studied systems; develop critical attitudes towards media messages reflecting on the importance of this information; benefit independently from reading as a form of communication and as a source of cultural enrichment.

**Write:** Interpret and produce written works in English and/or Spanish expressing a Personal critical and creative point of view; use correct spelling, grammar, coherence, and an emphasis on the requirements for effective and clear communication; use writing as a means of communication and to provide information related to laboratory activities and the academic content related to the anatomical structures and the physiology of the studied systems, as well as to develop laboratory reports in a professional and scientifically correct manner.

**E-Lab (Language Lab) Requirements** (*Tell Me More, Net Tutor, Wimba Voice, Virtual Library, & Voice E-mail.*)

- **Language Lab Minimum Requirement:** The facilitator may require a higher number of hours for language lab practice based on the language needs for listening, speaking, reading, and writing skills in either or both languages. **The total amount of language lab or e-lab hours is integrated in the activities for each workshop in the module.**

**Description of the Evaluation Process:** Integrate the use of the language lab and e-lab to all evaluation rubrics used in the instructional module. The language rubrics for listening,

speaking, reading, and writing provided in **Appendix A** are integrated to assess student performance in all courses. The *Writing Process: Six Writing Traits Rubrics* provided in **Appendix B** must be used to evaluate all writing activities in both languages in all courses. **Portfolio Performance Assessment** must be one of the evaluation instruments used in the module and throughout the content of all workshops and appendices. This instrument must follow established guidelines. Due to the nature of our dual language instructional model, documentation must be provided on the growth of students towards mastery of linguistic and academic skills in both languages (English and Spanish.) The course facilitator will provide the student the PORTFOLIO MANUAL.

ACTIVITY	GRADES
<p><b>Laboratory Reports</b> Workshops 2, 3, 4, 5, 6, 7, 8 (100 points per report/ 2 final grade points per report)</p>	<p>7 x 2 points = 14 final grade points 14% del final grade Refer Appendix B</p>
<p><b>Exams /Quizzes</b> Workshop 4 and 8 (100 points per exam/ 5 final grade points per report exam/quiz)</p>	<p>2 x 5 points = 10 final grade points 10% del final grade</p>
<p><b>Portfolio</b> Workshop 8 (100 points/ 20 final grade points)</p>	<p>1 x 20 points = 20 final grade points 20% final grade Refer to the Portfolio Manual</p>
<p><b>Laboratory Practice and Participation</b> Workshops 1, 2, 3, 4, 5, 6, 7, 8 (100 points per lab/ 2 points of the Final grade per laboratory)</p>	<p>8 x 2 points = 16 points of the final grade 16% of the final grade</p>
<p><b>Pre-lab activities</b> Workshops 1, 2, 3, 4, 5, 6, 7, 8</p>	<p>8 x 1 points = 8 points of the final grade</p>

(100 points per pre-lab/ 1 point of the Final grade per pre-lab activity)	8% of the final grade
<b>Language E-lab</b> Workshops 1 to 8 (4 points max per workshop)	8 X 4 points = 32 points of the final grade 32% of the final grade Appendix C & D
<b>TOTAL</b>	<u><b>100</b></u> <b>POINTS</b>

**METHOD OF EVALUATION:** Specific assignment information will be provided the first night of class by the instructor.

The final grade for the course will be determined by the percentage earned for demonstration of learning and achievement of course outcomes, and the learning and mastery of language skills (English and Spanish). The student's final grade will reflect 30% of language proficiency and 70% of content knowledge.

In order to evaluate the content of this course and to obtain the final grade based on: exams, assignments, projects, written documents, oral presentations, Language Lab/E-Lab etc., it must reflect 50% of the evaluation in English and 50% of the evaluation in Spanish. It is the facilitator's responsibility to have evidence that this requirement was fulfilled.

Example: Midterm

If the midterm has 40 items, 20 items must be in English and 20 must be in Spanish. In addition to this language requirement, there must be evidence that 30% of the grade demonstrates mastery of language skills.

**Scale:**

<b>POINTS</b>	<b>PERCENT</b>	<b>GRADE</b>
100-90	100% – 90%	A
89-80	89% – 80%	B

79-70	79% – 70%	C
69-60	69% – 60%	D
59 or less	59% – 0	F

**Other:** |

### **Requirements for the Use of APA (Version 6) for Citations of Textbooks**

For Recommended Texts and Resources, Use APA style version 6. Include at least **ONE** e-book from the Virtual Library at <http://bibliotecavirtualut.suagm.edu/>

**Textbooks must have a publication date of 5 years** as required by the Florida Commission of Independent Learning.

### **Book(s)**

Recommended:

Tortora, G. J., and Derrickson, B. (January 4, 2011). Principles of anatomy and physiology (13th ed.). Lugar de publicación: Wiley. ISBN-10: 0470565101. ISBN-13: 978-0470565100. \$162 (new), \$140 (used).

Alcamo, I. E., and Krumhardt, B. (August 1, 2010). E-Z Anatomy and physiology (Barron's E-Z) (3rd ed.) Barron's Educational Series. ISBN-10: 0764144685 ISBN-13: 978-0764144684. \$12 (new), \$7 (used).

Marieb, E. N. (2008). Anatomía y fisiología humana (9a ed.) Pearson. ISBN-10: 847829094X. ISBN-13: 978-8478290949. \$155 (new), \$153 (used).

Marieb, E. (2011). Essentials of Human Anatomy and Physiology- Laboratory Manual (5th ed.). Benjamin Cummings-Pearson.

### **E-Book (s)**

Recommended:

Venes, D., (2010). Anatomy. Taber's Cyclopedic Medical Dictionary, 21st ed, May 1,

2010. Tomado de: Biblioteca Virtual (EBSCO e-books). Nursing Reference Center. |

### **Description of Course Policies**

1. This course follows the *Sistema Universitario Ana G. Méndez, Inc. Discipline-Based Dual Language Immersion Model*® designed to promote each student's development as a Dual Language Professional. Workshops will be facilitated in either English or Spanish, strictly using the 50/50 model. This means that each workshop will be conducted entirely in the language specified for the workshop. The language used in each workshop needs to be alternated to insure that 50% of the course is conducted in English and 50% in Spanish. To maintain this balance, the course module will indicate that both languages **must** be used during the fifth workshop, dividing the workshop activities between the two languages. **The first two hours will be in Spanish and the last two hours in English.** The 50/50 model does not apply to language courses where the delivery of instruction must be conducted in the language taught (Spanish or English only).
2. The course is conducted in an accelerated and dual language format. This requires that students prepare in advance for each workshop according to the course module. Students must be structured, organized, committed, and focused to ensure linguistic and academic success. In order to achieve proficiency expectations in English and in Spanish, the student must strive to take advantage of all language resources in the university and in their community since becoming a dual language professional is a complex and challenging task. Each workshop requires an average of ten hours of preparation, but could require more.
3. Attendance to all class sessions is mandatory. A student who is absent to a workshop must present a reasonable excuse to the facilitator who in turn will evaluate the reason

for the absence. If it is justified, the facilitator will decide how the student will make up the missing work, if applicable. The facilitator will decide on the following: allow the student to make up the work, or allow the student to make up the work and assign extra work to compensate for the missing class time.

Assignments required prior to the workshop must be completed and turned in on the assigned date. The facilitator may decide to adjust the grade given for late assignments and/or make-up work.

4. **If a student is absent to more than one workshop, the facilitator will have the following options:**
  - a. **If a student misses two workshops, the facilitator may lower one grade level based on the student's existing grade.**
  - b. **If the student misses three workshops, the facilitator may lower two grade levels based on the student's existing grade.**
5. Student attendance and participation in oral presentations and special class activities are extremely important as it is not possible to assure that they can be made up. If the student provides a valid and verifiable excuse, the facilitator may determine a substitute evaluation activity if he/she understands that an equivalent activity is possible. This activity must include the same content and language components as the oral presentation or special activity that was missed.
6. In cooperative learning activities, the group will be assessed for their final work as a group. However, each member will have to collaborate to assure the success of the group. Students will also receive an individual grade for their work.
7. It is expected that all written work will be solely that of the student and should not be plagiarized. That is, the student must be the author of all work submitted. All quoted or paraphrased material must be properly cited, with credit given to its author or publisher.

It should be noted that plagiarized writings are easily detectable and students should not risk losing credit for material that is clearly not their own. **SafeAssign™, a Blackboard plagiarism deterrent service, will be used by the facilitators to verify students' ownership of written assignments.** It is the student's responsibility to read the university's plagiarism policy. If you are a UT student, read Section 11.1 of the Student Manual, and if you belong to UMET or UNE, refer to Chapter 13, Sections 36 and 36.1 of the respective manuals.

Ethical behavior is expected from the students in all course related activities. This means that ALL papers submitted by the student must be original work, and that all references used will be properly cited or mentioned in the bibliography. Plagiarism will not be tolerated and, in case of detecting an incidence, the student will obtain a zero in the assignment or activity and could be referred to the Discipline Committee.

8. In order for the Facilitator to make changes to activities and the study guide, the Faculty and Curriculum Director must approve such changes before the first day of class. The Facilitator must discuss the approved changes with students in the first class workshop. A written copy of the changes must also be provided to students at the beginning of the first workshop.
9. The facilitator will establish a means of contacting students by providing the SUAGM e-mail address, phone number, hours to be contacted, and days available.
10. The use of cellular phones is prohibited during sessions; if there is a need to have one, it must be on vibrate or silent mode during class session.
11. Children or family members that are not registered in the course are not allowed to the classrooms.
12. All students are subject to the policies regarding behavior at the university community established by the institution, and in this course.



**Note:** If for any reason you cannot access the URL's presented in the module, notify the facilitator immediately but do not stop your investigation. There are many search engines and other links you can use to search for information. These are some examples:

- [www.google.com](http://www.google.com)
- [www.ask.com](http://www.ask.com)
- [www.pregunta.com](http://www.pregunta.com)
- [www.findarticles.com](http://www.findarticles.com)
- [www.bibliotecavirtualut.suagm.edu](http://www.bibliotecavirtualut.suagm.edu)
- [www.eric.ed.gov/](http://www.eric.ed.gov/)
- [www.flelibrary.org/](http://www.flelibrary.org/)
- <http://www.apastyle.org/>

To buy or rent new or used textbooks or references you can visit:

- <http://www.chegg.com/> (rent)
- <http://www.bookswim.com/> (rent)
- <http://www.allbookstores.com/> (buy)
- <http://www.alibris.com/> (buy)

The facilitator may make changes or add additional challenging, research-based, and professional educational Web Resources, if deemed necessary to reflect current trends in the course topics.

### **RESEARCH LAW COMPLIANCE REQUIREMENT:**

**If the facilitator or the student is required, or wants to perform a research, or needs to administer a questionnaire or an interview individuals, he/she must comply with the norms and procedures of the Institutional Review Board Office (IRB) and ask for**

**authorization. To access the forms from the IRB Office or for additional information, visit the following link: [http://www.suagm.edu/ac\\_aa\\_re\\_ofi\\_formularios.asp](http://www.suagm.edu/ac_aa_re_ofi_formularios.asp) and select the forms needed. Furthermore, in this Web site the student/facilitator will find instructions for several online certifications related to IRB processes. These certifications include: IRB Institutional Review Board, Health Information Portability and Accountability Act (HIPAA), and the Responsibility Conduct for Research Act (RCR).**

If you have any questions, please contact the following institutional coordinators:

Mrs. Evelyn Rivera Sobrado, Director of IRB Office

Tel. (787) 751-0178 ext. 7196

Miss. Carmen Crespo, IRB Institutional Coordinator– UMET

Tel. (787) 766-1717 ext. 6366

Sra. Josefina Melgar, IRB Institutional Coordinator – Turabo

Tel. (787) 743-7979 ext. 4126

Miss Natalia Torres, IRB Institutional Coordinator - UNE

Tel. (787) 257-7373 ext. 2279

### **Teaching Philosophy and Methodology**

The activities for the course reflect the educational philosophy of Constructivism.

Constructivism is an educational philosophy founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world in which we live.

Each of us generates our own “rules” and “mental models,” which we use to make sense of our experiences. Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences.

One of the main goals facilitators have is assisting students in making connections between their prior knowledge of facts, and fostering new understanding that is relevant to real live experiences. We will also attempt to tailor our teaching strategies to student responses and encourage students to analyze, interpret, and predict information.

### **CONSTRUCTIVISM GUIDING PRINCIPLES:**

1. Learning is a search for meaning. Therefore, learning must start with the issues around which students are actively trying to construct meaning.
2. Meaning requires understanding “wholes” as well as “parts”. The “parts” must be understood in the context of “wholes”. Therefore, the learning process focuses on primary concepts, not isolated facts.
3. In order to teach well, we must understand the mental models that students use to perceive the world, and the assumptions they make to support those models.
4. The purpose of learning is for an individual to construct his or her own meaning, not just memorize the "right" answers and regurgitate someone else's meaning. Since education is inherently interdisciplinary, the only valuable way to measure learning is to make *assessment* part of the learning process, thus ensuring that it provides students with information on the quality of their learning.
5. Evaluation should serve as a self-analysis tool.
6. Provide tools and environments that help learners interpret the multiple perspectives of the world.
7. Learning should be internally controlled and mediated by the learner.

### **Dual Language Instructional Approach**

The Dual Language curriculum integrates the *Sheltered Instruction Observation Protocol (SIOP) Model\**.

The student will be exposed to the eight interrelated learning SIOP components to facilitate comprehensible instruction. These are:

- Lesson Preparation
- Background Knowledge
- Comprehensible Input
- Strategies
- Interaction
- Practice/Application
- Lesson Delivery
- Review/Assessment

These instructional strategies are connected to each one of these components, allowing that the design and presentation of a lesson address the academic and linguistic needs of second language learners. Each lesson integrates dual language strategies and instructional approaches to ensure the linguistic and academic success of students.

**SIOP Components (Sheltered Instruction Observation Protocol)**

The dual language instructional strategies are indicated below each SIOP component (A-E). These strategies allow the design and delivery of a lesson that addresses the academic and linguistic needs of second language learners. The facilitator must select the **Cognitive Academic Language Learning Approach (CALLA)** strategies that best align to the specific week content and language objectives and integrate them in the lesson activities to ensure maximum learning and academic performance.

**A. Lesson Preparation**

- Adaptation of Content
- Links to Background Knowledge
- Links to Past Learning
- Strategies Incorporated

**CALLA Strategies**

(Cognitive Academic Language Learning Approach)

- Cognitive
- Metacognitive
- Social/Affective

**C. Grouping Options**

- Whole Class
- Small Groups
- Partners
- Independent Work

**B. Scaffolding**

- Modeling
- Guided Practice
- Independent Practice
- Comprehensible Input

**D. Integration of Language Domains**

- Listening
- Speaking
- Reading
- Writing

**E. Learning Application**

- Dynamic
- Meaningful/Relevant
- Rigorous
- Linked to Objectives
- Promotes Engagement

[TALLER UNO ]

**Objetivos específicos de contenido:**

Al finalizar este taller/laboratorio el estudiante será capaz de:

1. Identificar las estructuras anatómicas y microscópicas que forman el sistema circulatorio
2. Integrar la estructura del sistema circulatorio con sus funciones.
3. Identificar la composición anatómica y microscópica del sistema linfático.
4. Explicar la relación entre la estructura y función del sistema circulatorio y linfático
5. Explicar la interdependencia de los sistemas circulatorio y linfático con otros sistemas del cuerpo humano.
6. Demostrar el uso correcto de los equipos de laboratorio
7. Demostrar la etiqueta de comportamiento adecuada para trabajo de laboratorio

**Objetivos específicos de lenguaje:**

1. **Escuchar:** Demostrar comprensión de las instrucciones verbales, así como escuchar activamente a las presentaciones, discusiones y otros análisis relacionados con el contenido del laboratorio (tomar notas, contestar preguntas, etc).
2. **Hablar:** Participar activamente en las discusiones en clase y sesiones de preguntas y respuestas, así como presentar en grupos o individualmente sobre temas relacionados con el contenido del laboratorio (introducción, presentación sobre el diagrama Venn, etc).
3. **Leer:** Demostrar comprensión de las indicaciones escritas para las actividades de laboratorio, así como otros materiales suplementarios.
4. **Escribir:** Estudiantes demostrarán un dominio de la gramática y del vocabulario necesario para completar las actividades de laboratorio, basada en el nivel de entendimiento del lenguaje del estudiante (publicación en Blackboard, reporte de laboratorio, diagrama Venn, etc)

**Enlaces electrónicos:** |

Biblioteca Virtual

<http://bibliotecavirtualut.suagm.edu/>

Tema: APA

<http://www.cibem.org/paginas/img/apa6.pdf>

<http://www.suagm.edu/umet/biblioteca/pdf/GuiaRevMarzo2012APA6taEd.pdf>

Tema: El sistema circulatorio

<http://www.profesorenlinea.cl/Ciencias/SistemaCirculatorio.htm>

<http://www.juntadeandalucia.es/averroes/~29701428/salud/circu.htm>

<http://www.fvet.uba.ar/histologia/siscard.pdf>

<http://www.anatomiahumana.ucv.cl/efi/modulo24.html>

<http://www.sistema-humano.com.ar/sistema-humano/aparato-cardiovascular.php>

<http://www.youtube.com/watch?v=u0Qepi4Csok>

[http://www.biologycorner.com/anatomy/circulatory/sheep\\_heart.html](http://www.biologycorner.com/anatomy/circulatory/sheep_heart.html)

Sistema linfático

<http://www.nlm.nih.gov/medlineplus/spanish/ency/article/002247.htm>

[http://www.umm.edu/esp\\_ency/article/002247.htm](http://www.umm.edu/esp_ency/article/002247.htm)

<http://www.aeal.es/index.php/el-sistema-linfatico>

Tema: Histología del sistema circulatorio y linfático

<http://themedicorner.wordpress.com/2013/02/15/aparato-circulatorio-histologia/>

<http://kepler.uag.mx/uagwbt/histov10/exposiciones/dresteban/circulatorio.pdf>

Tema: La sangre

<http://www.tuotromedico.com/temas/eritrocitos.htm>

<http://www.tuotromedico.com/temas/leucocitos.htm>

<http://www.tuotromedico.com/temas/plaquetas.htm>

<http://www.wesapiens.org/es/class/3156002/Pr%C3%A1ctica.+Histolog%C3%ADa+b%C3%A1sica.+La+sangre> (histología)

[http://www.facmed.unam.mx/deptos/biocetis/PDF/Portal%20de%20Recursos%20en%20Linea/Presentaciones/SANGRE\\_HEMATOPOYESIS.pdf](http://www.facmed.unam.mx/deptos/biocetis/PDF/Portal%20de%20Recursos%20en%20Linea/Presentaciones/SANGRE_HEMATOPOYESIS.pdf) |

Tema: Patologías de los sistemas circulatorio y linfático

<http://www.tuotromedico.com/anatomico/Corazon/>

<http://www.tuotromedico.com/anatomico/Venas-y-arterias/>

**Asignaciones antes del taller:**

1. Visitar los sitios en línea mencionados para familiarizarse con el contenido del laboratorio

2. Visitar el sitio BLACKBOARD y completar una publicación bajo

Discusiones/Discussion Board:

*“Describe una enfermedad o síndrome relacionado al sistema circulatorio desde el punto de vista anatómico y fisiológico. ( no más de 100 palabras)”*

3. Escribir un párrafo describiendo quien eres y que son tus objetivos profesionales.

Estudiante se presentara a la clase usando este documento y lo entregara al profesor después de terminar la actividad introductoria

4. Completar sus horas de **Language e-lab** y mantener documentación necesaria.

5. Comience a trabajar el portafolio digital. |

**Vocabulario clave de la lección:**

1. Amígdalas
2. Apéndice
3. Arteria aorta
4. Arterias
5. Arterias pulmonares
6. Arteriolas
7. Aurícula
8. Aurícula derecha
9. Aurícula izquierda
10. Bazo
11. Capilares
12. Célula madre
13. Eritrocitos
14. Fascículo de His
15. Ganglio atrioventricular
16. Granulocitos
17. Hematopoyesis
18. Hígado
19. Leucocitos
20. Linfa
21. Macrófagos
22. Médula ósea
23. Monocitos
24. Nodo auriculoventricular (nodo AV o de *Aschoff-Tawara*)



25. Nodo sinusal
26. Nodo sinusal o *nodo de Keith-Flack*
27. Plaquetas
28. Red de Purkinje.
29. Timo
30. Válvula aórtica
31. Válvula mitral
32. Válvula pulmonar.
33. Válvula tricúspide
34. Vena cava inferior
35. Vena cava superior
36. Venas
37. Venas pulmonares
38. Ventrículo
39. Ventrículo derecho
40. Ventrículo izquierdo
41. Vénulas

**Lista de materiales suplementarios para el taller:**

1. Microscopios
2. Laminas de microscopio incluyendo: sangre, musculo cardiaco, arteria, vena
3. Plantilla de diagrama Venn
4. Corazón de oveja (uno)
5. Materiales para disección
6. Modelo del corazón y el sistema circulatorio
7. Wimba
8. Tell Me More
9. NetTutor

**Componentes de SIOP** (Sheltered-Instruction Observation Protocol): Coloque una marca de cotejo (✓) en la ( ) en todas las estrategias por componente que se usarán en el taller.

**A. Preparación**

- Adaptación de Contenido
- Enlaces al Conocimiento Previo
- Enlaces al Aprendizaje Previo
- Estrategias Incorporadas

**Estrategias de CALLA**

(Cognitive Academic Language Learning Approach)

- Cognoscitivo
- Meta-cognoscitivo
- Socio/Afectivo

**B. Andamiaje**

- Modelaje
- Práctica Dirigida
- Práctica Independiente
- Instrucción Comprensible

**C. Opciones para Agrupamiento**

- Grupo Completo
- Grupos Pequeños
- Pares
- Trabajo Independiente

**D. Integración del Proceso**

- Escuchar
- Hablar
- Leer
- Escribir

**E. Aplicación**

- Actividades Dinámicas de Aplicación
- Significativas y Relevantes
- Rigurosas
- Alineadas a los Objetivos
- Promueven Participación

**Actividades integradas de contenido y lenguaje para lograr los objetivos del taller (Contenido y Lenguaje):**

1. Los estudiantes se presentara individual mente usando el documento completado durante las actividades antes del laboratorio.
2. Introducción a la clase:
  - El facilitador le entregará el Manual de portafolio digital a los estudiantes y le explicará la importancia del portafolio.
  - Explicar los modos de ponerse en contacto con el facilitador (correo electrónico, teléfono, etc.) y las horas de contacto.
  - Recibirán por escrito los cambios que el facilitador quiera hacerle al formato del módulo y la manera en que serán evaluados en el curso (si fuera distinta a la indicada en este módulo).
  - El facilitador hará saber el procedimiento de cumplir con las horas del laboratorio de idioma.
  - Explicar cómo completar un reporte de laboratorio y cuál es la etiqueta a usar en un laboratorio.
3. Los estudiantes se dividirán en grupos (número de grupos basado en el numero de microscopios) para observar laminas microscópicas de los diferentes tejidos del sistema circulatorio y la sangre
4. Estudiantes dibujarán e identificarán los diferentes componentes de la sangre, dibujarán las estructuras de venas y arterias, así como el musculo cardiaco, así como son vistos en el microscopio. Trabajo independiente, a ser añadido al reporte de laboratorio.
5. Cada grupo creará un diagrama de Venn para comparar las venas y arterias desde el punto de vista estructural y funcional. Cada grupo presentará y explicará el diagrama que crearon, y tratará de explicar las razones que causan la existencia de las diferencias entre esas estructuras. (presentación de grupo)
6. Ver video sobre disección del corazón:  
<http://www.youtube.com/watch?v=u0Qepi4Csok>
7. Identificar las estructuras del corazón usando el modelo anatómico del corazón y el sistema circulatorio.
8. **Opcional:** Demostración de las estructuras del corazón usando un corazón de oveja por el instructor, estudiantes identificaran las estructuras indicadas.

- *Identificar los lados derecho e izquierdo del corazón. Confirmar este apretando cada mitad del corazón. La mitad izquierda se sentirá mucho más firme y más musculosa que el lado derecho.*
- *Localizar las arterias coronarias y las venas que se encuentran en la superficie del corazón.*
- *Encontrar las aurículas de tejido en la parte superior del corazón.*
- *Observar el lado dorsal (la parte trasera) del corazón. Encontrar la gran abertura en la parte superior del corazón al lado de la aurícula derecha. Se trata de la vena cava superior.*
- *Un poco más abajo ya la izquierda de la vena cava superior hay otra abertura del vaso sanguíneo. Se trata de la vena cava inferior.*
- *Identificar el otro vaso sanguíneo junto a la aurícula izquierda. Esta es una vena pulmonar.*
- *Por el centro del corazón es el vaso sanguíneo más grande. Esta es la aorta.*
- *Detrás y a la izquierda de la aorta no es otro buscargrande. Esta es la arteria pulmonar.*
- *Introducir sus tijeras de disección o bisturí en la vena cava superior y hacer una incisión a través de la pared de la aurícula y el ventrículo derecho. Tirar de las dos partes separadas y buscar las tres alas de membrana. Estas membranas forman la válvula tricúspide entre la aurícula derecha y el ventrículo derecho.*
- *Identificar los músculos papilares por los tendones llamados las cuerdas tendinosas*
- *Insertar la sonda en la arteria pulmonar y ver que vienen a través del ventrículo derecho. Hacer una incisión a lo largo de esta arteria y mirar en su interior durante tres bolsas membranosas pequeñas. Estos forman la válvula semilunar pulmonar, que impide que la sangre fluya hacia el ventrículo derecho.*
- *Hacer una incisión a través de la pared de la aurícula izquierda y el ventrículo. Localizar la válvula mitral entre la aurícula izquierda y el*

*ventrículo. Encontrar los músculos papilares y las cuerdas tendinosas de este lado del corazón*

*• Insertar una sonda dentro de la aorta y observar donde se conecta con el ventrículo izquierdo. Hacer una incisión a través de la aorta y examinar el interior cuidadosamente durante tres bolsas membranosas pequeñas . Estos forman la válvula semilunar aórtica*

9. Estudiantes discutirán las diferentes estructuras del sistema linfático en los grupos asignados. Cada individuo tratará de identificar los nódulos linfáticos del cuello en sí mismo y en un compañero de grupo (voluntario)
10. El tiempo que quede después de completar las actividades será dedicado a trabajar en el reporte de laboratorio para entregarlo en la próxima clase.
11. Sesión de preguntas y respuestas. |

#### **Evaluación:**

1. **Individual:** |Presentación del estudiante y sus objetivos profesionales al principio de la clase. Completar la publicación en BALCKBOARD y el reporte de laboratorio, así como los dibujos de las láminas histológicas que se añadirán al reporte de laboratorio. |
2. **Grupal:** |Creación del diagrama Venn y presentación de grupo que acompaña esta actividad..|
3. **Escrito:** |Completar el diagrama Venn, la publicación en BALCKBOARD y el reporte de laboratorio usando el nivel de idioma adecuado para el estudiante.|
4. **Oral/Auditivo:** |Presentación individual del estudiante de manera profesional y usando el lenguaje adecuado, presentación de grupo acerca el diagrama Venn y sesión de preguntas y respuestas.|

#### **Cierre del taller: (Actividades para determinar si todos los estudiantes lograron los objetivos del taller.)**

1. **Individual:** |Completar el reporte de laboratorio a ser entregado en la próxima clase..|
2. **Grupal:** |Sesión de preguntas y respuestas, así como participación general en las actividades del laboratorio..|

## **WORKSHOP TWO**

### **Specific Content Objectives:**

**Upon the completion of this workshop the students will be able to:**

1. Identify and describe the structures that form the respiratory system both macro and microscopically (anatomy and Histology features)
2. Explain the relationship between the anatomical and histological structures of the respiratory system, to its physiology (function)
3. Integrate the structure and function of the respiratory system, to other systems of the human body
4. Demonstrate the proper use of laboratory equipment
5. Demonstrate appropriate laboratory etiquette

### **Specific Language Objectives**

1. **Listening:** Demonstrate understanding of verbal instruction during the laboratory activities, as well as actively listen to presentations, discussions, and other analysis regarding the content of this laboratory activity while taking notes when appropriate.
2. **Speaking:** Actively participate in class discussions and Q&A sessions, and present individually or in group regarding activities performed during the progress of this laboratory.
3. **Reading:** Demonstrate understanding of written instructions, as well as other written materials provided during the pre-lab or laboratory activity.
4. **Writing:** Write laboratory reports and BLACKBOARD postings effectively, demonstrating adequate use of the language (English).

**Electronic Links (URLs):** |

Topic: Biblioteca Virtual

<http://bibliotecavirtualut.suagm.edu/>

Topic: APA

<https://owl.english.purdue.edu/owl/resource/560/01/> |

Topic: Human respiratory system structure.

<http://www2.estrellamountain.edu/faculty/farabee/biobk/biobookrespsys.html>

<http://faculty.unlv.edu/jyoung/BIOL440-respiration.pdf>

<http://www.lung.org/your-lungs/how-lungs-work/?gclid=COj6kvm0vLoCFStp7Aod40IALA>

[http://medicalcenter.osu.edu/patientcare/healthcare\\_services/lung\\_diseases/about/anatomy/Pages/index.aspx](http://medicalcenter.osu.edu/patientcare/healthcare_services/lung_diseases/about/anatomy/Pages/index.aspx)

Topic: Human respiratory system physiology.

<http://www.webmd.com/lung/how-we-breathe> [http://www.liv.ac.uk/~gdwill/hons/gul\\_lect.pdf](http://www.liv.ac.uk/~gdwill/hons/gul_lect.pdf)

Topic: Diseases and disorders of the respiratory system

<http://www.lung.org/your-lungs/signs-of-lung-disease/>

<http://www.lung.org/lung-disease/>

[http://medicalcenter.osu.edu/patientcare/healthcare\\_services/lung\\_diseases/Pages/index.aspx](http://medicalcenter.osu.edu/patientcare/healthcare_services/lung_diseases/Pages/index.aspx)

Topic: Histology of respiratory System

<http://histology.med.umich.edu/medical/respiratory-system>

<http://courseweb.edteched.uottawa.ca/medicine-histology/english/respiratory/default.htm>

**Assignments before the Workshop:**

1. Visit the links provided in order to become familiarized with the anatomy, physiology, and pathology of the respiratory system.
2. Complete the Laboratory Report on “circulatory System” to be submitted at the beginning of workshop#2
3. Post on BLACKBOARD, under Discussion Board, a short description of a disease or disorder affecting the respiratory system, and its relationship to its anatomy. You can use the links provided as support. (Less than 100 words) |
4. Initiate work on the content of the DIGITAL Portfolio, using the **Digital Performance Portfolio Assessment Handbook**.
5. Complete the e-lab requirements for Workshop#2

**Key Core Vocabulary:** (Must reflect objectives and important concepts of the workshop.)

1. Alveolar ducts
2. Alveolus
3. Apnea
4. Bronchiole
5. Bronchus
6. Diaphragm
7. Diffusion
8. Epiglottis
9. Eupnea
10. External respiration
11. Hemoglobin
12. Internal respiration
13. Laryngopharynx
14. Lobe
15. Lower respiratory system |
16. Lung
17. Nasopharynx
18. Oropharynx
19. Pharynx
20. Pulmonary ventilation
21. Trachea
22. Upper respiratory system
23. Vocal chords |

**List of Supplementary Materials for the Workshop:**

1. |Microscopes
2. Microscope slides of reparatory system tissue (trachea, bronchi, alveolus, etc)
3. Respiratory System Model
4. Lungs X-ray (can be: real X-ray, print-outs, or online images to be shown)
5. Wimba
6. Tell Me More
7. NetTutor
- |



**SIOP Components** - Place a checkmark (✓) on the (\_\_\_) for **ALL** strategies that will be used in the workshop.

**A. Preparation**

- Adaptation of Content
- Links to Background Knowledge
- Links to Past Learning
- Strategies Incorporated

**B. Scaffolding**

- Modeling
- Guided Practice
- Independent Practice
- Comprehensible Input

**CALLA Strategies**

(Cognitive Academic Language Learning Approach)

- Cognitive
- Meta-cognitive
- Social/Affective

**C. Grouping Options**

- Whole Class
- Small Groups
- Partners
- Independent Work

**D. Integration of Processes**

- Listening
- Speaking
- Reading
- Writing

**E. Application**

- Hands-on
- Meaningful/Relevant
- Rigorous
- Link to Objectives
- Promote Engagement

## **Integrated Activities of Content and Language to achieve Content and Language**

### **Objectives:**

1. Students will submit their laboratory report. Q&A session to assess understanding of the previously covered content (LAB 1)
2. Class discussion regarding the posting on BLACKBOARD, and the impact on health of the different disorders reviewed
3. Short review on the respiratory system anatomy and physiology in a manner of an open forum discussion
4. Students will look at the microscope slides at a 10 X and 40X magnification, while using appropriate microscopy technique. Students try to identify the structures studied
  - a. Trachea layers (low power image):
    - mucosa (epithelium and lamina propria)
    - submucosa
    - fibrocartilage
    - adventitia
  - b. Bronchi
    - epithelium
    - Sub-mucosal mixed glands (bronchi)
  - c. Respiratory Bronchi
  - d. Alveolar walls
5. Using the same slides from the previous activity and still distributed in the same groups, students will use previous knowledge to identify common structures, and sketch the image seen under the microscope, labeling the structures identified. (individual sketches to be attached to the lab report)
6. Students will work in the same groups to analyze the connections to the need for the specific manner in which the histological structures are formed. Each group will do a short presentation in an informal manner. (class discussion of findings)
7. Students will continue working in the assigned groups. Using the respiratory system model, as well as images/diagrams provided by the facilitator, the students will identify the following structures:
  - a. Upper respiratory passages
  - b. Nasal septum

- c. Nasal cavity
- d. external naris
- e. nasal vestibule
- f. internal nares
- g. hard palate
- h. Soft palate
- i. uvula
- j. Pharynx
- k. nasopharynx
- l. oropharynx
- m. laryngopharynx
- n. larynx
- o. thyroid
- p. glottis
- q. epiglottis
- r. trachea
- s. tracheal
- t. Lung
- u. Lung apex
- v. Lung base (diaphragmatic surface)
- w. Diaphragm
- x. lobes
- y. cardiac notch
- z. pleural cavity

8. After identification each group will select 6 structures and will talk about their anatomy and physiology and function in a short presentation.
9. Students will look at X-ray images of the respiratory system, and indentify the structures studied.
10. If there is time remaining, the students will work individually in their lab-reports due at the beginning of next class. |
11. Q&A session.

**Assessment:**

1. **Individual:** Individual laboratory work, sketches, and class discussions, as well as pre-lab activities
2. **Group:** [Laboratory activity completion, group presentations.]
3. **Written:** [Blackboard posting, and laboratory report submission.]
4. **Oral:** [Class discussions, presentation of microscopy analysis and group presentation on anatomical structures and Q&A activities. ]

**Lesson Wrap-Up:**

1. **Individual:** [Laboratory report completion (due next workshop).]
2. **Group:** [Group presentation completion, and Q&A session.]

### **TALLER TRES**

#### **Objetivos específicos de contenido:**

Al finalizar este taller/laboratorio el estudiante será capaz de:

1. Identificar las estructuras anatómicas y microscópicas que forman el sistema digestivo
2. Integrar la estructura del sistema digestivo con sus funciones.
3. Explicar la interdependencia del sistema digestivo con otros sistemas del cuerpo humano.
4. Demostrar el uso correcto de los equipos de laboratorio
5. Demostrar la etiqueta de comportamiento adecuada para trabajo de laboratorio

#### **Objetivos específicos de lenguaje:**

Al finalizar este taller/laboratorio el estudiante será capaz de:

1. **Escuchar:** Demostrar comprensión de la instrucción verbales, así como escuchar activamente a las presentaciones, discusiones y otros análisis relacionados con el contenido del laboratorio (tomar notas, responder preguntas dirigidas, etc).
2. **Hablar:** Participar activamente en las discusiones en clase y sesiones de preguntas y respuestas, así como presentar en grupos o individualmente sobre temas relacionados con el contenido del laboratorio.
3. **Leer:** Demostrar comprensión de las indicaciones escritas para las actividades de laboratorio, así como otros materiales suplementarios.
4. **Escribir:** Demostrar un dominio de la gramática y del vocabulario necesario para completar las actividades de laboratorio, basada en el nivel de entendimiento del lenguaje del estudiante (ex: reporte de laboratorio, diagrama Venn)

**Enlaces electrónicos:** |

Biblioteca Virtual

<http://bibliotecavirtualut.suagm.edu/>

Tema: APA

<http://www.cibem.org/paginas/img/apa6.pdf>

<http://www.suagm.edu/umet/biblioteca/pdf/GuiaRevMarzo2012APA6taEd.pdf>

Tema: El sistema Digestivo

<http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookDIGEST.html>

<http://www.barstow.edu/Faculty/rstinson/Human%20Anatomy/Digestive%20System.pdf>

<http://www.webmd.com/heartburn-gerd/your-digestive-system>

[https://www5.uva.es/guia\\_docente/uploads/2012/471/45871/1/Documento7.pdf](https://www5.uva.es/guia_docente/uploads/2012/471/45871/1/Documento7.pdf)

<http://science.nationalgeographic.com/science/health-and-human-body/human-body/digestive-system-article/>

[http://www.alimentacionynutricion.org/es/index.php?mod=content\\_detail&id=36](http://www.alimentacionynutricion.org/es/index.php?mod=content_detail&id=36)

Tema: Histología del sistema digestivo

[http://www.wesapiens.org/es/life\\_sciences/?category=base%2Flife\\_sciences%2Fhuman\\_and\\_animal\\_histology%2Forgans\\_and\\_systems%2Fdigestive\\_oral\\_tissues%2F&advanced=1](http://www.wesapiens.org/es/life_sciences/?category=base%2Flife_sciences%2Fhuman_and_animal_histology%2Forgans_and_systems%2Fdigestive_oral_tissues%2F&advanced=1)

Tema: Patologías de sistema digestivo

<http://www.tuotromedico.com/alfabetico/A/>

[http://gimnasio-altair.com/exe/exe\\_nutricion/enfermedades\\_del\\_sistema\\_digestivo.html](http://gimnasio-altair.com/exe/exe_nutricion/enfermedades_del_sistema_digestivo.html)

<http://www.escolares.net/deporte-y-salud/enfermedades-del-sistema-digestivo/>

**Asignaciones antes del taller:** |

1. Visitar los sitios en línea mencionados para familiarizarse con el contenido del laboratorio
2. Visitar el sitio BLACKBOARD y completar la publicación bajo Discusiones/Discussion Board: *“Describe una enfermedad o síndrome relacionado al sistema digestivo desde el punto de vista anatómico y fisiológico. (no más de 100 palabras)”*
3. Continuar trabajando en el PORTAFOLIO DIGITAL.
4. Completar 4 horas de **Laboratorio de lenguaje** y mantener documentación necesaria

5. Completar el reporte de laboratorio del taller anterior, as ser entregado al principio del taller #3. |

**Vocabulario clave de la lección:**

1. Amilasa
2. Amino ácidos
3. Ano
4. Apéndice
5. Bilirrubina
6. Bilis
7. Carbohidratos
8. Carboxipeptidasa
9. Ciego (Cecum)
10. Colon
11. Deglución
12. Deoxiribonucleasa
13. Digestión
14. Duodeno
15. Elastasa
16. Emulsionar
17. Enzimas
18. Epiglotis
19. Esfínter esofágico
20. Esfínter ileocecal
21. Esófago
22. Estómago
23. Faringe
24. Glándulas salivares
25. Glucagón
26. Grasas
27. Hígado
28. Íleo
29. Insulina
30. Lipasa

31. Masticación
32. Minerales
33. Moléculas
34. Omento
35. Paladar
36. Páncreas
37. Papilas gustativas
38. Pepsina
39. Peristalsis
40. Peritoneo
41. Proteínas
42. Quimo
43. Quimotripsina
44. Recto
45. Ribonucleasa
46. Tripsina
47. Úvula
48. Vesícula biliar
49. Vitaminas
50. Yeyuno

**Lista de materiales suplementarios para el taller:**

1. Microscopios
2. Láminas de microscopio incluyendo: lengua (corte transversal), intestino delgado, intestino grueso, y tejido hepático
3. Modelo del Sistema Digestivo o del torso humano
4. Diagrama de Venn impreso
5. Wimba
6. Tell Me More
7. NetTutor



**Componentes de SIOP** (Sheltered-Instruction Observation Protocol): Coloque una marca de cotejo (✓) en la (\_\_\_) en todas las estrategias por componente que se usarán en el taller.

**A. Preparación**

- Adaptación de Contenido
- Enlaces al Conocimiento Previo
- Enlaces al Aprendizaje Previo
- Estrategias Incorporadas

**Estrategias de CALLA**

(Cognitive Academic Language Learning Approach)

- Cognoscitivo
- Meta-cognoscitivo
- Socio/Afectivo

**B. Andamiaje**

- Modelaje
- Práctica Dirigida
- Práctica Independiente
- Instrucción Comprensible

**C. Opciones para Agrupamiento**

- Grupo Completo
- Grupos Pequeños
- Pares
- Trabajo Independiente

**D. Integración del Proceso**

- Escuchar
- Hablar
- Leer
- Escribir

**E. Aplicación**

- Actividades Dinámicas de Aplicación
- Significativas y Relevantes
- Rigurosas
- Alineadas a los Objetivos
- Promueven Participación



**Actividades integradas de contenido y lenguaje para lograr los objetivos del taller:**

1. Los estudiantes entregarán el reporte de laboratorio #2
2. Discusión de clase sobre las enfermedades del sistema digestivo que fueron usadas para la discusión en BLACKBOARD (actividad antes del laboratorio)
3. Los estudiantes se dividirán en grupos (número de grupos basado en el número de microscopios) para observar láminas microscópicas de los diferentes tejidos del sistema digestivo
4. Trabajando en grupos los estudiantes identificarán las diferentes estructuras microscópicas. Estudiantes dibujarán e identificarán los diferentes componentes del sistema digestivo, y dibujarán las estructuras identificadas (trabajo independiente, a ser añadido al reporte de laboratorio).
  - a. Lengua: superficie superior, papilas gustativas; y la superficie inferior, que no presenta papilas gustativas.
  - b. Intestino delgado: Mucosa, submucosa, vellosidades intestinales, vasos quilíferos (capilares linfáticos), vasos sanguíneos
  - c. Intestino Grueso: Mucosa, muscular de la mucosa, epitelio de revestimiento con células caliciformes, lámina propia (con células plasmáticas, mastocitos, macrófagos y fibroblastos), músculo liso (cortado en planos diferentes) (muscular propia).
  - d. Tejido hepático
5. Cada grupo creará un diagrama de Venn para comparar la estructura y función del intestino delgado y grueso. Cada grupo presentará y explicará el diagrama que crearon, y tratará de explicar las razones que causan la existencia de las diferencias entre esas estructuras. (presentación de grupo)
6. Los estudiantes continuarán trabajando en grupos para identificar las estructuras del sistema digestivo usando el modelo anatómico, y/o diagramas.
  - a. boca
  - b. faringe
  - c. esófago
  - d. estómago
  - e. intestino delgado (duodeno, yeyuno, íleon)

- f. intestino grueso (colon ascendente, transverso, descendente, sigmoideo y recto)
  - g. Hígado
  - h. Páncreas
  - i. Glandulas salivares
  - j. Vesícula biliar
  - k. Apéndice vermiforme
7. El tiempo que quede después de completar las actividades será dedicado a trabajar en el reporte de laboratorio para entregarlo en la próxima clase.
8. Sesión de preguntas y respuestas. |

**Evaluación:**

1. **Individual:** | Completar la publicación en BALCKBOARD y el reporte de laboratorio, así como los dibujos de las láminas histológicas que se añadirán al reporte de laboratorio. |
2. **Grupal:** | Creación del diagrama Venn y presentación de grupo que acompaña esta actividad. |
3. **Escrito:** | Completar el diagrama Venn, la publicación en BALCKBOARD y el reporte de laboratorio usando el nivel de idioma adecuado para el estudiante. |
4. **Oral/Auditivo:** | Presentación de grupo acerca el diagrama Venn de manera profesional y usando el leguaje adecuado, y sesión de preguntas y respuestas. |

**Cierre del taller:**

1. **Individual:** | Completar el reporte de laboratorio a ser entregado en la próxima clase. |
  2. **Grupal:** | Sesión de preguntas y respuestas, así como participación general en las actividades del laboratorio. |
- |

## **WORKSHOP FOUR**

### **Specific Content Objectives:**

**Upon the completion of this workshop the students will be able to:**

1. Demonstrate understanding of concepts related to metabolism, anabolism and catabolism.
2. Identify the structure and function of: carbohydrates, lipids, proteins, nucleic acids, vitamins and minerals
3. Demonstrate an understanding of concepts related to nutrition, healthy diet, and calories.
4. Demonstrate understanding of different nutrition related diseases and syndromes.
5. Demonstrate appropriate use of laboratory equipment
6. Demonstrate appropriate laboratory etiquette

### **Specific Language Objectives**

1. **Listening:** Demonstrate understanding of verbal instruction during the laboratory activities, as well as actively listen to presentations, discussions, and other analysis regarding the content of this laboratory activity while taking notes when appropriate (note taking, answering questions, etc).
2. **Speaking:** Actively participate in class discussions and Q&A sessions, and present individually or in group regarding activities performed during the progress of this laboratory.
3. **Reading:** Demonstrate understanding of written instructions, as well as other written materials provided during the pre-lab or laboratory activity.
4. **Writing:** Write laboratory reports and BLACKBOARD postings effectively, demonstrating adequate use of the language (English).

**Electronic Links (URLs):** [

Topic: Biblioteca Virtual

<http://bibliotecavirtualut.suagm.edu/> ]

Topic: APA

<https://owl.english.purdue.edu/owl/resource/560/01/>

Topic: Macromolecules

<http://www.britannica.com/EBchecked/topic/94687/carbohydrate>

<http://www.britannica.com/EBchecked/topic/342808/lipid>

<http://www.britannica.com/EBchecked/topic/479680/protein>

Topic: Metabolism.

<http://www.thefreedictionary.com/metabolism>

<http://www.nlm.nih.gov/medlineplus/ency/article/002257.htm>

<http://children.webmd.com/video/ludwig-foods-affect-metabolism>

<http://www.webmd.com/diet/ss/slideshow-boost-your-metabolism>

<http://www.britannica.com/EBchecked/topic/377325/metabolism> (29 pages but great information)

<http://www.britannica.com/EBchecked/topic/98989/catabolism>

<http://www.britannica.com/EBchecked/topic/22204/anabolism>

Topic: Nutrition

<http://www.britannica.com/EBchecked/topic/422875/nutrition>

<http://fnic.nal.usda.gov/food-composition>

<http://fnic.nal.usda.gov/food-composition/usda-nutrient-data-laboratory>

Topic: Pathologies related to metabolism or/and inappropriate nutrition

<http://www.webmd.com/a-to-z-guides/inherited-metabolic-disorder-types-and-treatments>

<http://www.mayoclinic.org/inherited-metabolic-disorders/>

<http://www.healthline.com/health/nutrition-metabolism-disorders>

<http://www.medicinenet.com/nutrition/related-conditions/index.htm>

[http://www.who.int/topics/nutrition\\_disorders/en/](http://www.who.int/topics/nutrition_disorders/en/)

<http://fnic.nal.usda.gov/diet-and-disease>

**Assignments before the Workshop:**

1. Visit the links provided in order to become familiarized with concepts related to metabolism and nutrition.
2. Complete the Laboratory Report on “Digestive System” to be submitted at the beginning of workshop #4
3. Post on BLACKBOARD, under Discussion Board, a short description of a disease or disorder that is either related to metabolism (preferably inherited) or to improper nutrition. Describe the disease/disorder, and how it is present in modern U.S society. You can use the links provided as support. (Less than 100 words)
4. Continue working on the content of the DIGITAL Portfolio, using the **Digital Performance Portfolio Assessment Handbook**.
5. Complete the e-lab requirements for Workshop # 4

**Key Core Vocabulary:**

1. Adenosine Triphosphate
2. ADP
3. Aerobic cellular respiration
4. Amino acids
5. Anabolism
6. Anaerobic cellular respiration
7. ATP
8. Catabolism
9. Crebs cycle
10. Gluconeogenesis
11. Glycogen
12. Glycogenesis
13. Glycogenolysis
14. Glycolysis
15. Lipogenesis
16. Lipolysis
17. Metabolism
18. Oxidation (reaction)
19. Oxidative phosphorylation
20. Reduction (reaction)

**List of Supplementary Materials for the Workshop:**

1. Copies of Quiz#1 (questions developed by facilitator)
2. Wimba
3. Tell Me More
4. NetTutor
5. Pineapple
6. Jell-o
7. Beakers
8. Boiling & ice water
9. Test tubes & rack
10. Spoons, stirring rods
11. Knife for chopping pineapple |

**SIOP Components** - Place a checkmark (✓) on the (\_\_\_) for **ALL** strategies that will be used in the workshop.

**A. Preparation**

- \_\_\_ Adaptation of Content
- Links to Background Knowledge
- Links to Past Learning
- Strategies Incorporated

**CALLA Strategies**

(Cognitive Academic Language Learning Approach)

- Cognitive
- \_\_\_ Meta-cognitive
- Social/Affective

**C. Grouping Options**

- Whole Class
- Small Groups
- Partners
- Independent Work

**B. Scaffolding**

- \_\_\_ Modeling
- Guided Practice
- Independent Practice
- Comprehensible Input

**D. Integration of Processes**

- Listening
- Speaking
- Reading
- Writing

**E. Application**

- Hands-on
- Meaningful/Relevant
- Rigorous
- Link to Objectives
- Promote Engagement

## **Integrated Activities of Content and Language to achieve Content and Language**

### **Objectives:**

1. Students will submit their laboratory report. Q&A session to assess understanding of the previously covered content
2. Class discussion regarding the posting on BLACKBOARD, and the impact on health of the different disorders reviewed
3. Short review on the previous laboratories, in order to prepare for Quiz#1.
4. **Quiz#1** (students have one hour to complete all questions and submit the completed individual assignment to facilitator). After completion a class discussion will take place analyzing the answers to the questions.
5. **Laboratory Activity (breakdown on proteins by digestive enzymes) :**

Students will analyze why Jell-O is affected by pineapple products. The students will work in their assigned groups during the laboratory activity, and collect data as a group. This activity will be used as basis for the individual laboratory report.

#### Background information:

Boxes of Jell-O have an explicit message indicating not to add fresh or frozen pineapple to it. Gelatin is made out of connective tissue from animal parts such as bone, cartilage and skin, which have high protein content. In fact the gelatin we eat is a protein. Usually the process starts by grinding up bone, then soaking them in a strong base (high pH) to soften them, and then passing them through progressively stronger acid (low pH) solutions. The end result is then boiled for hours to extract the gelatin. The final gelatin layer is skimmed off the boiling pot, and dried into a powder to which they add sugar, flavorings, and artificial color.

The pineapple plant (*Ananas comosus*) belongs to the bromeliad family. As with some other tropical fruits, the pineapple fruit contains an enzyme that breaks down, or digests, protein. This protease (protein-digesting) enzyme in pineapple is called bromelain.

#### Materials:

- a) Pineapple
- b) Jell-o
- c) Beakers
- d) Boiling & ice water
- e) Test tubes & rack



- f) Spoons, stirring rods
- g) Knife for chopping pineapple

### Procedure

Students will work in groups to design a controlled experiment that shows the effect of raw pineapple on gelatin. It must include:

- a) *Introduction (background information)*
- b) *Hypothesis.*
- c) *Experiment design*
- d) *Materials*
- e) *Control: A test to determine how gelatin behaves without any additives.*
- f) *A detailed experimental design which will include:*
  - *The effect of fresh pineapple on gelatin.*
  - *The effect of freshly cooked pineapple on gelatin.*
- g) *A data table*
- h) *Conclusions*

Students will perform their experiment with aid from facilitator, while following all laboratory safety procedures.

Attempt to explain the difference between the effects of fresh pineapple and cooked pineapple (clue: denaturalization of enzymes)

6. Group discussion: Students will analyze with their groups the effects of improper nutrition in the US population. Then will review the concepts of calories consumption, and balanced nutrition. They can use resources such as print outs provided by the facilitator or internet resources available in the classroom. Then each group will present their findings and opinions to the class.
7. If there is time remaining, the students will work individually in their lab-reports due at the beginning of next class. |
8. Q&A session.

**Assessment:**

1. **Individual:** Individual laboratory work and class discussions, as well as pre-lab activities
2. **Group:** [Laboratory activity completion (pineapple laboratory and group discussion/research, group presentations.)]
3. **Written:** [Blackboard posting, quiz#1 answers, laboratory data collection and laboratory report submission.]
4. **Oral:** [Class discussions, group presentation of and Q&A activities. ]

**Lesson Wrap-Up:**

1. **Individual:** [Quiz#1, and laboratory report completion (due next workshop).]
2. **Group:** [Experiment completion, group presentation completion, and Q&A session.]

## **[TALLER CINCO ]**

### **Objetivos específicos de contenido:**

Al finalizar este taller/laboratorio el estudiante será capaz de:

1. Identificar las estructuras anatómicas y microscópicas que forman el sistema endocrino
2. Integrar la estructura del sistema endocrino con sus funciones.
3. Explicar la interdependencia del sistema endocrino con otros sistemas del cuerpo humano.
4. Demostrar el uso correcto de los equipos de laboratorio
5. Demostrará la etiqueta de comportamiento adecuada para trabajo de laboratorio ]

### **Objetivos específicos de lenguaje:**

Al finalizar este taller/laboratorio el estudiante será capaz de: ]

1. **Escuchar:** Demostrar comprensión de la instrucción verbales, así como escuchar activamente a las presentaciones, discusiones y otros análisis relacionados con el contenido del laboratorio (tomar notas, responder preguntas, etc).]
2. **Hablar:** Participar activamente en las discusiones en clase y sesiones de preguntas y respuestas, así como presentaran en grupos o individualmente temas relacionados con el contenido del laboratorio.]
3. **Leer:** Demostrar comprensión de las indicaciones escritas para las actividades de laboratorio, así como otros materiales suplementarios ]
4. **Escribir:** Demostrar un dominio de la gramática y del vocabulario necesario para completar las actividades de laboratorio, basada en el nivel de entendimiento del lenguaje del estudiante (ex: reporte de laboratorio)]

**Enlaces electrónicos:** |

Biblioteca Virtual

<http://bibliotecavirtualut.suagm.edu/>

Tema: APA

<http://www.cibem.org/paginas/img/apa6.pdf>

<http://www.suagm.edu/umet/biblioteca/pdf/GuiaRevMarzo2012APA6taEd.pdf>

Tema: El sistema endocrino

<http://www.nlm.nih.gov/medlineplus/spanish/endocrinesystem.html>

<http://www.juntadeandalucia.es/averroes/~29701428/salud/endocri.htm>

<http://recursostic.educacion.es/ciencias/biosfera/web/alumno/3ESO/Sistendo/sistendo.htm>

[http://www.facmed.unam.mx/deptos/biocetis/PDF/Portal%20de%20Recursos%20en%20Linea/Presentaciones/Sistema\\_endocrino.pdf](http://www.facmed.unam.mx/deptos/biocetis/PDF/Portal%20de%20Recursos%20en%20Linea/Presentaciones/Sistema_endocrino.pdf) (great PPT online)

Tema: Hormonas

<http://www.nlm.nih.gov/medlineplus/spanish/hormones.html>

<http://www.msdsalud.es/manual-merck->

[hogar.aspx?u=/publicaciones/mmerck\\_hogar/seccion\\_13/seccion\\_13\\_143.html](http://www.msdsalud.es/manual-merck-hogar.aspx?u=/publicaciones/mmerck_hogar/seccion_13/seccion_13_143.html)

<http://www.uprm.edu/biology/profs/velez/endocrino.htm>

Tema: Histología del sistema endocrino

[http://www.facmed.unam.mx/deptos/biocetis/PDF/Portal%20de%20Recursos%20en%20Linea/Repaso%20Practico/SISTEMA\\_ENDOCRINO.pdf](http://www.facmed.unam.mx/deptos/biocetis/PDF/Portal%20de%20Recursos%20en%20Linea/Repaso%20Practico/SISTEMA_ENDOCRINO.pdf)

<http://dieteticaieselgetares.files.wordpress.com/2013/02/tema-59-1.pdf> |

Tema: Patologías de sistema endocrino

<http://www.nlm.nih.gov/medlineplus/spanish/endocrinediseases.html>

<http://www.nlm.nih.gov/medlineplus/spanish/diabetes.html>

<http://www.nlm.nih.gov/medlineplus/spanish/addison-disease.html>

<http://www.nlm.nih.gov/medlineplus/spanish/pituitarydisorders.html>

<http://www.nlm.nih.gov/medlineplus/spanish/parathyroiddisorders.html>

<http://www.nlm.nih.gov/medlineplus/spanish/thyroiddiseases.html>

Tema: Actividad en línea

<http://recursostic.educacion.es/ciencias/biosfera/web/alumno/3ESO/Sistendo/actividades.htm>

**Asignaciones antes del taller:** |

1. Visitar los sitios en línea mencionados para familiarizarse con el contenido del laboratorio
2. Visitar el sitio BLACKBOARD y completar la publicación bajo

Discusiones/Discussion Board:

*“Describa una enfermedad o síndrome relacionado al sistema endocrino desde el punto de vista anatómico y fisiológico. (no más de 100 palabras)”*

3. Continuar trabajando en el PORTAFOLIO DIGITAL
4. Completar 4 horas de **Laboratorio de lenguaje** y mantener documentación necesaria
5. Completar el reporte de laboratorio del taller #4, as ser entregado al principio de la clase. |

**Vocabulario clave de la lección:**

1. Adrenocorticotropa (ACTH)
2. Aldosterona
3. Antidiurética (ADH)
4. Calcitonina
5. Cortisol
6. Efecto antagonista
7. Efecto de sinergismo
8. Efecto permisivo
9. Estrógenos
10. Folículo estimulante (FSH)
11. Glándula
12. Glándula pineal
13. Glándula pituitaria
14. Glándula Tiroidea
15. Glándulas adrenales
16. Glándulas endocrinas
17. Glándulas exocrinas
18. Glándulas pancreáticas
19. Glándulas paratiroides
20. Glucagón
21. Gónadas
22. Hipotálamo

23. Hormona
24. Insulina
25. Luteinizante (LH)
26. Oxitocina
27. Paratohormona
28. Placenta
29. Progesterona
30. Prolactina
31. Receptor
32. Síndrome
33. Somatotropa (STH)
34. Testosterona
35. Timo
36. Tirotropina (TSH)
37. Tiroxina
38. Triyodotironina

**Lista de materiales suplementarios para el taller:**

1. Microscopios
2. Láminas de microscopio de diferentes glándulas endocrinas: Pituitaria (lóbulos anterior y posterior), tiroidea, paratiroidea, adrenal, y páncreas
3. Modelo del sistema endocrino o de anatomía humana
4. Diagrama Venn, tres componentes
5. Wimba
6. Tell Me More
7. NetTutor

**Componentes de SIOP** (Sheltered-Instruction Observation Protocol): Coloque una marca de cotejo (✓) en la ( ) en todas las estrategias por componente que se usarán en el taller.

**A. Preparación**

- Adaptación de Contenido
- Enlaces al Conocimiento Previo
- Enlaces al Aprendizaje Previo
- Estrategias Incorporadas

**Estrategias de CALLA**

(Cognitive Academic Language Learning Approach)

- Cognoscitivo
- Meta-cognoscitivo
- Socio/Afectivo

**B. Andamiaje**

- Modelaje
- Práctica Dirigida
- Práctica Independiente
- Instrucción Comprensible

**C. Opciones para Agrupamiento**

- Grupo Completo
- Grupos Pequeños
- Pares
- Trabajo Independiente

**D. Integración del Proceso**

- Escuchar
- Hablar
- Leer
- Escribir

**E. Aplicación**

- Actividades Dinámicas de Aplicación
- Significativas y Relevantes
- Rigurosas
- Alineadas a los Objetivos
- Promueven Participación



**Actividades integradas de contenido y lenguaje para lograr los objetivos del taller:**

1. Los estudiantes entregarán el reporte de laboratorio #4
2. Discusión de clase sobre las enfermedades del sistema endocrino que fueron usadas para la discusión en BLACKBOARD (actividad antes del laboratorio)
3. Revisión del examen#1. Sesión de preguntas y respuestas.
4. Los estudiantes se dividirán en grupos (número de grupos basado en el número de microscopios) para observar láminas microscópicas del sistema endocrino
5. Trabajando en grupos los estudiantes identificarán las diferentes estructuras microscópicas indicadas por el facilitador. Estudiantes dibujarán e identificarán los diferentes componentes del sistema endocrino (trabajo independiente, a ser añadido al reporte de laboratorio).
  - Glándula pituitaria: Lóbulos anterior y posterior. Células acidofilas (rosadas) y basofilas (azul) (10X y 40X)
  - Glándula tiroidea: folículos (10X y 40X)
  - Glándula paratiroidea: a 10X y 40X
  - Glándula Adrenal: corteza (zona glomerulosa, zona fasciculata y zona reticularis) y medula. (10X)
  - Páncreas: células exocrinas (oscuras) alrededor de los ductos y células exocrinas (claras) que forman las isletas de Langerhans
6. Cada grupo creará un diagrama de Venn para comparar la estructura y función de tres glándulas endocrinas incluyendo estructura, funciones, hormonas producidas y la función de esas hormonas en el organismo.
7. Cada grupo presentará y explicará el diagrama que crearon. También identificarán un síndrome o enfermedad relacionada con cada una de las glándulas seleccionadas (basado en notas de clase, actividad antes del laboratorio, recursos en línea, etc.)
8. El tiempo que quede después de completar las actividades será dedicado a trabajar en el reporte de laboratorio para entregarlo en la próxima clase.
9. Sesión de preguntas y respuestas. |

**Evaluación:**



1. **Individual:** [Completar la publicación en BALCKBOARD y el reporte de laboratorio, así como los dibujos de las láminas histológicas que se añadirán al reporte de laboratorio. ]
2. **Grupal:** [Creación del diagrama Venn y presentación de grupo que acompaña esta actividad.]
3. **Escrito:** [Completar el diagrama Venn, la publicación en BALCKBOARD y el reporte de laboratorio usando el nivel de idioma adecuado para el estudiante.]
4. **Oral/Auditivo:** [Presentación de grupo acerca el diagrama Venn de manera profesional y usando el lenguaje adecuado, y sesión de preguntas y respuestas.]

**Cierre del taller:**

1. **Individual:** [Completar el reporte de laboratorio a ser entregado en la próxima clase..]
2. **Grupal:** [Sesión de preguntas y respuestas, presentación de clase y participación general en las actividades del laboratorio.]

## WORKSHOP SIX |

### Specific Content Objectives: |

**Upon the completion of this workshop the students will be able to:**

1. Identify and describe the structures that form the nervous system both macro and microscopically (Anatomy and Histology features)
2. Explain the relationship between the anatomical and histological structures of the nervous system to its physiology (function)
3. Integrate the structure and function of the nervous system, to other systems of the human body
4. Demonstrate the proper use of laboratory equipment
5. Demonstrate appropriate laboratory etiquette |

### Specific Language Objectives

1. **Listening:** | Demonstrate understanding of verbal instruction during the laboratory activities, as well as actively listen to presentations, discussions, and other analysis regarding the content of this laboratory activity while taking notes when appropriate. |
2. **Speaking:** | Actively participate in class discussions and Q&A sessions, and present individually or in group regarding activities performed during the progress of this laboratory. |
3. **Reading:** | Demonstrate understanding of written instructions, as well as other written materials provided during the pre-lab or laboratory activity. |
4. **Writing:** | Write laboratory reports and BLACKBOARD postings effectively, demonstrating adequate use of the language (English) . |

**Electronic Links (URLs):** [

Topic: Biblioteca Virtual

<http://bibliotecavirtualut.suagm.edu/> ]

Topic: APA

<https://owl.english.purdue.edu/owl/resource/560/01/>

Topic: Human Nervous System structure

<http://cnsvp.stanford.edu/>

<http://virtuallabs.stanford.edu/demo/>

<http://neuroscience.uth.tmc.edu/s2/chapter03.html> (spinal cord)

<http://emedicine.medscape.com/article/1148570-overview> (spinal cord)

Topic: Human Nervous System Physiology

[\[hill.com/sites/0072495855/student\\\_view0/chapter14/animation\\\_the\\\_nerve\\\_impulse.html\]\(http://highered.mcgraw-hill.com/sites/0072495855/student\_view0/chapter14/animation\_the\_nerve\_impulse.html\) \(the nerve impulse\)](http://highered.mcgraw-</a></p></div><div data-bbox=)

<http://people.eku.edu/ritchisong/301notes2.htm>

Topic: Diseases and disorders of the Nervous System

<http://www.minddisorders.com/Kau-Nu/Neurotransmitters.html> (disorders related to neurotransmission)

<http://www.elementsbehavioralhealth.com/mental-health/poor-neurotransmitter-activity-linked-to-mental-illnesses/>

<http://www.sci.va.gov/> (spinal cord injury and disorders)

<http://www.ninds.nih.gov/disorders/sci/sci.htm>

<http://www.nlm.nih.gov/medlineplus/spinalcorddiseases.html>

Topic: Histology of the Nervous System

[http://biology.clc.uc.edu/fankhauser/Labs/Anatomy\\_%26\\_Physiology/A%26P202/CNS\\_Histology/Spinal\\_Cord/Spinal\\_Cord\\_Histology.htm](http://biology.clc.uc.edu/fankhauser/Labs/Anatomy_%26_Physiology/A%26P202/CNS_Histology/Spinal_Cord/Spinal_Cord_Histology.htm)

<http://nhscience.lonestar.edu/biol/nervous/nervous.htm>

<http://histology.med.umich.edu/medical/central-nervous-system>

<http://www.vetmed.vt.edu/education/curriculum/vm8054/Labs/Lab9/lab9.htm>

**Assignments before the Workshop:**

1. Visit the links provided in order to become familiarized with the anatomy, physiology, and pathology of the respiratory system.
2. Complete the Laboratory Report to be submitted at the beginning of workshop #6
3. Post on BLACKBOARD, under Discussion Board: *“Write a short description of a disease or disorder affecting the peripheral nervous system, and its relationship to the PNS anatomy. You can use the links provided as support.”* (Less than 100 words)
4. Continue working on the content of the DIGITAL Portfolio, using the **Digital Performance Portfolio Assessment Handbook**.
5. Complete the e-lab requirements for Workshop #6

**Key Core Vocabulary:** (Must reflect objectives and important concepts of the workshop.)

1. Action potential
2. Afferent neurons
3. Arachnoid
4. Autonomic nervous system
5. Axon
6. Central nervous system
7. CNS
8. Dendrites
9. Dura matter
10. Efferent neurons
11. Enteric nervous system
12. Ganglia
13. Gray matter
14. Interneurons
15. Meninges
16. Myelin
17. Nerve
18. Neuroglia
19. Neurotransmitter
20. Neurotransmitter receptor
21. Parasympathetic nervous system
22. Peripheral nervous system
23. Pia Matter
24. PNS
25. Somatic nervous system

26. Subarachnoid space
27. Sympathetic nervous system
28. Synapse
29. White matter

**List of Supplementary Materials for the Workshop:**

1. Microscopes
2. Microscope slides of the nervous system tissue (Spinal Cord cross section and longitudinal sections, cerebellum, cerebral cortex, meninges, etc)
3. Nervous System Model
4. Spinal cord model or diagram
5. Wimba
6. Tell Me More
7. NetTutor

**SIOP Components** - Place a checkmark (✓) on the (\_\_\_) for **ALL** strategies that will be used in the workshop.

**A. Preparation**

- \_\_\_ Adaptation of Content
- Links to Background Knowledge
- Links to Past Learning
- Strategies Incorporated

**CALLA Strategies**

(Cognitive Academic Language Learning Approach)

- Cognitive
- \_\_\_ Meta-cognitive
- Social/Affective

**C. Grouping Options**

- Whole Class
- Small Groups
- Partners
- Independent Work

**B. Scaffolding**

- Modeling
- Guided Practice
- Independent Practice
- Comprehensible Input

**D. Integration of Processes**

- Listening
- Speaking
- Reading
- Writing

**E. Application**

- Hands-on
- Meaningful/Relevant
- Rigorous
- Link to Objectives
- Promote Engagement

**Integrated Activities of Content and Language to achieve Content and Language**

**Objectives:**

1. Students will submit their laboratory report. Q&A session to assess understanding of the previously covered content (LAB 5)
2. Class discussion regarding the posting on BLACKBOARD, and the impact on health of the different disorders reviewed
3. Short review on the Nervous System anatomy and physiology in a manner of an open forum discussion.
4. Students will look at the microscope slides at a 10 X, 40X and 100X magnification, while using appropriate microscopy technique. Students will identify the structures studied

A. SPINAL CORD (Cross section):

- *posterior median sulcus*
- *anterior median fissure*
- *central canal*
- *gray matter*
  - *gray commissure*
  - *posterior horn*
  - *lateral horn*
  - *anterior horn*
- *white matter*
  - *posterior funiculus*
  - *lateral funiculus*
  - *anterior funiculus*
- *Roots of spinal nerve*
  - *dorsal roots*
  - *dorsal root ganglia*
  - *ventral roots*

B. CEREBELLUM at 10X and 40X: Gray and white matter

C. PERIPHERAL NERVE (cross section) at 10X and 40X: axon and myelin sheath

D. PERIPHERAL NERVE (longitudinal section) at 10X and 40X: Axon and myelin sheath

5. Using the same slides from the previous activity students will use previous knowledge to identify common structures, and sketch the image seen under the microscope, labeling the structures identified. (individual sketches to be attached to the lab report)

6. Students will work in the same groups to analyze the need for the specific manner in which histological structures of the nervous system are formed. Why is myelin important in the transmission of nerve impulses? How do reflexes happen and at which level of the nervous system? Why do we need several types of neurons to take information to and from the brain? Each group will present shortly in an informal manner. (class discussion of findings)
7. Students will continue working in the assigned groups. Using the nervous system model (CNS and PNS), as well as images/diagrams provided by the facilitator, the students will identify the following structures.
  - A. Spinal cord
    - *Gray matter*
    - *White matter*
    - *Roots of spinal nerve*
      - *dorsal roots*
      - *dorsal root ganglia*
      - *ventral roots*
  - B. Cerebellum
  - C. Brain Stem:
    - *Pons*
    - *Medulla oblongata*
    - *Mid brain*
  - D. Cerebrum:
    - *Frontal lobe*
    - *Parietal lobe*
    - *Temporal lobe*
    - *Occipital lobe*
    - *Corpus callosum*
8. After identification, each group will select 1(one) structure/region (A, B, C or D) and will prepare a short presentation to introduce its anatomical and histological structure, anatomical location, function(s) and a disease or disorder that commonly affects this region. The presentation will be delivered in a professional manner (students can use resources such a class notes, books, print outs from facilitator and online resources as available at the time).
9. If there is time remaining, the students will work individually in their lab-reports due at the beginning of next class. |
10. Q&A session.

**Assessment:**

1. **Individual:** Individual laboratory work, sketches, and class discussions, as well as pre-lab activities
2. **Group:** [Laboratory activity completion, group presentations.]
3. **Written:** [Blackboard posting, and laboratory report submission.]
4. **Oral:** [Class discussions, presentation of microscopy analysis, group presentation on anatomical structures and Q&A activities. ]

**Lesson Wrap-Up:**

1. **Individual:** [Laboratory report completion (due next workshop).]
2. **Group:** [Group presentation completion, and Q&A session.]



## TALLER SIETE

### Objetivos específicos de contenido:

#### Al finalizar este taller/laboratorio el estudiante será capaz de:

1. Identificar las estructuras anatómicas y microscópicas que forman el sistema urinario
2. Integrar la estructura del sistema urinario con sus funciones.
3. Explicar la interdependencia del sistema urinario con otros sistemas del cuerpo humano.
4. Demostrar el uso correcto de los equipos de laboratorio
5. Demostrar la etiqueta de comportamiento adecuada para trabajo de laboratorio

### Objetivos específicos de lenguaje:

#### Al finalizar este taller/laboratorio el estudiante será capaz de:

1. **Escuchar:** Demostrar comprensión de la instrucción verbales, así como escuchar activamente a las presentaciones, discusiones y otros análisis relacionados con el contenido del laboratorio (tomar notas, seguir instrucciones sobre los pasos a seguir, etc).
2. **Hablar:** Participar activamente en las discusiones en clase y sesiones de preguntas y respuestas, así como presentaran en grupos o individualmente temas relacionados con el contenido del laboratorio.
3. **Leer:** Demostrar comprensión de las indicaciones escritas para las actividades de laboratorio, así como otros materiales suplementarios
4. **Escribir:** Demostrar un dominio de la gramática y del vocabulario necesario para completar las actividades de laboratorio, basada en el nivel de entendimiento del lenguaje del estudiante (ex: reporte de laboratorio)

**Enlaces electrónicos:** |

Biblioteca Virtual

<http://bibliotecavirtualut.suagm.edu/>

Tema: APA

<http://www.cibem.org/paginas/img/apa6.pdf>

<http://www.suagm.edu/umet/biblioteca/pdf/GuiaRevMarzo2012APA6taEd.pdf>

Tema: El sistema urinario

<http://www.dmu.edu/terminologia-medica/el-sistema-urinario/>

[http://recursostic.educacion.es/secundaria/edad/3esobiologia/3quincena9/3quincena9\\_contenidos\\_4a.htm](http://recursostic.educacion.es/secundaria/edad/3esobiologia/3quincena9/3quincena9_contenidos_4a.htm)

[http://www7.uc.cl/sw\\_educ/biologia/bio100/html/portadaMIval7.4.6.html](http://www7.uc.cl/sw_educ/biologia/bio100/html/portadaMIval7.4.6.html) (regulación hormonal)

<http://www.fjd.es/urologia/unidades-tematicas-especiales/tecnicas-de-diagnostico.html>

(Técnicas diagnósticas)

<http://healthlibrary.brighamandwomens.org/enespanol/RelatedItems/92,P09252>

Tema: Histología del sistema urinario

<http://www.fcnym.unlp.edu.ar/catedras/histologia/archivos%20MatDid/Atlas%20Di%20Fio%20re/072.gif>

<http://www.fcnym.unlp.edu.ar/catedras/histologia/archivos%20MatDid/Atlas%20Di%20Fio%20re/073.gif>

<http://www.fcnym.unlp.edu.ar/catedras/histologia/archivos%20MatDid/Atlas%20Di%20Fio%20re/074.gif>

<http://www.fcnym.unlp.edu.ar/catedras/histologia/archivos%20MatDid/Atlas%20Di%20Fio%20re/075.gif>

<http://www.fcnym.unlp.edu.ar/catedras/histologia/archivos%20MatDid/Atlas%20Di%20Fio%20re/076.gif>

Tema: Patologías de sistema urinario

<http://www.juntadeandalucia.es/averroes/~29701428/salud/excrenf.htm>

<http://www.nlm.nih.gov/medlineplus/spanish/kidneysandurinarysystem.html>

**Asignaciones antes del taller:** |

1. Visitar los sitios en línea mencionados para familiarizarse con el contenido del laboratorio

2. Visitar el sitio BLACKBOARD y completar la publicación bajo Discusiones/Discussion Board: “*Describe una enfermedad o síndrome relacionado al sistema urinario desde el punto de vista anatómico y fisiológico. (no más de 100 palabras)*”
3. Continuar trabajando en el PORTAFOLIO DIGITAL a entregar en el laboratorio/taller #8 (próxima semana).
4. Completar 4 horas de **Laboratorio de lenguaje** y mantener documentación necesaria
5. Completar el reporte de laboratorio as ser entregado al principio de la clase. |

**Vocabulario clave de la lección:**

1. Ácido Úrico
2. Aldosterona
3. Angiotensina
4. Aparato yuxtglomerular
5. Arteriolas aferentes
6. Arteriolas eferentes
7. Asa de Henle
8. Cápsula de Bowman
9. Corpúsculo renal
10. Corteza renal
11. Diuresis
12. Diurético
13. Glomérulo
14. Hilio
15. Hormona antidiurética (HCTH)
16. Iones
17. Médula renal
18. Micción
19. Nefrona
20. Nitrógeno
21. Papila renal
22. Parénquima
23. Pelvis renal
24. Pirámide renal
25. Potasio (K<sup>+</sup>)
26. Renina
27. Riñón
28. Sodio (Na<sup>+</sup>)
29. Túbulo renal
30. Urea
31. Uréter
32. Uretra
33. Vejiga urinaria

**Lista de materiales suplementarios para el taller:**

1. Microscopios
2. Láminas de microscopio: riñón, uréter y vejiga
3. Riñón de cerdo u oveja preservado
4. Materiales de disección
5. Modelo del Sistema Urinario o de anatomía humana
6. Wimba
7. Tell Me More
8. NetTutor

**Componentes de SIOP** (Sheltered-Instruction Observation Protocol): Coloque una marca de cotejo (✓) en la (\_\_\_) en todas las estrategias por componente que se usarán en el taller.

**A. Preparación**

- Adaptación de Contenido
- Enlaces al Conocimiento Previo
- Enlaces al Aprendizaje Previo
- Estrategias Incorporadas

**Estrategias de CALLA**

(Cognitive Academic Language Learning Approach)

- Cognoscitivo
- Meta-cognoscitivo
- Socio/Afectivo

**B. Andamiaje**

- Modelaje
- Práctica Dirigida
- Práctica Independiente
- Instrucción Comprensible

**C. Opciones para Agrupamiento**

- Grupo Completo
- Grupos Pequeños
- Pares
- Trabajo Independiente

**D. Integración del Proceso**

- Escuchar
- Hablar
- Leer
- Escribir

**E. Aplicación**

- Actividades Dinámicas de Aplicación
- Significativas y Relevantes
- Rigurosas
- Alineadas a los Objetivos
- Promueven Participación

**Actividades integradas de contenido y lenguaje para lograr los objetivos del taller:**

1. Los estudiantes entregarán el reporte de laboratorio #6
2. Discusión de clase sobre las enfermedades del sistema urinario que fueron usadas para la discusión en BLACKBOARD (actividad antes del laboratorio)
3. Los estudiantes se dividirán en grupos (número de grupos basado en el número de microscopios) para observar laminas microscópicas del sistema urinario
4. Trabajando en grupos los estudiantes identificarán las diferentes estructuras microscópicas indicadas por el facilitador. Estudiantes dibujarán e identificarán los diferentes componentes del sistema urinario, (trabajo independiente, a ser añadido al reporte de laboratorio). Cada grupo presentará brevemente la identificación de las diferentes estructuras y explicará como las identificaron.

- *Riñón (40X):*
  - *Corteza*
  - *Médula*
  - *Corpúsculo renal*
  - *Glomérulo*
  - *Túbulos excretores*
- *Ureter (40X):*
  - *Luz del conducto*
  - *Epitelio*
  - *Corion (lamina propia)*
  - *Túnica muscular*
- *Vejiga (40X):*
  - *Epitelio*
  - *Pliegues de la mucosa*
  - *Corion*
  - *Musculo*

5. Los estudiantes continuaran trabajando en grupos. Observar el torso humano y el modelo del riñón. Los grupos localizarán las siguientes estructuras y analizarán sus funciones. También identificarán un síndrome o enfermedad relacionada con cada una de las glándulas seleccionadas (basado en notas de clase, actividad antes del laboratorio, recursos en línea, etc). Cada grupo presentará brevemente.

- Riñones
- uréteres

- vejiga
- uretra
- seno renal
- pelvis renal
- médula renal
- pirámides
- corteza renal

6. Actividad opcional:

Usando las medidas de seguridad necesarias, el facilitador demostrara las estructuras renales usando un riñón preservado de cerdo u oveja.

- Enjuague con agua para eliminar la mayor cantidad de fluido de conservación posible.*
- Retire cuidadosamente cualquier tejido adiposo de la superficie de la muestra.*
- Busque las siguientes características:*
  - *cápsula renal*
  - *hilio*
  - *la arteria renal*
  - *uréter*
  - *vena renal*
- Use un cuchillo para cortar el riñón por la mitad (longitudinalmente)*
- Enjuague el interior del riñón con agua*
- Busque la siguiente:*
  - *pelvis renal*
    - *cálices mayores*
    - *cálices menores*
  - *corteza renal*
    - *columnas renales (extensiones de la corteza renal entre pirámides renales)*
  - *médula renal*
    - *pirámides renales*

7. El tiempo que quede después de completar las actividades será dedicado a trabajar en el reporte de laboratorio para entregarlo en la próxima clase.

8. Sesión de preguntas y respuestas.

**Evaluación:**

1. **Individual:** [Completar la publicación en BALCKBOARD y el reporte de laboratorio, así como los dibujos de las láminas histológicas que se añadirán al reporte de laboratorio. ]
2. **Grupal:** [Presentación de grupo (histología y anatomía).]
3. **Escrito:** [La publicación en BALCKBOARD y el reporte de laboratorio usando el nivel de idioma adecuado para el estudiante.]
4. **Oral/Auditivo:** [Presentación de grupo acerca de la histología y anatomía del sistema urinario, de manera profesional y usando el lenguaje adecuado. Sesión de preguntas y respuestas.]

**Cierre del taller:**

1. **Individual:** [Completar el reporte de laboratorio a ser entregado en la próxima clase.]
2. **Grupal:** [Sesión de preguntas y respuestas, presentación de clase y participación general en las actividades del laboratorio.]



## [WORKSHOP EIGHT ]

### **Specific Content Objectives:** [

**Upon the completion of this workshop the students will be able to:**

1. Identify and describe the structures that form the reproductive system both macro and microscopically (Anatomy and Histology features)
2. Explain the relationship between the anatomical and histological structures of the reproductive system to its physiology (function)
3. Integrate the structure and function of the reproductive system, to other systems of the human body
4. Demonstrate the proper use of laboratory equipment
5. Demonstrate appropriate laboratory etiquette [

### **Specific Language Objectives**

1. **Listening:** [Demonstrate understanding of verbal instruction during the laboratory activities, as well as actively listen to presentations, discussions, and other analysis regarding the content of this laboratory activity while taking notes when appropriate.]
2. **Speaking:** [Actively participate in class discussions and Q&A sessions, and present individually or in group regarding activities performed during the progress of this laboratory.]
3. **Reading:** [Demonstrate understanding of written instructions, as well as other written materials provided during the pre-lab or laboratory activity, as well as quiz#2.]
4. **Writing:** [Write laboratory reports, test answers, and BLACKBOARD postings effectively, demonstrating adequate use of the language (English) .]

**Electronic Links (URLs):** |

Topic: Biblioteca Virtual

<http://bibliotecavirtualut.suagm.edu/> |

Topic: APA

<https://owl.english.purdue.edu/owl/resource/560/01/>

Topic: Human reproductive system

<http://www.biopics.co.uk/human2/reprs.html>

<http://biology.clc.uc.edu/courses/bio105/reproduc.htm>

<http://training.seer.cancer.gov/anatomy/reproductive/>

<http://www.nlm.nih.gov/medlineplus/femalereproductivesystem.html>

Topic: Diseases and disorders of the reproductive

<http://www.cdc.gov/std/treatment/2010/chlamydial-infections.htm> (reference for case study)

Topic: Histology of the reproductive system

<http://www.indiana.edu/~anat215/virtualscope2/docs/chapter11.htm>

**Assignments before the Workshop:**

1. Visit the links provided in order to become familiarized with the anatomy, physiology, and pathology of the respiratory system.
2. Complete the Laboratory Report to be submitted at the beginning of workshop #8
3. Study for quiz#2
4. Conclude work on the content of the DIGITAL PORTFOLIO, using the **Digital Performance Portfolio Assessment Handbook**.
5. Complete the e-lab requirements for Workshop #8

**Key Core Vocabulary:** |

1. Androsterone
2. Bartholin's glands
3. Blastocyst
4. Bulbourethral glands
5. Clitoris
6. Cowper's glands
7. Ectopic pregnancy
8. Embryonic period
9. Epididymis
10. Estrogen
11. Fetal period
12. Follicle stimulating hormone
13. Lactiferous ducts
14. Leydig cells
15. Luteinizing hormone
16. Mammary glands
17. Menses
18. Morula
19. Oocyte
20. Organogenesis
21. Ovaries
22. Oviducts
23. Ovulation
24. Ovum
25. Parturition
26. Placenta |
27. Progesterone
28. Prostate
29. Scrotum
30. Semen
31. Seminiferous tubules
32. Sertoli cells
33. Skene's glands
34. Spermatozoon
35. STD
36. Testes
37. Trophoblast
38. Tubal pregnancy
39. Uterus
40. Vagina
41. Vas deferens
42. Vulva
43. Zygote |

**List of Supplementary Materials for the Workshop:**

1. Microscopes
2. Male and female torso models
3. Reproductive System Model
4. Wimba
5. Tell Me More
6. NetTutor

**SIOP Components** - Place a checkmark (✓) on the (\_\_\_) for **ALL** strategies that will be used in the workshop.

<p><b>A. Preparation</b></p> <p>___ Adaptation of Content</p> <p><input checked="" type="checkbox"/> Links to Background Knowledge</p> <p><input checked="" type="checkbox"/> Links to Past Learning</p> <p><input checked="" type="checkbox"/> Strategies Incorporated</p> <p>CALLA Strategies (Cognitive Academic Language Learning Approach)</p> <p><input checked="" type="checkbox"/> Cognitive</p> <p>___ Meta-cognitive</p> <p><input checked="" type="checkbox"/> Social/Affective</p> <p><b>C. Grouping Options</b></p> <p><input checked="" type="checkbox"/> Whole Class</p> <p><input checked="" type="checkbox"/> Small Groups</p> <p><input checked="" type="checkbox"/> Partners</p> <p><input checked="" type="checkbox"/> Independent Work</p>	<p><b>B. Scaffolding</b></p> <p><input checked="" type="checkbox"/> Modeling</p> <p><input checked="" type="checkbox"/> Guided Practice</p> <p><input checked="" type="checkbox"/> Independent Practice</p> <p><input checked="" type="checkbox"/> Comprehensible Input</p> <p><b>D. Integration of Processes</b></p> <p><input checked="" type="checkbox"/> Listening</p> <p><input checked="" type="checkbox"/> Speaking</p> <p><input checked="" type="checkbox"/> Reading</p> <p><input checked="" type="checkbox"/> Writing</p> <p><b>E. Application</b></p> <p><input checked="" type="checkbox"/> Hands-on</p> <p><input checked="" type="checkbox"/> Meaningful/Relevant</p> <p><input checked="" type="checkbox"/> Rigorous</p> <p><input checked="" type="checkbox"/> Link to Objectives</p> <p><input checked="" type="checkbox"/> Promote Engagement</p>
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## Integrated Activities of Content and Language to achieve Content and Language Objectives:

1. Students will submit their laboratory report and Digital Portfolio
2. Class discussion regarding the posting on BLACKBOARD, and the impact on health of the different disorders reviewed
3. Short review on the Reproductive System anatomy, histology and physiology in a manner of an open forum discussion.
4. Students will work in groups to identify the structures of the male and female reproductive system using the human torso model (male and female), and/or models of the reproductive system, as well as images/diagrams provided by the facilitator. After identifying them, each group will select 1(one) structure and will prepare a short presentation to introduce its anatomical and histological structure, anatomical location, function (s) and a disease or disorder that commonly affects it. The presentation will be delivered in a professional manner (students can use resources such a class notes, books, print outs from facilitator and online resources as available at the time).
5. Case study (completed in groups to be discussed in open forum):

*Ian Yrintrouble is a 22 year old college student. Recently he started experiencing some pain during urination and observed a small amount of yellowish discharge from the tip of his penis. Concerned that this could indicate a sexually transmitted disease he questioned his girlfriend, Mary Idintduit, while at the same time he had the feeling that Mary was wondering if he had been unfaithful to her. Ian went to his college health center and provided a urine sample that would be used to test for sexually transmitted disease. He tested positive for chlamydial infection, and was referred to a doctor at the clinic who gave him a prescription for antibiotics. After explaining the situation with his girlfriend, he told the doctor that Mary must be lying to him about not having sex with anyone since first dating him. The doctor explained to Ian that most women with chlamydial infections do not have symptoms and that she could have contracted the disease before they began seeing each other.*

*The doctor was concerned about Mary's health, because undiagnosed chlamydial infection in women can lead to pelvic inflammatory disease, so he asked Ian to contact her. He also explained that pelvic inflammatory disease is a cause of infertility and one of the leading causes of pregnancy related death. He also explained that Mary should inform prior sexual partners of her infection.*

### Case Background

Please refer to website provided:

<http://www.cdc.gov/std/treatment/2010/chlamydial-infections.htm#chlamydial>

Questions (group Assignment)

- A. Explain the major issues with chlamydia infections in a young adult population:
  - B. Why did the doctor advise Mary to notify past sexual partners?
  - C. Define the following terms.
    - a) Ectopic pregnancy
    - b) Tubal pregnancy
  - D. Why would chlamydia increase the risk of ectopic pregnancies? (clue: pelvic inflammatory disease)
6. Short review on the content for quiz#2 (Laboratories 4-8) |
  7. Quiz#2 (one hour)
  8. Q&A session and final thoughts on the class.

**Assessment:**

1. **Individual:** Individual laboratory work, laboratory report, pre-lab activities, Digital Portfolio, and Quiz#2
2. **Group:** [Laboratory activity completion, case study.]
3. **Written:** [laboratory report submission, quiz#2.]
4. **Oral:** [Class discussions and Q&A activities. |

**Lesson Wrap-Up:**

1. **Individual:** Quiz#2
2. **Group:** [Case study, and Q&A session.]

**APÉNDICES / APPENDIXES**

**APPENDIX A**

**NATIONAL PROFICIENCY LEVELS FOR DIFFERENTIATED INSTRUCTION**

**Retrieved from: WIDA Consortium <http://www.wida.us/>**



**“Can Do” Listening Rubric**

National Proficiency Levels	Criteria
Starting	<ul style="list-style-type: none"> <li>• Identifies objects</li> <li>• Names concrete objects</li> <li>• Points to picture/object of the word heard</li> <li>• Follows simple commands</li> <li>• Repeats words or simple phrases</li> <li>• Understands simple messages – gestures, pointing</li> </ul>
Emerging	<ul style="list-style-type: none"> <li>• Draws a picture</li> <li>• Requires continuous repetition</li> <li>• Follows verbal dictations</li> <li>• Checks-off words that were heard</li> <li>• Repeats information heard to determine comprehension</li> <li>• Understands slow speech and multiple repetitions</li> </ul>
Developing	<ul style="list-style-type: none"> <li>• Understands more details of spoken language</li> <li>• Needs limited or no repetition and slow speech</li> <li>• Understands basic academic vocabulary which is frequently used in class discussions</li> <li>• Understands class discussions with some difficulty</li> <li>• Understands most of what was said</li> </ul>
Expanding	<ul style="list-style-type: none"> <li>• Needs limited or no repetition at normal speed speech</li> <li>• Understands academic vocabulary used in class discussions</li> <li>• Understands class discussions with little difficulty</li> <li>• Understands nearly everything said</li> </ul>
Bridging	<ul style="list-style-type: none"> <li>• Needs no repetition at normal speed speech</li> <li>• Understands elaborate academic vocabulary used in class discussions</li> <li>• Understands class discussions with no difficulty</li> <li>• Demonstrates a native-like English speaker’s understanding of what is said</li> </ul>

**“Can Do” Speaking Rubric**

<b>National Proficiency Levels</b>	<b>Criteria</b>
Starting	<ul style="list-style-type: none"> <li>• Names concrete objects</li> <li>• Responds a simple yes or no to questions</li> <li>• Repeats words or simple phrases</li> <li>• Uses one word commands</li> <li>• Mispronounces words making it difficult to be understood</li> <li>• Breaks speech into parts making comprehension difficult</li> <li>• Uses limited or no vocabulary to support message</li> </ul>
Emerging	<ul style="list-style-type: none"> <li>• Uses a few more words to respond to questions although grammatically incorrect</li> <li>• Uses one-, two-, and multiple-word commands</li> <li>• Uses verb tenses interchangeably</li> <li>• Misuses words in daily speech</li> <li>• Repeats spoken words or phrases to improve understanding due to pronunciation flaws</li> <li>• Uses grammar and word order incorrectly</li> <li>• Uses vocabulary (emerging stage) to support oral messages</li> </ul>
Developing	<ul style="list-style-type: none"> <li>• Responds using longer phrases/sentences</li> <li>• Initiates and carries out conversations; however, there may be interruptions due to thinking of the correct words to say</li> <li>• Applies grammar and word order correctly most of the time</li> <li>• Demonstrates correct use of basic academic vocabulary which is frequently used in class discussions and/or oral assignments.</li> <li>• Speaks with some hesitation</li> <li>• Uses vocabulary to support oral messages</li> <li>• Speaks with less difficulty, but listener must pay close attention to pronunciation.</li> </ul>
Expanding	<ul style="list-style-type: none"> <li>• Responds using elaborate phrases/sentences</li> <li>• Uses and interprets idiomatic expressions</li> <li>• Converses more fluently in social settings</li> <li>• Uses academic vocabulary frequently in class discussions</li> <li>• Participates in class discussions using academic content with slight hesitation</li> <li>• Misuse of grammar and word order seldom occurs and does not interrupt meaning</li> <li>• Pronounces most words accurately and clearly</li> </ul>
Bridging	<ul style="list-style-type: none"> <li>• Speaks fluently</li> <li>• Uses elaborate academic vocabulary in all class discussions correctly</li> <li>• Participates in class discussion using academic content without hesitation</li> <li>• Uses appropriate vocabulary to support oral messages at all times</li> <li>• Uses correct grammar and word all the time</li> <li>• Speaks with native-like pronunciation and intonation</li> </ul>

**“Can Do” Reading Rubric**

National Proficiency Levels	Criteria
Starting	<ul style="list-style-type: none"> <li>• Lacks comprehension of a wide array of written material (not developed)</li> <li>• Lacks ability to interpret graphs, charts, tables, and forms in textbooks (not developed)</li> <li>• Struggles with use of pre-reading and reading skills (not developed)</li> <li>• Lacks ability to apply reading strategies in order to guess meanings of unfamiliar words from context (not developed)</li> <li>• Struggles with use of strategic reading skills (in order to plan his/her reading assignments, diagnose deficiencies, resolve deficiencies independently or with the help of others, etc.) (not developed)</li> </ul>
Emerging	<ul style="list-style-type: none"> <li>• Improving comprehension (slowly emerging) of a wide array of written material (e.g., fictional and non-fictional texts that bridge personal, professional and academic themes, news articles, short stories, short novels, etc.)</li> <li>• Demonstrates correct interpretation of basic graphs, charts, tables and forms in textbooks</li> <li>• Applies limited pre-reading (e.g., activation of prior knowledge, semantic maps, etc.) and reading skills (e.g., skimming, scanning, inferences, paragraph frames, DR, SQ4R, etc.) (slowly emerging)</li> <li>• Struggles with ability to use limited reading strategies to guess meanings of unfamiliar words from context (e.g., definition, restatement, examples, surrounding words, etc.) is</li> <li>• Strives to understand (even when not successful) the relationship between ideas (e.g., time, logical order, comparison/contrast, cause/effect), and reading patterns in order to identify literary genres (as listed above)</li> <li>• Applying successful reading skills (as listed above) are still emerging</li> </ul>
Developing	<ul style="list-style-type: none"> <li>• Comprehends a wide array of written material (as listed above)</li> <li>• Interprets basic graphs, charts, tables and forms</li> <li>• Applies correctly pre-reading and reading skills (as listed above)</li> <li>• Applies correct use of reading strategies to guess meanings of unfamiliar words from context (as listed above)-evidence of emerging.</li> <li>• Understands the relationship between ideas (as listed above)-evidence of emerging..</li> <li>• Uses strategic reading skills (as listed above) that are evident.</li> </ul>
Expanding	<ul style="list-style-type: none"> <li>• Comprehends a wide array of level-appropriate written materials (as listed above) w mature accuracy</li> <li>• Interprets increasingly complex graphs, charts, tables, and forms accurately</li> </ul>

	<ul style="list-style-type: none"> <li>• Applies pre-reading and reading skills (as listed above) very strongly</li> <li>• Applies strategies to guess meanings of unfamiliar words from context (as listed above) which is clearly evident</li> <li>• Identifies signal words to understand the relationship between ideas (as listed above) and reading patterns to identify literary genres (as listed above)- emerging strongly</li> <li>• Understands the relationship between ideas (as listed above)-strongly evident.</li> <li>• Uses strategic reading skills (as listed above) with mature accuracy</li> </ul>
Bridging	<ul style="list-style-type: none"> <li>• Comprehends various types and lengths of level appropriate written materials (as listed above)-fully developed</li> <li>• Interprets complex graphs, charts, tables, and forms accurately</li> <li>• Applies pre-reading and reading skills (as listed above)-fully developed</li> <li>• Applies reading strategies to determine the meaning of unfamiliar words in a text (as listed above) with accuracy</li> <li>• Understands the relationship between ideas (time, logical order, comparison/contrast cause/effect)</li> </ul> <p>Demonstrates fully developed strategic reading skills (as listed above)</p>

**“Can Do” Writing Rubric**

<b>National Proficiency Levels</b>	<b>Criteria</b>
Starting	<ul style="list-style-type: none"> <li>• Lacks clear writing and focus.. Details are limited or unclear. There’s no clear distinction to what important and what is supported.</li> <li>• Lacks engaging and drawing a conclusion. Paper simply starts and ends. Lack of transitions make it difficult to understand the paper.</li> <li>• Writes with limited use of vocabulary or specific words to transmit meaning of the essay. Misuse parts of speech makes it difficult to understand the writing.</li> <li>• Rambles- use of incomplete sentences that are too long to understand. Sentences follow a simple structure and or style.</li> <li>• Struggles with spelling, punctuation capitalization and other writing conventions. This makes it very difficult to understand the writing.</li> <li>• Lacks strategic writing skills (e. g., knowledge of the writing process; declarative, procedural and conditional knowledge; and strategies for inquiry, for drafting [such as investigating genre, considering audience, and responding to purpose], and for product revision) that are clearly not developed.</li> </ul>
Emerging	<ul style="list-style-type: none"> <li>• Writes sentences that are still unclear there seems to be a guide to a focused topic; however, it may drift at times. There is an attempt in details to support main idea. Reader can still feel confused.</li> <li>• Attempts to write an introduction and or conclusion. Use of transitions helps, but paper is in need more details.</li> <li>• Struggles with some vocabulary terms that are used inappropriately. Greater command of the part of speech is developing,. but many words are still used incorrectly.</li> <li>• Attempts to create a style of sentence structure here and there; although, for the most part it sticks one style.</li> <li>• Shows need of improving spelling, punctuation, capitalization, and other writing conventions. It is still difficult to read the writing; but there are signs of improvement.</li> <li>• Demonstrates emerging strategic writing skills.</li> </ul>
Developing	<ul style="list-style-type: none"> <li>• Writes with an unclear focus. Writing appears to be on one topic, but shifts to another topic at times. Support of main idea is lacking. Reader is left with unanswered questions.</li> <li>• Attempts to write a proper introduction and conclusion however, both are dull or unclear. Transitions help connect ideas although at times they distract the flow.</li> <li>• Selects and uses words appropriately; however, they are not higher level and need more vigor.</li> <li>• Formulates well-written sentences; however, style and structure of sentences are repetitious.</li> <li>• Demonstrates control of spelling, punctuation, capitalization, and other writing conventions. However, the writing could read and sound better by improving conventions.</li> <li>• Utilizes strategic writing skills properly (now evident).</li> </ul>

Expanding	<ul style="list-style-type: none"> <li>• Writes with a focus in mind; however, there is room for improvement. Needs more relevant detail to support the main idea. Some readers' questions can be answered, while others are left with doubt.</li> <li>• Uses a proper introduction and conclusion, however, some improvement is needed. Needs to continue using transitional words are properly in order to allow the proper flow of ideas.</li> <li>• Selects and uses vocabulary words that are much more livelier and appropriate. Some common wording can be improved.</li> <li>• Writes with a definite style, and sentence structure is "catchy" with few mistakes.</li> <li>• Demonstrates good control of spelling, punctuation, capitalization, and other writing conventions. Mistakes are few and nothing distracts from the writing.</li> <li>• Applies mature strategic writing skills.</li> </ul>
Bridging	<ul style="list-style-type: none"> <li>• Writing is clear and focused on a narrowed topic. Details are relevant and accurate, and they support the main ideas. Reader's questions are answered</li> <li>• Writing has a clear introduction that's hooks the reader and conclusion that leaves a lasting impression. Use of transitions helps the reader to connect ideas. Reading flows and not dull.</li> <li>• Words used in the writing are specific and accurate. Vivid verbs and modifying words are present. Words used enhance the meaning of the writing.</li> <li>• There is a variety in length and structure of the sentences. The style of sentences varies on how they begin. Sentences create fluency and rhythm.</li> <li>• Excellent control of spelling, punctuation capitalization and other writing conventions.</li> <li>• Strategic writing skills are fully developed.</li> </ul>

**APPENDIX B**  
**THE WRITING PROCESS**  
**6-TRAITS WRITING RUBRIC**

**Appendix B  
Six-Traits of Writing Rubric**

Student's Name: \_\_\_\_\_

Date: \_\_\_\_\_

Facilitator: \_\_\_\_\_ Course: \_\_\_\_\_

Assignment: \_\_\_\_\_

**Instructions:** This rubric will be used to evaluate all written work done by the student in both English and Spanish. Please refer to the trait that you are evaluating (i.e., Ideas and Content) and write the score in the appropriate box. Select the criteria per level (6= highest, 1=lowest) that best reflects the student's writing ability.

Refer to all the Appendix (D) sheets that describe, in detail, all the writing traits that you are evaluating in order to complete this rubric properly.

Writing Traits	Criteria per Level (From Highest to Lowest)						Grand Total:
	6	5	4	3	2	1	
Ideas and Content							
Organization							
Voice							
Word Choice							
Sentence Fluency							
Conventions							
<b>Totals (Add all the totals down, then across to obtain the Grand Total.)</b>							

Final Score: \_\_\_\_\_

**Scoring Scale: (36-0)**

**Outstanding:** 33-36 points = A

**Very Good:** 29-32 points = B

**Satisfactory:** 24-28 points = C

**Fair:** 19-23 points = D

**Poor:** 0-18 points = F



**Six Traits for Analytic Writing Rubrics**

**Trait #1: Idea and Content**

Criteria per Level Source: Arizona Department of Education. AIMS Six Trait Analytic Writing Rubric.

Retrieved from <https://www.ade.state.az.us/standards/6traits/>

6	<p>The writing is exceptionally clear, focused and interesting. It holds the reader’s attention throughout. Main ideas stand out and are developed by strong support and rich details suitable to audience and purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• clarity, focus, and control.</li> <li>• main idea(s) that stand out.</li> <li>• supporting, relevant, carefully selected details; when appropriate, use of resources provides strong, accurate, credible support</li> <li>• a thorough, balanced, in-depth explanation/ exploration of the topic; the writing makes connections and shares insights.</li> <li>• content and selected details that are well suited to audience and purpose.</li> </ul>
5	<p>The writing is clear, focused and interesting. It holds the reader’s attention. Main ideas stand out and are developed by supporting details suitable to audience and purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• clarity, focus, and control.</li> <li>• main idea(s) that stand out.</li> <li>• supporting, relevant, carefully selected details; when appropriate, use of resources provides strong, accurate, credible support.</li> <li>• a thorough, balanced explanation/exploration of the topic; the writing makes connections and shares insights.</li> <li>• content and selected details that are well-suited to audience and purpose.</li> </ul>
4	<p>The writing is clear and focused. The reader can easily understand the main ideas. Support is present, although it may be limited or rather general. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an easily identifiable purpose.</li> <li>• clear main idea(s)</li> <li>• supporting details that are relevant, but may be overly general or limited in places; when appropriate, resources are used to provide accurate support.</li> <li>• a topic that is explored/explained, although developmental details may occasionally be out of balance with the main idea(s); some connections and insights may be present.</li> <li>• content and selected details that are relevant, but perhaps not consistently well chosen for audience and purpose.</li> </ul>
3	<p>The reader can understand the main ideas, although they may be overly broad or simplistic, and the results may not be effective. Supporting detail is often limited, insubstantial, overly general, or occasionally slightly off-topic. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an easily identifiable purpose and main idea(s).</li> <li>• predictable or overly-obvious main ideas or plot; conclusions or main points seem to echo observations heard elsewhere.</li> <li>• support that is attempted; but developmental details that are often limited in scope, uneven, somewhat off-topic, predictable, or overly general.</li> <li>• details that may not be well-grounded in credible resources; they may be based on clichés, stereotypes or questionable sources of information.</li> <li>• difficulties when moving from general observations to specifics.</li> </ul>
2	<p>Main ideas and purpose are somewhat unclear or development is attempted but minimal. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a purpose and main idea(s) that may require extensive inferences by the reader.</li> <li>• minimal development; insufficient details.</li> <li>• irrelevant details that clutter the text.</li> <li>• extensive repetition of detail.</li> </ul>
1	<p>The writing lacks a central idea or purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• ideas that are extremely limited or simply unclear.</li> <li>• attempts at development that are minimal or non-existent; the paper is too short to demonstrate the development of an idea.</li> </ul>

Source: Arizona Department of Education. AIMS Six Trait Analytic Writing Rubric.

Retrieved from <https://www.ade.state.az.us/standards/6traits/>

**Trait #2: Organization**

## Criteria per Level

6	<p>The organization enhances the central idea(s) and its development. The order and structure are compelling and move the reader through the text easily. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• effective, perhaps creative, sequencing; the organizational structure fits the topic, and the writing is easy to follow.</li> <li>• a strong, inviting beginning that draws the reader in and a strong satisfying sense of resolution or closure.</li> <li>• smooth, effective transitions among all elements (sentences, paragraphs, and ideas).</li> <li>• details that fit where placed</li> </ul>
5	<p>The organization enhances the central idea(s) and its development. The order and structure are strong and move the reader through the text. The writing is characterized by.</p> <ul style="list-style-type: none"> <li>• effective sequencing; the organizational structure fits the topic, and the writing is easy to follow.</li> <li>• an inviting beginning that draws the reader in and a satisfying sense of resolution or closure.</li> <li>• smooth, effective transitions among all elements (sentences, paragraphs, and ideas).</li> <li>• details that fit where placed. .</li> </ul>
4	<p>Organization is clear and coherent. Order and structure are present, but may seem formulaic. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• clear sequencing.</li> <li>• an organization that may be predictable.</li> <li>• a recognizable, developed beginning that may not be particularly inviting; a developed conclusion that may lack subtlety.</li> <li>• a body that is easy to follow with details that fit where placed.</li> <li>• transitions that may be stilted or formulaic.</li> <li>• organization which helps the reader, despite some weaknesses.</li> </ul>
3	<p>An attempt has been made to organize the writing; however, the overall structure is inconsistent or skeletal. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• attempts at sequencing, but the order or the relationship among ideas may occasionally be unclear.</li> <li>• a beginning and an ending which, although present, are either undeveloped or too obvious (e.g. “My topic is...”, “These are all the reasons that...”)</li> <li>• transitions that sometimes work. The same few transitional devices (e.g., coordinating conjunctions, numbering, etc.) may be overused.</li> <li>• a structure that is skeletal or too rigid.</li> <li>• placement of details that may not always be effective.</li> <li>• organization which lapses in some places, but helps the reader in others.</li> </ul>
2	<p>The writing lacks a clear organizational structure. An occasional organizational device is discernible; however, the writing is either difficult to follow and the reader has to reread substantial portions, or the piece is simply too short to demonstrate organizational skills. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• some attempts at sequencing, but the order or the relationship among ideas is frequently unclear.</li> <li>• a missing or extremely undeveloped beginning, body, and/or ending.</li> <li>• a lack of transitions, or when present, ineffective or overused.</li> <li>• a lack of an effective organizational structure.</li> <li>• details that seem to be randomly placed, leaving the reader frequently confused.</li> </ul>
1	<p>The writing lacks coherence; organization seems haphazard and disjointed. Even after rereading, the reader remains confused. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a lack of effective sequencing.</li> <li>• a failure to provide an identifiable beginning, body and/or ending.</li> <li>• a lack of transitions.</li> <li>• pacing that is consistently awkward; the reader feels either mired down in trivia or rushed along too rapidly.</li> <li>• a lack of organization which ultimately obscures or distorts the main point.</li> </ul>

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Retrieved from <https://www.ade.state.az.us/standards/6traits/>

**Trait #3: Voice**

## Criteria per Level

6	<p>The writer has chosen a voice appropriate for the topic, purpose and audience. The writer seems deeply committed to the topic, and there is an exceptional sense of “writing to be read.” The writing is expressive, engaging, or sincere. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an effective level of closeness to or distance from the audience (e.g., a narrative should have a strong personal voice, while an expository piece may require extensive use of outside resources and a more academic voice; nevertheless, both should be engaging, lively, or interesting. Technical writing may require greater distance.).</li> <li>• an exceptionally strong sense of audience; the writer seems to be aware of the reader and of how to communicate the message most effectively. The reader may discern the writer behind the words and feel a sense of interaction.</li> <li>• a sense that the topic has come to life; when appropriate, the writing may show originality, liveliness, honesty, conviction, excitement, humor, or suspense.</li> </ul>
5	<p>The writer has chosen a voice appropriate for the topic, purpose, and audience. The writer seems committed to the topic, and there is a sense of “writing to be read.” The writing is expressive, engaging or sincere. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an appropriate level of closeness to or distance from the audience (e.g., a narrative should have a strong personal voice while an expository piece may require extensive use of outside resources and a more academic voice; nevertheless, both should be engaging, lively or interesting. Technical writing may require greater distance.).</li> <li>• a strong sense of audience; the writer seems to be aware of the reader and of how to communicate the message most effectively. The reader may discern the writer behind the words and feel a sense of interaction.</li> <li>• a sense that the topic has come to life; when appropriate, the writing may show originality, liveliness, honesty, conviction, excitement, humor, or suspense.</li> </ul>
4	<p>A voice is present. The writer demonstrates commitment to the topic, and there may be a sense of “writing to be read.” In places, the writing is expressive, engaging, or sincere. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a questionable or inconsistent level of closeness to or distance from the audience.</li> <li>• a sense of audience; the writer seems to be aware of the reader but has not consistently employed an appropriate voice. The reader may glimpse the writer behind the words and feel a sense of interaction in places.</li> <li>• liveliness, sincerity, or humor when appropriate; however, at times the writing may be either inappropriately casual or personal, or inappropriately formal and stiff.</li> </ul>
3	<p>The writer’s commitment to the topic seems inconsistent. A sense of the writer may emerge at times; however, the voice is either inappropriately personal or inappropriately impersonal. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a limited sense of audience; the writer’s awareness of the reader is unclear.</li> <li>• an occasional sense of the writer behind the words; however, the voice may shift or disappear a line or two later and the writing become somewhat mechanical.</li> <li>• a limited ability to shift to a more objective voice when necessary.</li> </ul>
2	<p>The writing provides little sense of involvement or commitment. There is no evidence that the writer has chosen a suitable voice. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• little engagement of the writer; the writing tends to be largely flat, lifeless, stiff, or mechanical.</li> <li>• a voice that is likely to be overly informal and personal.</li> <li>• a lack of audience awareness; there is little sense of “writing to be read.”</li> <li>• little or no hint of the writer behind the words. There is rarely a sense of interaction between reader and writer.</li> </ul>
1	<p>The writing seems to lack a sense of involvement or commitment. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• no engagement of the writer; the writing is flat and lifeless.</li> <li>• a lack of audience awareness; there is no sense of “writing to be read.”</li> <li>• no hint of the writer behind the words. There is no sense of interaction between writer and reader; the writing does not involve or engage the reader.</li> </ul>

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Retrieved from <https://www.ade.state.az.us/standards/6traits/>

**Trait #4: Word Choice**

Criteria per Level

6	<p>Words convey the intended message in an exceptionally interesting, precise, and natural way appropriate to audience and purpose. The writer employs a rich, broad range of words, which have been carefully chosen and thoughtfully placed for impact. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• accurate, strong, specific words; powerful words energize the writing.</li> <li>• fresh, original expression; slang, if used, seems purposeful and is effective.</li> <li>• vocabulary that is striking and varied, but that is natural and not overdone.</li> <li>• ordinary words used in an unusual way.</li> <li>• words that evoke strong images; figurative language may be used.</li> </ul>
5	<p>Words convey the intended message in an interesting, precise, and natural way appropriate to audience and purpose. The writer employs a broad range of words which have been carefully chosen and thoughtfully placed for impact. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• accurate, specific words; word choices energize the writing.</li> <li>• fresh, vivid expression; slang, if used, seems purposeful and is effective.</li> <li>• vocabulary that may be striking and varied, but that is natural and not overdone.</li> <li>• ordinary words used in an unusual way.</li> <li>• words that evoke clear images; figurative language may be used</li> </ul>
4	<p>Words effectively convey the intended message. The writer employs a variety of words that are functional and appropriate to audience and purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• words that work but do not particularly energize the writing.</li> <li>• expression that is functional; however, slang, if used, does not seem purposeful and is not particularly effective.</li> <li>• attempts at colorful language that may occasionally seem overdone.</li> <li>• occasional overuse of technical language or jargon.</li> <li>• rare experiments with language; however, the writing may have some fine moments and generally avoids clichés.</li> </ul>
3	<p>Language is quite ordinary, lacking interest, precision and variety, or may be inappropriate to audience and purpose in places. The writer does not employ a variety of words, producing a sort of “generic” paper filled with familiar words and phrases. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• words that work, but that rarely capture the reader’s interest.</li> <li>• expression that seems mundane and general; slang, if used, does not seem purposeful and is not effective.</li> <li>• attempts at colorful language that seem overdone or forced.</li> <li>• words that are accurate for the most part, although misused words may occasionally appear, technical language or jargon may be overused or inappropriately used.</li> <li>• reliance on clichés and overused expressions.</li> </ul>
2	<p>Language is monotonous and/or misused, detracting from the meaning and impact. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• words that are colorless, flat or imprecise.</li> <li>• monotonous repetition or overwhelming reliance on worn expressions that repeatedly distract from the message.</li> <li>• images that are fuzzy or absent altogether.</li> </ul>
1	<p>The writing shows an extremely limited vocabulary or is so filled with misuses of words that the meaning is obscured. Only the most general kind of message is communicated because of vague or imprecise language. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• general, vague words that fail to communicate.</li> <li>• an extremely limited range of words.</li> <li>• words that simply do not fit the text; they seem imprecise, inadequate, or just plain wrong.</li> </ul>

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Retrieved from <https://www.ade.state.az.us/standards/6traits/>

**Trait #5: Sentence Fluency**

Criteria per Level

6	<p>The writing has an effective flow and rhythm. Sentences show a high degree of craftsmanship, with consistently strong and varied structure that makes expressive oral reading easy and enjoyable. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a natural, fluent sound; it glides along with one sentence flowing effortlessly into the next.</li> <li>• extensive variation in sentence structure, length, and beginnings that add interest to the text.</li> <li>• sentence structure that enhances meaning by drawing attention to key ideas or reinforcing relationships among ideas.</li> <li>• varied sentence patterns that create an effective combination of power and grace.</li> <li>• strong control over sentence structure; fragments, if used at all, work well.</li> <li>• stylistic control; dialogue, if used, sounds natural.</li> </ul>
5	<p>The writing has an easy flow and rhythm. Sentences are carefully crafted, with strong and varied structure that makes expressive oral reading easy and enjoyable. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a natural, fluent sound; it glides along with one sentence flowing into the next.</li> <li>• variation in sentence structure, length, and beginnings that add interest to the text.</li> <li>• sentence structure that enhances meaning.</li> <li>• control over sentence structure; fragments, if used at all, work well.</li> <li>• stylistic control; dialogue, if used sounds natural.</li> </ul>
4	<p>The writing flows; however, connections between phrases or sentences may be less than fluid. Sentence patterns are somewhat varied, contributing to ease in oral reading. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a natural sound; the reader can move easily through the piece, although it may lack a certain rhythm and grace.</li> <li>• some repeated patterns of sentence structure, length, and beginnings that may detract somewhat from overall impact.</li> <li>• strong control over simple sentence structures, but variable control over more complex sentences; fragments, if present, are usually effective.</li> <li>• occasional lapses in stylistic control; dialogue, if used, sounds natural for the most part, but may at times sound stilted or unnatural.</li> </ul>
3	<p>The writing tends to be mechanical rather than fluid. Occasional awkward constructions may force the reader to slow down or reread. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• some passages that invite fluid oral reading; however, others do not.</li> <li>• some variety in sentences structure, length, and beginnings, although the writer falls into repetitive sentence patterns.</li> <li>• good control over simple sentence structures, but little control over more complex sentences; fragments, if present, may not be effective.</li> <li>• sentences which, although functional, lack energy.</li> <li>• lapses in stylistic control; dialogue, if used, may sound stilted or unnatural.</li> </ul>
2	<p>The writing tends to be either choppy or rambling. Awkward constructions often force the reader to slow down or reread. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• significant portions of the text that are difficult to follow or read aloud.</li> <li>• sentence patterns that are monotonous (e.g., subject-verb or subject-verb-object).</li> <li>• a significant number of awkward, choppy, or rambling constructions.</li> </ul>
1	<p>The writing is difficult to follow or to read aloud. Sentences tend to be incomplete, rambling, or very awkward. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• text that does not invite—and may not even permit—smooth oral reading.</li> <li>• confusing word order that is often jarring and irregular.</li> <li>• sentence structure that frequently obscures meaning.</li> <li>• sentences that are disjointed, confusing, or rambling.</li> </ul>

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**Trait #6: Conventions**

Criteria per Level

6	<p>The writing demonstrates exceptionally strong control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage) and uses them effectively to enhance communication. Errors are so few and so minor that the reader can easily skim right over them unless specifically searching for them. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• strong control of conventions; manipulation of conventions may occur for stylistic effect.</li> <li>• strong, effective use of punctuation that guides the reader through the text.</li> <li>• correct spelling, even of more difficult words.</li> <li>• paragraph breaks that reinforce the organizational structure.</li> <li>• correct grammar and usage that contribute to clarity and style.</li> <li>• skill in using a wide range of conventions in a sufficiently long and complex piece.</li> <li>• little or no need for editing.</li> </ul>
5	<p>The writing demonstrates strong control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage) and uses them effectively to enhance communication. Errors are so few and so minor that they do not impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• strong control of conventions.</li> <li>• effective use of punctuation that guides the reader through the text.</li> <li>• correct spelling, even of more difficult words.</li> <li>• paragraph breaks that reinforce the organizational structure.</li> <li>• correct capitalization; errors, if any, are minor.</li> <li>• correct grammar and usage that contribute to clarity and style.</li> <li>• skill in using a wide range of conventions in a sufficiently long and complex piece.</li> <li>• little need for editing.</li> </ul>
4	<p>The writing demonstrates control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage). Minor errors, while perhaps noticeable, do not impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• control over conventions used, although a wide range is not demonstrated.</li> <li>• correct end-of-sentence punctuation, internal punctuation may sometimes be incorrect.</li> <li>• spelling that is usually correct, especially on common words.</li> <li>• basically sound paragraph breaks that reinforce the organizational structure.</li> <li>• correct capitalization; errors, if any, are minor.</li> <li>• occasional lapses in correct grammar and usage; problems are not severe enough to distort meaning or confuse the reader.</li> <li>• moderate need for editing.</li> </ul>
3	<p>The writing demonstrates limited control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage). Errors begin to impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• some control over basic conventions; the text may be too simple to reveal mastery.</li> <li>• end-of-sentence punctuation that is usually correct; however, internal punctuation contains frequent errors.</li> <li>• spelling errors that distract the reader; misspelling of common words occurs.</li> <li>• paragraphs that sometimes run together or begin in ineffective places.</li> <li>• capitalization errors.</li> <li>• errors in grammar and usage that do not block meaning but do distract the reader.</li> <li>• significant need for editing.</li> </ul>
2	<p>The writing demonstrates little control of standard writing conventions. Frequent, significant errors impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• little control over basic conventions.</li> <li>• many end-of-sentence punctuation errors; internal punctuation contains frequent errors.</li> <li>• spelling errors that frequently distract the reader; misspelling of common words often occurs.</li> <li>• paragraphs that often run together or begin in ineffective places.</li> <li>• capitalization that is inconsistent or often incorrect.</li> <li>• errors in grammar and usage that interfere with readability and meaning.</li> <li>• substantial need for editing.</li> </ul>
1	<p>Numerous errors in usage, spelling, capitalization, and punctuation repeatedly distract the reader and make the text difficult to read. In fact, the severity and frequency of errors are so overwhelming that the reader finds it difficult to focus on the message and must reread for meaning. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• very limited skill in using conventions.</li> <li>• basic punctuation (including end-of-sentence punctuation) that tends to be omitted, haphazard, or incorrect.</li> <li>• frequent spelling errors that significantly impair readability.</li> <li>• paragraph breaks that may be highly irregular or so frequent (every sentence) that they bear no relation to the organization of the text.</li> <li>• capitalization that appears to be random.</li> <li>• a need for extensive editing.</li> </ul>

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**APÉNDICE C/APPENDIX C**

**Información acerca del laboratorio de idiomas y el *E-Lab*/**

**Language Lab and E-Lab Information**

### Información acerca del laboratorio de idiomas y el *E-Lab*

El **laboratorio de idiomas** y el *E-Lab* están diseñados para ayudar a los estudiantes a desarrollar sus habilidades lingüísticas en inglés y en español y a lograr los objetivos de aprendizaje a lo largo de su carrera. Ambos cuentan con una amplia variedad de ejercicios visuales y auditivos en línea, recursos de investigación y actividades de escritura guiada, que les permiten a los estudiantes mejorar sus habilidades de comprensión auditiva y de lectura, pronunciación, desarrollo de vocabulario, gramática y escritura.

El laboratorio de idiomas también ofrece un paquete de 140 páginas web de *English for Speakers of Other Languages* (ESOL, por sus siglas en inglés: Inglés para hablantes de otros idiomas) seleccionadas cuidadosamente, así como otras páginas web en español con el fin de satisfacer las necesidades de los estudiantes. En adición, el laboratorio de idiomas y el *E-Lab* cuentan con otros programas informáticos para el aprendizaje del idioma y del contenido académico, tales como *Tell Me More*, *NetTutor* y *Wimba Voice*.

*Tell Me More* es un sistema eficaz para el aprendizaje de inglés y español, que les permite a los estudiantes reforzar sus destrezas y además cumplir con las horas de laboratorio requeridas en sus clases. Para poder usar este programa, los estudiantes necesitan tener Internet, el navegador *Internet Explorer* y acceso a la plataforma *Blackboard*.

El sistema inicialmente evaluará el nivel de conocimiento de los estudiantes y creará un programa de aprendizaje adaptado a las especificidades de lenguaje de cada uno, lo que permitirá medir el progreso individual. Los estudiantes podrán mejorar su pronunciación, gramática y destrezas auditivas desde el nivel de principiante hasta el nivel avanzado con dos perfiles diferentes: lenguaje de comunicación y lenguaje de negocios.

*NetTutor* es un servicio de tutoría en línea, que cuenta con tutoría en vivo para materias cuánticas y de computación (tiene horarios fijos). En los cursos en los que no se ofrece tutoría en vivo, los estudiantes pueden publicar sus dudas, que les serán contestadas en un lapso de 72 horas. El sistema también cuenta con un banco de preguntas y respuestas frecuentes disponible las 24 horas del día, los 7 días de la semana. *NetTutor* se puede acceder remotamente siempre que exista conexión a Internet. Este servicio ofrece tutorías en las siguientes materias:

- Inglés (disponible para todos los cursos)
- Español (disponible para todos los cursos)
- Estadística (el estudiante debe estar matriculado en el curso)
- Matemáticas (el estudiante debe estar matriculado en el curso)
- Contabilidad (el estudiante debe estar matriculado en el curso)
- Sistemas de información computarizada (el estudiante debe estar matriculado en el curso).



**Wimba Voice** es una herramienta electrónica que promueve el uso de la voz en línea durante el desarrollo del material académico y permite a su vez la interacción entre los estudiantes y el facilitador. Los estudiantes usarán **Wimba Voice** para participar en los foros de discusión oral en línea, preparar presentaciones orales, enviar mensajes de voz y cumplir con otras asignaciones. El programa cuenta con 5 funciones:

- **Voice Authoring:** permite grabar y escuchar contenido oral en páginas web.
- **Voice Discussion Board:** permite publicar y escuchar mensajes orales en un foro de discusión en línea.
- **Voice Presentation:** permite presentar contenido de páginas web con mensajes de voz.
- **Voice E-mail:** permite enviar correos electrónicos con mensajes de voz.
- **Voice Podcaster:** permite crear y distribuir mensajes orales a los participantes.

### **Language Lab and E-Lab Information**

The **Language Lab** and **E-Lab** are designed to help students strengthen their linguistic skills in English and Spanish and to fulfill the content objectives of the course. Both labs count with a wide variety of visual and auditory on-line exercises, Internet-based research, and guided writing activities, that allow students to improve their skills in listening and reading comprehension, pronunciation, vocabulary building, grammar, and writing.

The Language Lab also includes a package of 140 carefully selected English for Speakers of Other Languages (ESOL) Web sites, as well as other Spanish Web pages to meet the students' needs. Additionally, the Language Lab and E-Lab have other software to boost language and academic content learning such as Tell Me More, NetTutor, and Wimba Voice.

**Tell Me More** is an effective system for English and Spanish learning that allows students to strengthen their skills and fulfill the language lab hours required in each class. Students must have Internet connection, Internet Explorer browser, and access to Blackboard to be able to use this program.

The system will initially assess students' knowledge and create a learning path specifically tailored to each student's needs, thus allowing facilitators to measure every student's progress. Students will be able to improve pronunciation, grammar and listening skills from beginner to advanced levels with two different profiles: everyday language and business oriented language.

**NetTutor** is an online tutoring service, which provides live tutoring for numerical and computer classes (scheduled hours apply). For those classes which do not have live

tutoring, students can post questions and they will be answered within 72 hours. The system also has a “Frequently Asked Questions” section available 24/7. NetTutor can be accessed remotely with an Internet connection. This service offers tutoring for the following subjects:

- English (available for all courses)
- Spanish (available for all courses)
- Statistics (student must be enrolled in the course)
- Mathematics (student must be enrolled in the course)
- Accounting (student must be enrolled in the course)
- Computer Information Systems (student must be enrolled in the course)

**Wimba Voice** is an electronic tool that promotes the use of voice online during the development of the academic content, and allows students/facilitator interaction. Students will use Wimba Voice to create voice posts for discussion boards, prepare voice presentations, send voice e-mails, and for other assignments. The Wimba Voice program has 5 functions:

- **Voice Authoring:** allows recording and listening to voice content on a webpage.
- **Voice Discussion Board:** allows posting and listening to voice messages within discussion boards.
- **Voice Presentation:** allows presenting web content alongside voice messages.
- **Voice E-mail:** allows sending voice messages via e-mail.
- **Voice Podcaster:** allows creating and distributing voice messages to participants.

**APÉNDICE D/APPENDIX D**

**LANGUAGE LAB/E-LAB DOCUMENTATION**

Each student will complete this form and give it to the facilitator to be included as part of the assessment criteria for the class. Students will receive **one (1) point** for every hour spent in the language lab for a total of up to **four (4) points per workshop** for the completion of the exercises recommended.

**Ana G. Méndez University System**

**Language Lab/E-Lab  
Attendance Log**

**Student's Name:**

\_\_\_\_\_

**Student's ID Number:** \_\_\_\_\_

**Course Requiring Lab Hours (e.g. ENGL 050, MANA 501):**

\_\_\_\_\_

**Facilitator's Name:**

\_\_\_\_\_

**Semester:** \_\_\_\_\_ **PT:** \_\_\_\_\_

**Appendix D**

[10/31/2013 |

**Language Lab/E-Lab Documentation**

Each student should complete this form and submit it weekly to the facilitator as part of the class evaluation.

**Points:** \_\_\_\_\_

AREAS OF IMPROVEMENT AND/OR SUGGESTED BY	DATE	ELECTRONIC RESOURCES USED AND	AGM CLASSROOM LAB. (L)	STAFF/FACULTY SIGNATURE
		Tell Me More		
		NetTutor		

		<b>Wimba Voice</b>		
		<b>Internet- Based Research (Virtual Library)</b>		
		<b>English and/or Spanish Websites Activities</b>		

**Total number of hours: \_\_\_\_\_**