



وزارة التعليم العالي والبحث العلمي

دليل الدراسة لكليات الطب البيطري بالجامعات
الليبية

2022 م



توطئة

الدول الحريضة على التعليم واكتساب المعرفة والخبرة اللازمة تعد أهم استثماراتنا و ثرواتها ألا وهي عقول أبنائنا . لهذا اقتضت المنهجية العلمية أن تطرح النتيجة التي جاءت بها والفكرة التي اهتدت إليها ومن ثم يتبعها التطبيق الكاشف عن دقائقها الموضح لجزئياتها.

لهذا تم وضع هذا الدليل بشأن اللوائح التنظيمية لكليات الطب البيطري بالجامعات الليبية والخطة الدراسية المعتمدة وفق توصيف المقررات الدراسية.

من هنا ينبغي العمل بهذا الدليل للرفع من النتاج العلمي بحثاً وتدریساً لشتى علوم الطب البيطري. ولأنها توطئة سنأخذها ونسعى إلى تطبيقها للوصول إلى الجميع بمضمون الدليل بألية متبعة من أجل الهدف وتحقيق الفكرة.

ونحن إذ نقدم هذه الجهود فإننا نأمل أن نكون قد قدمنا شيئاً يساعدنا على فتح الأبواب أمام أهل العلم والمعرفة خدمة لوطننا الحبيب ليبيا مما يلبي احتياجات بلدنا لمؤهلين في مجال الطب البيطري وعلومه كافة تمكنهم من إحداث التطوير والتنمية في عالم يتسابق فيه الجميع نحو البناء ولا مكان فيه لغير العلماء والمتعلمين والمبدعين.

أ.د. عمران محمد القيب
وزير التعليم العالي والبحث العلمي



قرار وزير التعليم العالي والبحث العلمي

رقم (340) لسنة 2022 م

بشأن اعتماد دليل الدراسة لتكليات الطب البيطري بالجامعات الليبية

وزير التعليم العالي والبحث العلمي:

- بعد الاطلاع على الاعلان الدستوري المؤقت وتعديلاته.
- وعلى الاتفاق السياسي الليبي الموقع في (17 ديسمبر 2015 ميلادي).
- وعلى القانون رقم (12) لسنة (2010 مسيحي) بشأن إصدار قانون علاقات العمل ولائحته التنفيذية.
- وعلى القانون رقم (18) لسنة 2010 م بشأن التعليم.
- وعلى قرار مجلس النواب رقم (1) لسنة 2021 م بشأن منح الثقة لحكومة الوحدة الوطنية.
- وعلى قرار مجلس وزراء حكومة الوحدة الوطنية رقم (39) لسنة 2021 م بشأن اعتماد الهيكل التنظيمي وتحديد اختصاصات وزارة التعليم العالي والبحث العلمي وتنظيم جهازها الإداري.
- وعلى قرار مجلس الوزراء رقم (501) لسنة 2010 م بشأن إصدار لائحة تنظيم التعليم العالي وتعديلاته.
- وعلى ما عرضته السيد رئيس اللجنة العليا للتكليات الطبية والطبية المساعدة بالجامعات الليبية.

قرر

مسألة (1)

يتم بموجب أحكام هذا القرار اعتماد دليل الدراسة لتكليات الطب البيطري بالجامعات الليبية. إنفاق بهذا القرار.

مسألة (2)

يحمل بهذا القرار من تاريخ صدوره وعلى الجهات المعنية تنفيذه.

عبد الرحمن بن عبد الحميد الزقيبي

وزير التعليم العالي والبحث العلمي



مسجل
التاريخ: 2022/07/07
بالتاريخ: 2022/07/07

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اللائحة الداخلية لنظام الدراسة والامتحانات
بالجامعات الليبية
2022م

الفصل الأول: احكام عامة

مادة (1) : تعريفات

تدل العبارات الآتية أينما وردت في هذه اللائحة علي المدلولات المبينة قرين كل منها مالم يدل السياق علي خلاف ذلك:

مجلس الكلية: يتألف مجلس الكلية من عميد الكلية وكيل الكلية للشؤون العلمية، ورؤساء الأقسام العلمية، مسجل الكلية وبحضور مدير مكتب الشؤون الإدارية والمالية بالكلية، ورؤساء نقابات أعضاء هيئة التدريس، والموظفين، والطلاب بالكلية فيما يتعلق بشؤونهم، ولا يكون لهم حق التصويت وهذا بناءً علي ما ذكر في قانون رقم (4) للجامعات لسنة 2018م.

عميد الكلية : هو الشخص الذي يتولى الإشراف المباشر على سير العمل بالكلية وتصريف أمورها العلمية والإدارية في حدود السياسات التي ترسمها الجامعة.

رئيس القسم العلمي: هو عضو هيئة تدريس يرأس المجلس العلمي للقسم.

المجلس العلمي للقسم: يتشكل المجلس العلمي للقسم من رئيس القسم وعضوية جميع أعضاء هيئة التدريس القارين به، ويتم اختيار مقرر من بينهم، ويجوز حضور أي من الأساتذة المتعاونين وذلك عند مناقشة الجانب الذي يخصه فقط ولا يحق له التصويت على قرارات المجلس.

عضو هيئة التدريس: وهو كل من يحمل مؤهلاً علمياً عالياً (الماجستير أو الدكتوراة) أو ما يعادلها من الشهادات التي تعترف بها الجهة المختصة بذلك؛ يؤهله للتدريس بإحدى مؤسسات التعليم العالي في إحدى التخصصات المعتمدة في الكلية ويقوم بعملية التدريس بها.

الطالب: هو الشخص الذي يدرس في هذه الكلية ابتداءً من تاريخ تسجيله في الدراسة حتى زوال هذه الصفة عنه إما بتخرجه أو بانسحابه أو بفصله من الكلية.

رقم القيد: رقم تسلسلي يمنح للطلاب عند تسجيله في الكلية، يدل على الكلية والعام الجامعي والسنة الدراسية التي بدأ فيها الطالب.

الساعة الدراسية: هي انتظام الطالب في الدراسة لمدة ساعة أسبوعياً على مدى عام دراسي كامل.

المقرر الدراسي: هو مادة دراسية متخصصة يدرسها الطالب، ويكون لكل مقرر اسم ورمز وتوصيف مفصل لمفرداته يميزه من حيث المحتوى عما سواه من مقررات

الممتلكات: هي جميع ما تمتلكه الكلية من أصول مادية منقولة وغير منقولة.

الكليات المناظرة: وهي أي كلية من كليات الطب البيطري في أي جامعة ليبية أو غير ليبية معترف بها من قبل وزارة التعليم.

الخطة الدراسية : هي مجموعة المقررات الدراسية والتي تشكل من وحداتها متطلبات التخرج التي يجب على الطالب اجتيازها بنجاح للحصول على درجة البكالوريوس في العلوم البيطرية.

الوحدة الدراسية المعتمدة: ساعة واحدة تدريس "محاضرة + عدد (ساعتين أو ثلاث) تدريب عملي" على مدى عام دراسي كامل.

المادة (2): نبذة عن كلية الطب البيطري

تأسست أول كلية طب بيطري سنة 1975م كواحدة من قلاع العلم بجامعة طرابلس، ومؤسسة علمية تلبى احتياجات المجتمع من الأطباء البيطريين وتساهم في دعم الاقتصاد الوطني من خلال العناية بصحة الحيوان وزيادة الإنتاج الحيواني والمحافظة على صحة الإنسان وحماية البيئة. وتأسست ثاني كلية طب بيطري عام 1988 م تحت اسم قسم صحة الحيوان والطب البيطري بجامعة عمر المختار.

المادة (3) أهداف الكلية

تهدف الدراسة والتدريب العملي والإكلينيكي بكلية الطب البيطري إلى:

1. تخريج أطباء بمعرفة وخبرات مهنية في العلوم الطبية البيطرية والتي تمكنهم من أداء دورهم الفعال والحيوي في المجتمع.
2. تأهيل حملة البكالوريوس في الطب البيطري بمستويات علمية عالية عن طريق الدراسات العليا.
3. توفير الخدمات الصحية البيطرية والدراسات والاستشارات العلمية والتدريب والتعليم المستمر.
4. المشاركة في التنمية الاقتصادية في ليبيا عن طريق حماية الثروة الحيوانية من الأمراض.

5. المشاركة في البرامج العلمية الثقافية وورش العمل والندوات والمؤتمرات المحلية والدولية والتواصل مع الهيئات والمنظمات العالمية ذات العلاقة.
6. المساهمة في نشر الوعي الطبي المجتمعي عن طريق إعداد برامج إرشادية وإقامة دورات وندوات تعليمية.
7. التعاون مع الكليات المناظرة لها بالجامعات الأخرى في التدريس والبحث العلمي.

المادة (4) لغة الدراسة

اللغة الانجليزية هي لغة الدراسة بالكليات الطبية البيطرية، ويجوز استخدام اللغة العربية وفق ما يتطلبه تنفيذ البرنامج الدراسي المعتمد بموجب هذه اللائحة.

المادة (5) الدرجات العلمية

وفقاً لنظم الدراسة والامتحانات المقررة بهذه اللائحة مع عدم الأخلاص بالشروط والأسس المنظمة والمنصوص عليها في هذه اللائحة تمنح كليات الطب البيطري بليبيا درجة الإجازة الجامعية المتخصصة "بكالوريوس العلوم الطبية البيطرية" بعد اجتياز الطالب جميع المقررات الدراسية بنجاح وقضاء فترة التدريب (الامتياز).

المادة (6) الأقسام العلمية

أ - تضم كلية الطب البيطرية عشرة أقسام علمية تشرف على تدريس المقررات الدراسية وهي:

الرقم	القسم	Department
1	قسم التشريخ والانسجة والاجنة ويشمل تدريس: علم التشريخ - علم الانسجة والاجنة.	Department of Anatomy, Histology and Embryology (Anatomy, Histology and Embryology)
2	قسم وظائف الأعضاء والكمياء الحيوية والتغذية ويشمل تدريس: علم وظائف الأعضاء-الكمياء الحيوية - تغذية الحيوان.	Department of Physiology, Biochemistry and Nutrition (Physiology, Biochemistry and Animal Nutrition)
3	قسم الاحياء الدقيقة والطفيليات ويشمل تدريس: علم الاحياء الدقيقة - علم الطفيليات.	Department of Microbiology and Parasitology (Microbiology and Parasitology)
a	قسم الامراض والتشخيص المعملية ويشمل تدريس: علم الامراض - التشخيص المعملية.	Department of Pathology and Clinic pathology (Pathology and Clinical pathology)
5	قسم الادوية والطب الشرعي والسموم ويشمل تدريس: علم الادوية - علم الطب الشرعي والسموم).	Forensic & Toxicology Department of Pharmacology, Medicine (Pharmacology, Toxicology & Forensic Medicine)
6	قسم الطب الوقائي ويشمل تدريس: علم الطب الوقائي (الأوبئة و الامراض المشتركة وصحة الحيوان) - رعاية الحيوان - الوراثة والانسال.	Department of Preventive Medicine Preventive Medicine (Epidemiology, Zoonosis, Animal Health) - Animal Husbandry - Genetics
7	قسم الرقابة الصحية على الاغذية ويشمل تدريس: الرقابة الصحية على اللحوم - الرقابة الصحية على الالبان	Department of Food Hygiene (Meat Hygiene, Milk Hygiene)
8	قسم امراض الدواجن والاسماك ويشمل تدريس: امراض الدواجن - امراض الاسماك	Department of Poultry and Fish Diseases (Poultry Disease and Fish Diseases)
9	قسم الباطنة والامراض المعدية ويشمل تدريس: امراض الباطنة - الامراض المعدية.	Department of Medicine and Infectious Disease (Medicine, Infectious Disease)
10	قسم الجراحة والتناسليات ويشمل تدريس: علم الجراحة والتخدير والاشعة - علم الولادة والتناسليات.	Department of Surgery and Theriogenology (Surgery, Anesthesia & Radiology - Theriogenology)

ب - لمجلس الكلية استحداث أو إلغاء أو دمج أقسام علمية أخرى إذا اقتضت الحاجة إلى ذلك لمواكبة التطورات العلمية في مجالات العلوم الطبية البيطرية وذلك بعد الاعتماد من مجلس الجامعة، على أن يصدر بذلك قرار من وزارة التعليم العالي والبحث العلمي بناءً على توصية مجلسي الجامعة والكلية.

المادة (7) منظومة التسجيل والدراسة والامتحانات

أ. يكون بالكلية منظومة الكترونية تسمى منظومة التسجيل والدراسة والامتحانات مركزية تعمل بإشراف قسم الدراسة والامتحانات ومسجل الكلية، تحفظ بها بيانات الطلاب وكل ما يتعلق بالدراسة والامتحانات وعلى الأخص:

- ملف الطالب الشخصي، وهو ملف إداري يتضمن البيانات الشاملة عن الطالب وفق النموذج المُعد لذلك.
 - الملف الدراسي، ويحتوي على بطاقة الطالب الدراسية من تاريخ تسجيله بالكلية إلى تاريخ تخرجه أو انتقاله أو فصله منها وتتضمن المقررات المسجل بها والمقررات المعادلة والنتائج وإيقاف القيد والمراجعة الموضوعية والتحقيق والتأديب والإنذار والفصل من الدراسة.
- ب. تُوثق البيانات بمعرفة مكتب التسجيل المختص، ولا يُعتمد بأي وثيقة صادرة تخص الطالب ما لم تكن مطابقة لبيانات المنظومة ومعتمدة من الجهة المختصة بإصدارها.

مادة (8) المشرف الأكاديمي

تُكلف الكلية لكل طالب أستاذا مشرفا ويكون من بين أعضاء هيئة التدريس بالكلية حيث يتولى الأستاذ المشرف على وجه الخصوص:

1. إعداد وحفظ ملف علمي للطالب به نسخا من نتائجه الدراسية يزوده به قسم الدراسة والامتحانات أولا بأول، ويتم تخصيص ساعتين ضمن الحمل الدراسي للأستاذ المشرف مقابل إشرافه على مجموعة من طلاب الدراسات الجامعية.
2. الإشراف على برنامج الطالب الدراسي وتدوين كافة المقررات التي درسها الطالب ونتائجه لكل سنة دراسية وحساب المعدل السنوي ببطاقة الطالب الدراسية والتأكد من مطابقتها لما هو بمنظومة التسجيل المركزي.
3. تدوين حالات انقطاع الطالب وإيقاف القيد وكذلك العقوبات التي توقع على الطالب ببطاقته الدراسية وإبلاغه بذلك.
4. تدوين عدد مرات الرسوب في أي مقرر ولفت انتباه الطالب لذلك.
5. تدوين الإنذارات ببطاقة الطالب الدراسية ولفت انتباهه لذلك
6. توضيح النقاط أو المواد المهمة بهذه اللائحة للطالب والرد على استفساراته
7. إبلاغ قسم الدراسة والامتحانات بالكلية بوضع الطلبة الخاضعين لإشرافه ممن:
 - أ - أنجزوا المقررات اللازمة للتخرج
 - ب - استنفدوا المدة القانونية وفق المادة (29) من هذه اللائحة
 - ج - حصلوا على تقدير ضعيف جدا لسنة دراسية
 - د - تجاوز الحد الأقصى للإنذارات
 - هـ - انقضى المدة القانونية للدراسة
 - و - أي حالات أخرى تستلزم التبليغ أو الإجراء
 - ز - إحالة طلبات الطلبة الخاضعين لإشرافه مدعمة برأيه إلى قسم الدراسة والامتحانات

مادة (9) طلاب الكلية

يتم قبول وقيد الطلاب بالكلية كطلاب نظاميين وجميعهم متفرغون للدراسة النظامية بالكلية وفق الشروط والأسس المنصوص عليها في هذه اللائحة ويتولى كل طالب في بداية كل عام دراسي تجديد قيده وفقا للنماذج والإجراءات المعتمدة بالكلية. وعلى الطالب المواظبة على حضور المحاضرات والدروس والرحلات الميدانية المقررة وإعداد الواجبات والأوراق والتقارير العلمية المكلف بها وإجراء الاختبارات والامتحانات حسب ما يتم إقراره. كما يجب على كل طالب التقيد باللوائح والنظم والتعليمات المنظمة لسير العملية التعليمية والمحافظة على مظهر ونظافة الكلية والقاعات الدراسية ومخالفة ذلك يعد من المخالفات التي يعاقب عليها.

مادة (10) النشاط العام

يجوز لأى طالب مقيد بالكلية ممارسة الأنشطة العامة بمرافق النشاط العام المتوفرة بالكلية أو الجامعة في أوقات فراغه وخارج أوقات الدروس العملية والنظرية ومن بين الأنشطة العامة:

- 1 - إقامة المعارض أو المسابقات العلمية
- 2 - الأنشطة الرياضية المختلفة
- 3 - الأنشطة الفنية والثقافية
- 4 - المخيمات على إن يحدد مجلس الكلية المدة والزمان.

مادة (11) احتفالات التخرج

تنظم الكلية عقب نهاية كل سنة دراسية حفلة تخرج يتم خلالها:

- 1 - توزيع الشهادات وتكريم المتفوقين والمتميزين من الطلبة
 - 2 - تكريم أعضاء هيئة التدريس المشهود لهم ببذل الجهد وحسن الأداء
 - 3 - تكريم العاملين المتميزين
- يحدد مجلس الكلية موعد وتاريخ الحفل بالتنسيق مع مجلس الجامعة.

الفصل الثانى : القبول والدراسة

المادة (12) نظام القبول والقيود والانتقال

مع عدم الاخلال بشروط التعليم بالجامعات الليبية المقررة بالتشريعات النافذة، يحدد مجلس الكلية القدرة الاستيعابية للكلية قبل بداية كل عام دراسي ويشترط لقبول من يتقدم للدراسة بكلية الطب البيطري للحصول على الاجازة الجامعية الاولى (بكالوريوس العلوم الطبية البيطرية) أن يكون مستوفيا للشروط العامة التي تحددها التشريعات النافذة للقبول وهي كالتالي:

- أن يكون حاصلا على الشهادة الثانوية العامة القسم العلمي أو ما يعادلها.
- أن يكون متحصلاً على مجموع درجات النجاح كما تحددها الكلية والجامعة.
- أن يكون حسن السيرة والسلوك.
- أن يكون لائقاً صحياً.
- أن يجتاز امتحان القبول والمقابلة الشخصية.
- ألا يكون مسجلاً بأي كلية أو جامعة أخرى.
- أن يكون متفرغاً للدراسة بالكلية.
- يجوز قبول الطلاب الوافدين بعد استيفاء كافة الشروط.
- على الطلاب غير العرب تقديم ما يفيد قدرتهم على التحصيل العلمي باللغة العربية.

المادة (13) قبول طلبة من جنسيات أخرى

يجوز قبول طلبة من جنسيات أخرى بشرط:

- ا. ان يكون الطالب مستوفيا لشروط القبول بالكلية الواردة بالمادة (13) من هذه اللائحة.
- ب. الحصول على الموافقة للدراسة من قبل جهات الاختصاص.
- ج. ان يكون مقيماً بليبيا إقامة اعتيادية ووفق إجراءات قانونية طيلة فترة دراسته.
- د. الالتزام بدفع الرسوم ونفقات الدراسة وفقاً للوائح القرار اتوالتشريعات الصادرة والمعمول بها في الجامعة.
- هـ. تقدم مستندات القبول مستوفية للاعتمادات المطلوبة من الجهات المختصة وتسلم عن طريق المسجل العام بالجامعة.

المادة (14) شروط النقل

مع مراعاة ما جاء في المادة (13) من هذه اللائحة، يجوز قبول انتقال الطلاب المقيدین بإحدى المؤسسات التعليمية المعترف بها وأن يكون مستوفياً للشروط الواردة باللائحة العامة بالإضافة للشروط التالية:

- أ - يشترط على الطالب المنتقل للحصول على الإجازة المتخصصة دراسة 50 % على الأقل من المتطلبات اللازمة للتخرج بالكلية
- ب - ألا يكون قد صدر قرار يفصله من كليته الأصلية.
- ج - أن يتقدم الطالب بطلب الانتقال للكلية في خلال مدة أقصاها 4 أسابيع قبل بدء الدراسة لمكتب المسجل.
- د - يرفق بالطلب المستندات الرسمية من الكلية المنتقل منها معتمدة من جهات الاختصاص موضحا الفصل الدراسي المقيد به وقت تقديم الطلب، بيانات تفصيلية عن المقررات التي أجتازها، عدد الساعات لكل مقرر ونتيجة امتحانه في كل مقرر.
- هـ - يحيل مكتب مسجل الكلية طلبات الانتقال المستوفية للشروط للعرض على لجنة علمية مختصة (لجنة المعادلة) للنظر في المقررات التي درسها الطالب ومدى مطابقتها للمقررات المعتمدة بكلية الطب البيطري.
- و - للجنة العلمية المختصة أن تقرر قبول الطالب وقيده بالفصل الدراسي المناسب.
- ز - وللجنة أن تقرر امتحان تكميلي إذا ما رأت أن مستوى الطالب لا يعادل مستوى المقررات بالكلية. وفي هذه الحالة تعتمد الكلية قيد الطالب في السنة الدراسية المنتقل إليها بعد اجتيازه بنجاح الامتحانات المقررة في موعدها المحدد لكل مقرر بالكلية بدون استثناء. وفي جميع الحالات لا يجوز قبول الطالب الذي ترى اللجنة أن مستوى ما درسه من مقررات لا يعادل المستوى المقرر بالكلية فيما يزيد على مادة واحدة.

مادة (15) لجنة المعادلة

تُشكل لجنة بقرار من عميد الكلية تسمى لجنة المعادلة وتتكون من مسجل الكلية واثنين من أعضاء هيئة التدريس بها، تتولى معادلة المقررات الدراسية للطلبة المتقدمين بطلبات نقل للدراسة بالكلية وفق الضوابط الآتية:

- أ - أن تكون المقررات المطلوب معادلتها متفقة من حيث مفرداتها مع المقررات التي تُدرّس بالكلية بنسبة لا تقل عن 75%.
- ب - الارتباط الموضوعي بين المقررات الدراسية.
- ج - البت في الطلبات في أجل لا يتجاوز أسبوعين من تاريخ استلامها.
- د - تُتخذ قرارات اللجنة بالأغلبية.

تُرفع توصيات اللجنة لمجلس الكلية للاعتماد وإصدار قرار بخصوص الطلبة المقبول نقلهم

مادة (16) تجديد القيد

- أ - يتم قبول وقيد الطلاب بالكلية كطلاب نظاميين وجميعهم متفرغون للدراسة النظامية بالكلية وفق الشروط والأسس المنصوص عليها في هذه اللائحة
- ب - يبدأ التسجيل في المقررات الدراسية خلال الأسبوع الأول من السنة الدراسية ويجوز للطلاب إجراء التسجيل بالحضور الشخصي أو إلكترونياً وذلك حسب السياق المتبع بالكلية أو الجامعة، ولا يعتبر هذا التسجيل رسمياً إلا بعد توقيعه من الطالب واعتماده من الأستاذ المشرف وقسم الدراسة والامتحانات
- ج - علي الطالب مراعات أداء الرسوم المالية المقررة للتجديد؛ إذا لم يقم الطالب بتجديد قيده في الميعاد المحدد اعتبر منقطعاً عن الدراسة، ما لم يقدم عذراً تقبله الكلية خلال أجل لا يتجاوز أسبوع من نهاية الموعد المحدد لتجديد القيد.
- د - يتولى كل طالب في بداية كل سنة دراسية تجديد قيده وفقاً للنماذج والإجراءات المعتمدة بالكلية.

الفصل الثالث: نظام الدراسة

المادة (17) السنوات الدراسية

تتبع الكليات نظام السنة الدراسية وتستمر الدراسة للحصول على الدرجة الجامعية الأولى مدة خمس سنوات.

المادة (18) البرنامج الدراسي

تنقسم الدراسة بالكلية الى ثلاث مراحل:
المرحلة الأولى: وتشمل السنة الدراسية الأولى والثانية.
المرحلة الثانية: وتشمل السنة الدراسية الثالثة.
المرحلة الثالثة: وتشمل السنة الدراسية الرابعة والخامسة.
المرحلة الرابعة: وتسمى مرحلة الامتياز وهي فترة التدريب التي يقضيها الطالب في التدريب الاكلينيكي بعد اجتيازه المرحلة الثالثة بنجاح.

المادة (19) العام الدراسي

تكون بداية العام الدراسي الجامعي الأول من شهر سبتمبر من كل عام وينتهي بنهاية شهر مايو يتخلله إجازة نصف العام الدراسي لمدة اسبوعين.

المادة (20) الدروس النظرية والعملية

يجب على الطالب ان يتابع الدروس النظرية والعملية وأن يؤدي التدريبات العملية المقررة في الأماكن والمواعيد التي تحددها الكلية.
يحرم الطالب من دخول الامتحان النهائي في أي مقرر إذا تجاوزت نسبة غيابه 25% من الدروس العملية والنظرية وترصد له درجة (الصفير) في المقرر مالم يتقدم بعذر تقبله الكلية في مدة أقصاها أسبوعين من تاريخ انتهاء العذر.

المادة (21) إيقاف القيد

يجوز لمجلس الكلية إيقاف قيد الطالب مدة أقصاها سنة دراسية واحدة إذا ثبت أن لديه عذر يمنعه من مواصلة الدراسة ولا يجوز النظر في الطلب إذا تقدم به الطالب بعد زوال العذر وفي جميع الأحوال لا يجوز إيقاف قيد الطالب لأكثر من مرة واحدة خلال مدة الدراسة بالكلية.

المادة (22) رموز المقررات الدراسية

يرمز كل مقرر بثلاثة حروفكبيرة (XYZ) وثلاثة ارقام (abc) ويكتب على الصيغة (XYZabc) حيث:
ا- احتدل الحروف (XYZ) على رمز التخصص.
ب-تدل خانة الأرقام (abc) على مستوى المقرر بالسنوات الدراسية.

المادة (23) توزيع المقررات على السنوات الدراسية

توزع المقررات الدراسية على السنوات الدراسية وفق الآتي

أ - المرحلة الأولى: ما قبل الاكلينيكي Pre clinic

1. السنة الدراسية الأولى

Subject	المقرر	رمز المقرر	عدد الساعات	نظري ساعة/اسبوع	عملي ساعة/اسبوع
Veterinary Anatomy I	علم التشريح	ANA101	150	3	2
Veterinary Biochemistry	الكيمياء الحيوية	BIC103	180	4	2
Veterinary Physiology I	علم وظائف الاعضاء	PHY104	90	3	-

Histology & Embryology	الأنسجة والأجنة	HIE102	180	4	2
Arabic Language	اللغة العربية	ARA100	60	2	-
English Language	اللغة الإنجليزية	ENG101	60	2	-

2. السنة الدراسية الثانية

Subject	المقرر	رمز المقرر	عدد الساعات	نظري ساعة/اسبوع	عملي ساعة/اسبوع
Veterinary Physiology II	علم وظائف الأعضاء	PHY201	150	3	2
Veterinary Anatomy II	علم التشريح	ANA206	120	2	2
Animal Husbandry	سلوكيات ورعاية الحيوان	AHU202	150	3	2
Animal Nutrition	تغذية الحيوان	ANT203	150	3	2
Genetics and breeding	الوراثة والانسال	GEB204	120	2	2
Biostatistics	علم الاحصاء الحيوي	BST205	60	2	-

ب- المرحلة الثانية: Para clinic

3. السنة الدراسية الثالثة

Subject	المقرر	رمز المقرر	عدد الساعات	نظري/ ساعة/اسبوع	عملي ساعة/اسبوع
Veterinary Microbiology	الأحياء الدقيقة	MIC301	240	6	2
Veterinary Parasitology	علم الطفيليات	PAR302	240	6	2
Veterinary Pathology	علم الأمراض	PAT303	240	6	2
Veterinary Pharmacology	علم الأدوية	PHA304	180	4	2

ج- المرحلة الثالثة: الاكلينيكية Clinic

4. السنة الدراسية الرابعة

Subject	المقرر	رمز المقرر	عدد الساعات	نظري / ساعة/اسبوع	عملي ساعة/اسبوع
Clinical Pathology	التشخيص المعملية	CLP401	120	2	2
Meat Hygiene	الرقابة الصحية على اللحوم	MEH402	150	3	2
Milk Hygiene	الرقابة الصحية على الالبان	MIH403	120	2	2
Toxicology & Forensic Medicine	الطب الشرعي والسموم	TFM404	150	3	2
Medicine I	الباطنة I	MED405	120	2	2
General Veterinary Surgery	الجراحة البيطرية العامة	GVS406	120	2	2
Theriogenology I	علم التناسليات I	THE407	120	2	2
Infectious Diseases I	الامراض المعدية I	INF408	120	2	2

5. السنة الدراسية الخامسة

Subject	المقرر	رمز المقرر	عدد الساعات	نظري / ساعة/اسبوع	عملي ساعة/اسبوع
Medicine II	الباطنة II	MED500	120	2	2
Special Veterinary Surgery	الجراحة البيطرية الخاصة	SVS501	160	3	2
Theriogenology II	علم التناسليات II	THE502	120	2	2
Infectious Diseases II	الامراض المعدية II	INF503	120	2	2
Preventive Medicine	الطب الوقائي	PRM504	240	6	2
Poultry Diseases	امراض الدواجن	POU505	150	3	2
Fish Disease	امراض الاسماك	FIS506	120	2	2

مادة (24) الجدول الدراسي

عند وضع الجدول الدراسي يجب مراعاة الآتي:

أ - أن يحتوي الجدول على رمز المقرر ورقم المجموعة والقاعة وتوقيت المحاضرة واسم الأستاذ الذي يُدرّسها، على أن يكون استعمال القاعات الدراسية والمعامل والمختبرات والمدرجات وفق نظام العمل الذي يقرره مجلس الكلية.

ب - توزيع المقررات الدراسية على أيام الأسبوع الدراسي.

ج - لا يسمح بأن يكون لأي مقرر أكثر من محاضرتين في اليوم الواحد باستثناء المقررات المعملية والمقررات الإكلينيكية.

د - يُعلن الجدول الدراسي قبل بداية الدراسة.

هـ - لا يجوز تغيير مواعيد الجدول الأسبوعي لأي مقرر إلا بعد موافقة قسم الدراسة والامتحانات.

الفصل الرابع: نظام الامتحانات والتقييم

المادة (25) شروط التقدم للإمتحانات

يشترط في الطالب المتقدم للامتحانات النصفية والامتحانات النهائية أن يكون مستوفيا لشروط القيد لأحكام هذه اللائحة.

المادة (26) عقد الامتحانات

تعقد الامتحانات النهائية للدورين الأول والثاني بجميع السنوات على النحو التالي:
الدور الأول: ويعقد مع بداية شهر يونيو (6) وحتى منتصف شهر يوليو (7) متضمنة تسليم النتائج من انتهاء الدراسة.

الدور الثاني: -ويعقد خلال الأسبوع الأول من شهر سبتمبر.

المادة (27) الامتحانات النصفية

تجرى الامتحانات النصفية في المقررات التي يدرسها الطالب في السنة المقيد بها بمعدل مرتين خلال العام الدراسي على أن يجرى الامتحان النصفى الأول خلال الأسبوع الثالث من شهر ديسمبر والثاني خلال الأسبوع الأول من شهر أبريل.

ويتولى القائمون بتدريس المادة بإجراء هذه الامتحانات وفقا للنظام الذي يقرره القسم المختص.

المادة (28) الفرص الإستثنائية

يجوز بقرار من مجلس الكلية بناء على اقتراح من قسم الدراسة والامتحانات منح فرصة استثنائية ولمدة سنة دراسية واحدة بالنسبة للمرحلة الدراسية الأولى والتي تشمل السنة الأولى والثانية، وكذلك سنة استثنائية واحدة للمرحلة الدراسية الثانية والثالثة والتي تشمل السنة الثالثة والرابعة والخامسة لمن تجاوز المدة الدراسية المحددة بالكلية.

كما يجوز إضافة مدة سنة دراسية لمن استنفذ المدة القانونية والاستثنائية ويتوقع تخرجهم خلال هذه المدة بناء على اقتراح قسم الدراسة والامتحانات وموافقة مجلس الكلية كفرصة أخيرة . ويعتبر الطالب مفصولا تلقائيا في حالة استنفاد الحد الأقصى المحدد بهذه اللائحة.

المادة (29) التغيب عن الامتحانات

كل طالب يتغيب عن الامتحان النهائي في مقرر أو أكثر بدون عذر مقبول يعتبر راسبا وترصد له درجة (صفر). أما إذا تغيب بعذر يقبله مجلس الكلية فيسمح له بالدخول الى الدور الثاني ويشترط أن يقدم العذر في مدة لا تتجاوز أسبوع من تاريخ امتحان المادة المتغيب عنها.

المادة (30) الامتحانات الإستثنائية

يجوز للجنة الامتحانات والمراقبة عقد امتحان للطالب النزول بالمستشفى أو الموقوف جنائيا في حال توفر الظروف الملائمة لعقد الامتحان خارج الكلية.

المادة (31) الإنتقال بين المراحل

لا يسمح للطالب الانتقال من مرحلة إلى أخرى إلا إذا نجح في جميع المقررات ويجوز الانتقال بمقرر دراسي واحد فقط داخل كل مرحلة دراسية.

المادة (32) إعادة الامتحانات

على الطالب الراسب إعادة المواد التي رسب فيها فقط. كما ينطبق عليه ما ينطبق على طلاب تلك السنة فيما يستحدث من مقررات جديدة أو تغييرات منهجية مختلفة.

المادة (33) التقييم والتقدير

أ. يُقيم أداء الطالب في كل مقرر وفقاً للتقديرات الآتية:

ت	الدرجة	التقدير
1	من 85 % إلى 100 %	ممتاز
2	من 75 % إلى أقل من 85 %	جيد جداً
3	من 65 % إلى أقل من 75 %	جيد
4	من 50 % إلى أقل من 65 %	مقبول
5	من 35 % إلى أقل من 50 %	ضعيف
6	من صفر إلى أقل من 35 %	ضعيف جداً

ب. وفي جميع الأحوال لا يعتبر الطالب ناجحاً في المقرر إلا إذا تحصل على 50 % على الأقل من مجموع الدرجات.

المادة (34) التقدير العام

يحسب التقدير العام لنجاح الطالب عن كل سنة على حدة كما هو موضحاً بالمعادلة.

الدرجة المتحصل عليها بالمادة (س1) × عدد الساعات الدراسية للمادة(س1)
المجموع الكلي للساعات للسنة الدراسية
بالإضافة (+)

الدرجة المتحصل عليها بالمادة (س2) × عدد الساعات الدراسية للمادة (س2)
المجموع الكلي للساعات للسنة الدراسية

ويحسب التقدير النهائي للطالب الذي اجتاز جميع المقررات بكلية الطب البيطري على أساس متوسط تقديراته التي تحصل عليها في جميع السنوات.

المادة (35) الامتحانات النهائية

توزع الدرجات للمقررات قبل الإكلينيكية على النحو التالي:

إعمال السنة	النظري النهائي	العملي	الشفوي	المجموع
% 20	% 50	% 20	%10	% 100

ويكون توزيع الدرجات النظرية والعملية والشفوية للمقررات الدراسية الآتية على النحو التالي:

المادة	إعمال السنة	النظري النهائي	العملي	الشفوي	المجموع
الجراحة والتخدير والاشعة	%20	% 40	% 30	% 10	% 100
علم التوليد والتاسليات	%20	% 40	%30	%10	%100
الباطنة والمعدية	%20	% 40	%30	%10	%100
أمراض الدواجن	%20	% 40	% 30	% 10	% 100
الطب الوقائي	%20	% 40	% 30	% 10	% 100
الرقابة الصحية على اللحوم	%20	% 40	%30	%10	%100
رعاية الحيوان	%20	% 40	%30	%10	%100

وتوزع درجات الامتحان العملي على النحو التالي:

1 - 80 % من الدرجة تخصص للحالات الاكلينيكية.

2 - 20 % من الدرجة تخصص للتعريفات (spots)

مع مراعاة النقاط التالية بالنسبة للامتحانات النظرية والعملية:

أ - تجرى الامتحانات العملية النهائية في مواعيد تدريسها الأسبوعية خلال الأسبوع الأخير من الدراسة، اما بخصوص الامتحانات العملية الإكلينيكية تجرى في اليوم الذي يلي الامتحان النظري للمقرر.

ب - تجرى الامتحانات النظرية النهائية بعد نهاية الدراسة مباشرة.

مادة (36) مرتبة الشرف

تمنح مرتبة الشرف الأولى للطالب الناجح بتقدير عام ممتاز في جميع السنوات الدراسية بالكلية شريطة ألا يقل تقديره العام جيد جداً بالسنوات السابقة.

مادة (37) الإفادة وكشف الدرجات

يُمنح الطالب الذي استكمل متطلبات التخرج ما يلي:

أ - كشف درجات باللغتين العربية والإنجليزية مبيناً فيه درجات المقررات الدراسية ووحداتها والمتوسط الفصلي والمعدل التراكمي والتقدير العام المبين وفق هذه اللائحة.

ب - إفادة تخرج باللغتين العربية والإنجليزية مبيناً فيها حصوله على درجة الإجازة المتخصصة.

ج - إفادة جدارية تعتمد من رئيس الجامعة.

وفي جميع الأحوال يتم إعداد كشوف الدرجات النهائية وإفادات التخرج من قبل قسم الخريجين لدى مسجل الكلية وبعد توقيعه على تحريرها تعتمد من مسجل الكلية وعميد الكلية ولا تسلم للخريج إلا بعد أداء الرسوم المقررة وفقاً للتشريعات النافذة.

المادة (38) اعتماد النتائج

يعتمد مجلس الكلية نتائج امتحانات الدور الأول والثاني ويجوز تفويض عميد الكلية باعتماد النتائج.

المادة (39) إعلان النتائج

تعلن نتائج الامتحانات من قبل قسم الدراسة والامتحانات بعد اعتمادها من قبل مجلس الكلية.

المادة (40) كراسات الإجابة

يتم تسليم أوراق إجابة الامتحانات النهائية فور تقييمها ورصدها للجنة الامتحانات والمراقبة ولا يجوز اعتماد نتيجة أي مقرر ما لم تسلم أوراق الإجابة مصحوبة بالنتائج النهائية. كما يتولى قسم الدراسة والامتحانات حفظ أوراق الإجابة للامتحانات النهائية بالكلية لمدة سنة كاملة على الأقل من تاريخ إعلان النتيجة.

المادة (41) طلب المراجعة الموضوعية

يجوز للطالب التقدم بطلب المراجعة الموضوعية لأوراق إجابته على الا تزيد عن مقررین مرة واحدة وفق الإجراءات والضوابط التالية:

1. أن يقدم طلب المراجعة إلى قسم الدراسة والامتحانات بالكلية خلال مدة لأتزيد عن أسبوعين من إعلان النتائج.
2. يشكل عميد الكلية لجان للمراجعة الموضوعية بحسب طلبات المراجعة التي يتقدم بها الطلاب على أن تتكون كل لجنة من ثلاثة أعضاء هيئة تدريس على الأقل متخصصين من بينهم أستاذ المقرر.
3. يجوز للطالب المعنى أو من ينوب عنه حضور المراجعة.
4. على كل لجنة إعداد تقرير مسبب بالخصوص يقدم لعميد الكلية خلال الفترة التي يحددها قرار التكليف.
5. اذا ثبت صحة ادعاء الطالب تعدل النتيجة وتودع نسخة من التقرير في ملف الطالب ويقدم عضو هيئة التدريس (أستاذ المقرر) تبييرا مكتوبا بالخصوص.

الفصل الخامس: المرحلة الرابعة (مرحلة الامتياز)

المادة (42) التدريب العملي الميداني (الامتياز)

يؤدي الطالب بعد اجتيازه امتحانات السنة النهائية تدريباً عملياً وميدانياً لمدة ستة عشر اسبوعاً وفقاً للنظام الذي تضعه الكلية، داخل الكلية أو خارجها وفي الأماكن والمواعيد والمجالات التي تحددها وذلك تحت إشراف أعضاء هيئة التدريس وتسري أحكام الدراسة والامتحانات على التدريب العملي والميداني الذي يكلف به الطالب. لا يعتبر الطالب خريجاً الا بعد استكمال مدة التدريب العملي الميداني (الامتياز).

مادة (43) موعد بدء الامتياز

- أ - يلتزم الطلبة الذين أنجزوا المرحلتين الأولى والثانية للبرنامج الدراسي مباشرة بأداء التدريب العملي (الامتياز)، ولا يعتبر الطالب خريجاً من الكلية إلا بعد اجتيازه لمرحلة الامتياز.
- ب - يخضع الطلبة المقبولين بالكلية لأداء مرحلة التدريب العملي بها للأحكام المنظمة لمرحلة الامتياز بهذه اللائحة.

مادة (44) مكان أداء الامتياز

يكون تنفيذ برامج التدريب العملي في المرافق الصحية التعليمية المعتمدة للكلية، ويجوز لطالب الامتياز قضاء فترة التدريب العملي في الأماكن والمرافق التي يتم تحديدها من قبل الكلية ويمكن أداء الامتياز في بلد آخر بعد موافقة مجلس الكلية.

مادة (45) لجنة شؤون الامتياز

- أ - تُشكل بقرار من عميد الكلية لجنة تسمى " لجنة شؤون الامتياز ":
- ب- تتول اللجنة المشكلة وفق الفقرة السابقة ما يلي:
 - إعداد البرنامج التدريبي وخطة تنفيذه وفق البرامج التعليمية في مجال الطب البيطري.
 - إعداد جداول توزيع طلبة الامتياز على المرافق الصحية التعليمية المستهدفة للتدريب فيها.

- اقتراح تكليف أعضاء هيئة التدريس للإشراف على الطلبة بالتنسيق مع الأقسام العلمية ذات العلاقة وفق جداول توزيع الطلاب على جهات التدريب.
 - متابعة تنفيذ برامج التدريب العملي بالأقسام العلمية بالكلية.
 - دراسة واعتماد تقارير تقييم الطلبة المقدمة إليها من المكلفين بالإشراف على تنفيذ البرنامج التدريبي.
 - دراسة الشكاوى والصعوبات التي قد تعوق تنفيذ برامج التدريب و تقديم التوصيات بشأن معالجتها.
- ج- تُعتمد محاضر اللجنة المشكلة وفق هذه المادة من مجلس الكلية.

مادة (46) الإشراف على طلبة الامتياز

يُكلف أعضاء هيئة التدريس المشرفون على طلبة الامتياز من الأقسام العلمية ويُوكل إليهم الآتي:

- أ - توجيه الطالب داخل الوحدات والمراكز والعيادات البيطرية.
- ب - الإشراف على الطالب ومتابعة تدريبه.
- ج - متابعة سلوك الطالب أثناء فترة الامتياز.
- د - تقييم أداء الطالب وفق البرنامج التدريبي المعتمد وتقديم تقرير بشأنه.

مادة (47) مدة الامتياز

- هـ - يلتزم الطالب بالتسجيل بالتدريب العملي في المواعيد المعن عنها.
- و - تكون مدة التدريب العملي من 14 الى 16 اسبوع.
- ز - يجوز تمديد فترة التدريب العملي بقرار من مجلس الكلية بناءً على توصية من لجنة شؤون الامتياز إذا لم يتجاوز غياب طالب الامتياز 25% من مدة التدريب ولمدة تساوي مدة الغياب.
- ح - يُعيد طالب الامتياز مدة التدريب العملي إذا تجاوز غيابه 25% من مدته المقررة.

مادة (48) ضوابط الامتياز

يلتزم طالب الامتياز بالضوابط الآتية:

- أ - التقيد بالمواعيد المقررة بفترة الامتياز من الكلية.
- ب - الحضور المستمر وفق التنسيب المعتمد بأحد المرافق الصحية البيطرية التعليمية طيلة مدة التدريب.
- ج - التقيد بتوجيهات وتعليمات الأستاذ المشرف.

الفصل السادس: الإنذار والفصل من الدراسة

المادة (49) الإنذارات

- يلفت نظر الطالب وينذر كتابيا في الحالات التالية:
- أ. إذا انقطع عن الدراسة لأي سبب كان مدة تزيد عن الشهر.
 - ب. إذا تحصل على تقدير ضعيف جدا في أي سنة من السنوات الدراسية.
 - ت. إذا أخفق في اجتياز أي مقرر للمرة الثانية خلال دراسته.

المادة (50) الفصل من الدراسة بالكلية

- أ - يفصل الطالب وينتهي حقه في الدراسة على حساب الدولة في الحالات الآتية:
 - (1) إذا انقطع عن الدراسة لسبب غير مشروع سنة دراسية كاملة.
 - (2) إذا اعيد تنسيبه وتحصل على تقدير عام ضعيف جدا في نهاية أي من العاميين الدراسيين الاوليين.
 - (3) إذا اعيد تنسيبه ورسب سنتين دراسيتين متتاليتين، أيا كان متوسط تقديره العام.

ب - كما يعتبر الطالب مفصولا من الدراسة بالكلية في إحدى الحالات التالية:

- 1) إذا تحصل على تقدير عام ضعيف جدا خلال السنة الأولى.
- 2) إذا رسب في أي مقرر سنتين متتاليتين.
- 3) إذا صدر بشأنه قرار فصل من الكلية بناء على قرار صادر من مجلس التأديب.
- 4) إذا تحصل على أربعة إنذارات خلال مدة دراسته بالكلية.
- 5) إذا جاوز عدد مرات الرسوب في أي مقررين أربع مرات أيا كان معدلته.

الفصل السابع: المخالفات التأديبية

المادة (51) التحقيق والتأديب

يخضع الطالب للتحقيق والتأديب إذا ارتكب فعلا داخل الجامعة أو في أي مكان من ملحقاتها يشكل مخالفة للقوانين واللوائح والأنظمة المعمول بها في الجامعة والكلية. ويظل الطالب خاضعا لأحكام التأديب من تاريخ تسجيله بالدراسة وحتى زوال هذه الصفة بتخرجه أو إلغاء تسجيله.

المادة (52) المخالفات

لا يجوز للطالب ارتكاب المخالفات التالية:

- 1) الاعتداء على أعضاء هيئة التدريس أو الطلاب أو العاملين بالكلية أو الجامعة.
- 2) الاعتداء على أموال الكلية أو الجامعة أو المرافق التابع لها.
- 3) الإخلال بنظام الدراسة والامتحانات.
- 4) ارتكاب أي سلوك مناف للأخلاق أو يمس النظام العام والآداب العامة.

المادة (53) الإعتداء على عضو هيئة التدريس

يعد من المخالفات الاعتداء على أعضاء هيئة التدريس أو العاملين أو الطلاب، من أعمال الشجار أو الضرب أو الإيذاء أو السب أو القذف أو التهديد أو التعرض أو المنع من أداء العمل . ويتحقق الاعتداء إذا تم بصورة علنية وبحضور المعتدي عليه سواء ارتكب الفعل شفاهية أو كتابة أو بالإشارة.

المادة (54) إتلاف المعدات والأدوات

يعد من مخالفات الاعتداء على أموال الجامعة أو الكلية كل استيلاء أو إتلاف للمعدات أو الأدوات التابعة للجامعة أو الكلية أو إحدى المرافق التابعة لها سواء بإتلافها أو بجعلها ليست صالحة للاستعمال كليا أو جزئيا وتقع المخالفة سواء تمت بصورة متعمدة أو بالإهمال.

مادة (55) الإخلال بنظام الدراسة

يعد من مخالفات الإخلال بنظام الدراسة والامتحانات ما يلي:

- 1 - تزوير المحررات الرسمية مثل الشهادات والإفادات أو الوثائق سواء كانت صادرة عن الجامعة أو عن غيرها إذا كانت ذات صلة بإجراءات الدراسة.
- 2 - انتحال الشخصية سواء لتحقيق مصلحة للفاعل أو لغيره ويعد انتحالا للشخصية دخول طالب أو غيره بدلا عن الممتحن لأداء الامتحان وتسري العقوبة على الطالبين وكل من سهل ذلك أو كان شريكا فيه من الطلاب.

- 3 - إثارة الفوضى أو الشغب وعرقلة سير الدراسة أو الامتحانات بأية صورة كانت.
- 4 - التأثير على الأساتذة أو العاملين فيما يخص سير الامتحانات أو التقييم أو النتائج أو غيرها مما يتعلق بشؤون الدراسة والامتحانات.
- 5 - ممارسة أعمال الغش في الامتحانات أو الشروع فيها بأية صورة من الصور ويعتبر من قبيل الشروع في الغش إدخال الطالب إلى قاعة الامتحانات أية أوراق أو أدوات أو أجهزة تساعد على الغش ذات علاقة بالمنهج الدراسي موضوع الامتحانات ما لم يكن مرخصا بإدخالها من قبل لجنة الامتحانات.
- 6 - الامتناع عن الإدلاء بالشهادة أمام لجان التحقيق أو مجالس التأديب المشكلة وفقا لإحكام هذه اللائحة.
- 7 - أية مخالفة للقوانين واللوائح والنظم المتعلقة بالتعليم العالي.

مادة (56) السلوك المناف للأخلاق العامة

- يعد سلوكا منافيا للأخلاق والنظام العام والآداب العامة الأفعال التالية:
- أ - الاعتداء على العرض ولو تم برضا الطرف الآخر وفي حالة الرضا يعد الطرف الآخر شريكا في الفعل وكذلك خدش الحياء العام.
- ب - تعاطي المخدرات أو المسكرات أو التعامل فيها بأية صورة من الصور.
- ت - تداول الأشياء الفاضحة أو توزيعها أو عرضها.
- ث - كل ما من شأنه الإخلال بالشرف وفقا للقوانين النافذة أو المساس بالآداب والأخلاق العامة.
- ج - الظهور بمظهر غير لائق داخل المؤسسة التعليمية أو إحدى مكوناتها أو ارتداء الأزياء المنافية للحياء أو المبالغة في التزين.

مادة (57) السلوك المحظور

- يعد التعداد الوارد في المواد (52- 53 - 54 - 55-56) على سبيل المثال لا الحصر وأي سلوكا محظورا اخر يعتبر مخالفا للتشريعات والنظم المعمول بها في الجامعات والكليات.

الفصل الثامن: العقوبات التأديبية

مادة (58) الإيقاف عن الدراسة

- يعاقب الطالب بالإيقاف عن الدراسة لمدة لا تقل عن سنتين دراسيتين إذا ارتكب أحد الأفعال المنصوص عليها في المادة (53) من هذه اللائحة. ويفصل الطالب من الكلية إذا تكرر ارتكابه لأحد هذه الأفعال.

مادة (59) تكرار المخالفات

- يعاقب الطالب بالإيقاف عن الدراسة لمدة لا تقل عن سنة دراسية إذا ارتكب أحد الأفعال المنصوص عليها في المادة (54) وتضاعف العقوبة عند تكرار الأفعال وفي جميع الأحوال لا يحوز عودة الطالب لمواصلة الدراسة إلا إذا دفع قيمة الإضرار التي أحدثها بأموال الجامعة.

مادة (60) التوقف على الدراسة

1. يعاقب على المخالفات المنصوص عليها في المادة (55) على النحو التالي:

2. يعاقب بالوقوف عن الدراسة لمدة لا يقل عن سنة دراسية ولا تزيد على سنتين دراستين كل من ارتكب المخالفات الواردة في الفقرتين (1-2)، ويفصل الطالب من الدراسة فصلا نهائيا عند تكرار الأفعال.
3. يعاقب الطالب بالحرمان من دخول الامتحانات كليا أو جزئيا إذا ارتكب المخالفات المحددة في الفقرتين (3-4)، وفي جميع الأحوال يعتبر امتحانه ملغيا في المادة التي ارتكب فيها المخالفة.
4. يعاقب كل من ارتكب المخالفة الوارد بيانها في الفقرة (5) بإلغاء نتيجة امتحانه في دور واحد على الأقل ويجوز لمجلس التأديب إلغاء امتحانه لسنة كاملة ويفصل الطالب فصلا نهائيا عند تكرار الفعل.
5. يعاقب على المخالفات المنصوص عليها في الفقرتين (6-7) بالحرمان من حقوق الطالب النظامي أو الإيقاف عن الدراسة مدة لا تزيد على سنة دراسية واحدة.

مادة (61) لجنة المراقبة على الامتحانات

يجوز للجنة المراقبة أو المشرفين على قاعة الامتحان تفتيش الطالب إذا وجدت قرائن تدعو للاشتباه بأن في حيازته أوراقا أو أدوات أو أجهزة لها علاقة بالمقرر موضوع الامتحان، كما يجوز لهم إخراج الطالب من قاعة الامتحان إذا خالف تعليمات لجنة الامتحان أو بدأ في ارتكاب أعمال الغش وفي جميع الأحوال يعتبر امتحانه ملغيا.

مادة (62) مدة التوقف على الدراسة

يعاقب بالوقف عن الدراسة لمدة لا تقل عن سنة دراسية ولا تزيد على سنتين كل طالب ارتكب إحدى الأفعال المنصوص عليها في المادة (56) ويفصل الطالب نهائيا عند تكرار هذه الأفعال.

مادة (63) الحرمان من دخول الامتحان

يترتب على الإيقاف عن الدراسة حرمان الطالب من التقدم إلى الامتحانات طيلة مدة الوقف، ولا يجوز للطالب الانتقال إلى أي كلية أو معهد آخر أثناء سريان مدة العقوبة.

الفصل التاسع إجراءات: التأديب

مادة (64) الإبلاغ عن المخالفة

على كل من يعلم بوقوع مخالفة للقوانين واللوائح والأنظمة المعمول بها في الكليات أو الجامعة أن يقدم بلاغا عن هذه المخالفة يتضمن تقريرا مكتوبا عن الواقعة الى مجلس الكلية أو الجامعة.

مادة (65) لجنة التحقيق

فور الإبلاغ عن الواقعة يتعين على عميد الكلية تكليف لجنة للتحقيق من ثلاثة أعضاء من هيئة التدريس يكون أحدهم مقرا للجنة وتحال إليها المخالفات من قبل العميد أو الوكيل فور الإبلاغ عنها.

مادة (66) إعلام الطالب بالتحقيق

يتم إعلام الطالب بالتحقيق قبل موعده بيوم كامل على الأقل، ولا يحسب اليوم الذي تم فيه الإعلام، ويجوز أن يتم التحقيق فورا في حالة الضرورة والاستعجال.

مادة (67) تقرير لجنة التحقيق

بعد الانتهاء من التحقيق، أو عند عدم حضور الطالب للتحقيق بالرغم من إعلامه به، يقدم المكلف بالتحقيق تقريره إلى الجهة التي كلفته.

مادة (68) ثبوت المخالفة

في حالة ثبوت المخالفة التي لغرضها شكلت لجنة التحقيق يحال الطالب لمجلس تأديب.

مادة (69) مجلس التأديب

يشكل مجلس للتأديب بقرار من عميد الكلية يتكون من ثلاثة أعضاء من هيئة التدريس من نوى الخبرة والدراسة وبحضور مندوب من اتحاد الطلبة وعضو عن الشؤون القانونية، ويتم إعلام من تمت إحالته على المجلس المذكور بالموعد الذي ينبغي فيه المثول أمامه، وذلك خلال مدة لا تقل عن ثلاثة أيام، ولا يحتسب اليوم الذي تم فيه الإعلام من بينها، وفي حالة تغيب الطالب بعذر مقبول تعطى له فرصة ثانية للمثول أمام المجلس خلال 48 ساعة. وفي حالة التغيب بدون عذر مقبول يصدر المجلس قراره غيابياً. ولا يجوز لمن اشترك في لجنة التحقيق أن يكون عضواً بمجلس التأديب.

مادة (70) قرارات مجلس التأديب

يصدر مجلس التأديب قراراته بعد سماع أقوال الطالب، ويجوز للمجلس استدعاء الشهود، كما يجوز له استدعاء من قام بالتحقيق.

مادة (71) الإعلان عن موعد التحقيق أو التأديب

يتم الإعلان عن موعد التحقيق أو التأديب بلوحة الإعلانات بالكلية، ويعتبر ذلك قرينة على العلم بذلك

مادة (72) قرارات مجلس التأديب

يصدر مجلس التأديب قراراته بأغلبية أصوات الأعضاء، ولا تعد نافذة إلا بعد اعتمادها من مجلس الكلية. أما القرارات الصادرة عن المجلس بالفصل فلا تعد نافذة إلا بعد اعتمادها من مجلس الجامعة، وتبلغ كافة الجامعات والمعاهد العليا في ليبيا بالقرار للحيلولة دون تسجيل الطالب المفصول في أي منها.

مادة (73) إعلان قرار مجلس التأديب

يعلن قرار مجلس التأديب بلوحة الإعلانات بالكلية، وتسلم نسخة منه وتودع نسخة ثانية بالملف الشخصي للطالب.

مادة (74) انقضاء الدعوى

تنقضي الدعوى التأديبية بوفاء الطالب أو انسحابه من الكلية ولا يؤثر انقضاء الدعوى التأديبية أو الحكم فيها على الدعاوى الجنائية أو المدنية الناشئة عن الواقعة.

مادة (75) الطعن في قرارات مجلس التأديب

تعتبر قرارات مجالس التأديب التي تصدر طبقاً لأحكام هذه اللائحة نهائية بعد اعتمادها، ولا يجوز الطعن فيها إلا بالطرق القضائية المقررة بموجب التشريعات النافذة.

مادة (76) العلاوة السريرية للطبيب البيطري

تصرف علاوة سريرية لكافة أعضاء هيئة التدريس من حملة بكالوريوس العلوم الطبية البيطرية طبقاً للمادة (1) من قرار الأمين المساعد لشؤون الخدمات (سابقاً) رقم 326 لسنة 1372 ور.

مادة (77): أحكام ختامية

- أ. تسرى أحكام هذه اللائحة على جميع طلاب كليات الطب البيطري بالجامعات الليبية وتطبق لائحة الدراسة والامتحانات والتأديب بالجامعات ومؤسسات التعليم العالي الصادرة بالخصوص.
- ب. يجوز للجنة العلمية إجراء ما تراه مناسباً من تطوير في محتويات المقررات الدراسية بعد موافقة إدارة الكلية ولا تعتبر سارية المفعول إلا بعد اعتمادها من إدارة الجامعة ، ويصبح التعديل سارياً مع بداية العام الجامعي أو الفصل الدراسي التالي.
- ت. يجوز لإدارة الكلية وضع آلية لمتابعة تقييم المناهج والمقررات الدراسية وفقاً لما تقتضيه التطورات العلمية.
- ث. أي تغيير أو إضافة لمواد هذه اللائحة هو من اختصاص إدارة الكلية، على أن يتم اعتماده من الجهات المختصة وإدارة الجامعة حسب القوانين واللوائح المنظمة لذلك.
- ج. تعتبر هذه اللائحة جزءاً لا يتجزأ من لائحة الدراسة والامتحانات والتأديب بالجامعات ومؤسسات التعليم العالي الصادرة بالخصوص في نطاق الكلية.
- ح. يعمل بأحكام هذه اللائحة من تاريخ اعتمادها من قبل جهات الاختصاص.
- خ. مرفق مع هذه اللائحة المقررات والوحدات الدراسية الخاصة بالفصول الدراسية لمدة الدراسة بالكلية.

مادة (78) تعديل أحكام اللائحة

يجوز تعديل الأحكام الواردة في هذه اللائحة بالإضافة أو الإلغاء وفقاً للتشريعات النافذة.

مادة (79) سريان أحكام اللائحة

تسري أحكام هذه اللائحة اعتباراً من تاريخ اعتمادها، وتسري أحكام لائحة تنظيم التعليم العالي الصادرة بقرار اللجنة الشعبية العامة "سابقاً" رقم ((501)) لسنة 2010م على كل ما لم يرد بشأنه نص في هذه اللائحة، ولا يسري أي حكم يخالفها.

يعتمد /

تاريخ الاعتماد:...../...../.....م 2022/

المقررات الدراسية

اللغة العربية

اللغة العربية	اسم المقرر الدراسي	1
ARA100	رمز المقرر	2
عام	طباعة المقرر : عام/تخصص/اختياري	3
وحدتان (2)	عدد الوحدات المعتمدة	4
.....	عدد الساعات التعليمية	5
لا شيء	المتطلبات المطلوبة مسبقاً	6
بكالوريوس العلوم الطبية البيطرية	البرنامج التعليمي الذي يُقدم المقرر	7
اللغة العربية	لغة التدريس	8
2022	تاريخ اعتماد المقرر	9

يساعد هذا المقرر الطالب في كلية الطب البيطري على معرفة قواعد اللغة العربية النحوية والصرفية والإملائية وكذلك يتعرف على كيفية البحث في المعاجم، كما يتعلم أصول التعبير الكتابي باللغة العربية وتقنيات كتابة المقالة والبحث العلم بوالنقارير ويتعرف على أنواعها، كما يتعلم مواضع علامات الترقيم وكيفية استخدامها تؤهله للكتابة بشكل صحيح وتتكون لديه حصيلة لغوية ومعجم لغوي يمكنه من ترجمة الأعمال في تخصصه ونقلها إلى العربية لتعم الفائدة.		وصف موجز للمقرر	
عنوان الكتاب المقرر بعض الكتب النحوية مذكرات الأستاذ		الكتب المقررة	
عام دراسي		للمقرر المدة الزمنية	
تعتمد الأساليب والطرق المستخدمة في تدريس المقرر على الآتي: ❖ عن طريق المحاضرات ❖ التدريبات. والتمرين		طريقة التدريس	
1. حفظ اللسان من الخطأ النحوي والاعرابي. 2. معرفة الطالب الشعر العربي وندوقه 3. معرفته للعربية والتدريب على فهمها باعتبارها اللغة الام		الأهداف والمستهدف من المقرر	
الدرجة	الزمن	أساليب التقييم	طريقة التقييم
25%	ساعة	تحريري	النصفي الاول
25%	ساعة	تحريري	النصف الثاني
50%	3 ساعات	تحريري	النهائي
100%			
محتوى المقرر الدراسي			الأسبوع

تمهيد على اهمية اللغة العربية و خصائصها	الأسبوع الاول
الكلام و أقسامه و علامات كل قسم	الأسبوع الثاني
الإعراب و البناء المبنيات	الأسبوع الثالث
الإعراب الظاهر و التقديري علامات الإعراب الأصلية و الفرعية	الأسبوع الرابع
إعراب الفعل المضارع	الأسبوع الخامس
بناء الفعل المضارع	الأسبوع السادس
الأفعال الخمسة	الأسبوع السابع
الأسماء المعربة بالحركات و الحروف	الأسبوع الثامن
الأسماء المعربة بالحركات و الحروف	الأسبوع التاسع
الامتحان النصفى الاول	الأسبوع العاشر
المذكر و المؤنث	الأسبوع الحادي عشر
الجملة الإسمية	الأسبوع الثاني عشر
النواسخ	الأسبوع الثالث عشر
النواسخ	الأسبوع الرابع عشر
قواعد إملائية	الأسبوع الخامس عشر
المعاجم	الأسبوع السادس عشر
الجملة الفعلية (الفعل و أحكامه	الأسبوع السابع عشر
الفاعل و أحكامه .. تنكير الفعل و تأنيث مع الفاعل	الأسبوع الثامن عشر
نائب الفاعل و أحكامه	الأسبوع التاسع عشر
الامتحان النصفى الثاني	الأسبوع العشرون
إسناد الفعل إلى الضمانر	الأسبوع الحادي والعشرين
إسناد الفعل إلى الضمانر	الأسبوع الثاني والعشرون
المفاعيل	الأسبوع الثالث والعشرون
المفاعيل	الأسبوع الرابع والعشرون
العدد و أحكامه و تمييزه و قراءة العدد	الأسبوع الخامس والعشرون
الحال و الاستثناء	الأسبوع السادس والعشرون

التوابع	الأسبوع السابع والعشرون
الهزة في وسط الكلمة و آخرها	الأسبوع الثامن والعشرون
علامات الترقيم	الأسبوع التاسع والعشرون
أنواع الكتابة	الأسبوع الثلاثون
يجب على الطلاب حضور كل المقرر الدراسي في الوقت المحدد ، ولا يسمح بالتغيب إلا لأسباب طبية ويجب دعمه بتقرير طبي. وبناءاً على اللانحة فإن الطالب يحرم من دخول الامتحان إذا تجاوز معدل غيابه 25%.	الحضور والغياب
تلتزم الكلية بضمان حصول الطلاب على كامل المعرفة والمهارات اللازمة للمشاركة الكاملة في جميع جوانب حياتهم، بما في ذلك المهارات التي تمكنهم من القدرة على التقييم وتقديم الملاحظات الطبية بطريقة أكاديمية مناسبة. كما تمكنهم أيضاً من الانخراط في عمل جماعي يتفاعل فيه أعضاؤه باحتراف من أجل أداء الأنشطة و الالتزامات المطلوبة مع القدرة على استخدام التقنيات الطبية الحديثة والتعامل معها.	مهارات عامة
المعلومات الواردة في مخطط المقرر الدراسي هذا صحيحة وقت النشر. وينقح محتوى المقررات الدراسية على أساس مستمر لضمان ملاءمتها لتغير العملية التعليمية. وسيقوم استاذ المقرر بتقديم إشعار بالتغييرات للقسم و ادارة الكلية مع الاخذ بالاعتبار الجدول الزمني المحدد للمنهج.	التغيير والتعديل في المقرر الدراسي

Veterinary Anatomy I

1	Course name	Veterinary Anatomy I
2	Course Code	ANA101
3	Course type: /general/specialty/optional	specialty
4	Accredited units	4Credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences (BVMSc)
8	Instruction Language	English Language
9	Date of course approval	2022
	Brief Description	The course of Veterinary Anatomy is designed to cover the basic knowledge of general and comparative anatomy of the domestic animals. It studies the normal shape and structure of all the different organs and systems of the body, such as locomotor, digestive and nervous systems, etc. The current course is considered a basic building block of clinical sciences which enable the student to identify the normal tissues and organs comparing them later with what is diseased or unhealthy.
	Textbook	Books:

	<p>The Anatomy of the Domestic Animals. ISBN: 9780721641027 Veterinary anatomy of domestic mammals. ISBN: 9783794524853 Textbook of veterinary anatomy. ISBN: 9780323442640 Miller's anatomy of the dog. ISBN: 9781455750092 Anatomy of the dromedary. ISBN: 9780198571889</p> <p><u>كتب اضافية</u> Anatomy of domestic animals, systemic and regional approach. ISBN: 9780962311420 Clinical anatomy of the horse. ISBN: 9780723433026 Anatomy of the Horse. ISBN: 9783899936667</p> <p><u>مجلات علمية</u> Anatomia, Histologia, Embryologia</p> <p><u>مواقع انترنت</u> • Minnesota Veterinary Anatomy Courseware</p>			
Course Duration	One academic year.			
Teaching Method	<ul style="list-style-type: none"> ❖ Theoretical lectures by using data show projector ❖ Practical sessions by using data show projector, dissected specimen and alive animal ❖ Handout of lectures and practices ❖ Library ❖ Student presentations and workshops 			
Course Objectives	<ul style="list-style-type: none"> • Enable students to understand the principle structure and morphology of the domestic animals' tissues and organs as well as distinguishing between tissues or/and organs of different animals. - Students become familiar with anatomical language and terminology which make them able to follow up the updated knowledge, scientific articles and new research comprehensively. - Allowing students to understand the foundation of the course concept in term of correlating anatomical information with the other sciences. - Students would begin early to identify abnormalities of tissues and organs, whether congenital deformity or pathologically, and report them scientifically. • Students become able to deal with dissectional and surgical instruments and techniques as well as the proper managing of a live animal and cadaver. 			
Assessment examination method	Time of Assessment	method of Assessment	hours	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment exam by the end of the year	Written exam	3hrs	40
		Practice exam	3hr	30
	Oral exam	1hr	10	
Course Contents				
1 st week	Introduction to anatomy, topographic terms and divisions of body			

2 nd week	Osteology of fore limb
3 rd week	Osteology of hind limb
4 th week	Osteology of distal limbs
5 th week	Osteology of Axial skeleton
6 th week	Osteology of Axial skeleton
7 th week	Osteology of Axial skeleton - Comparative
8 th week	General myology Myology of fore limb I
9 th week	General arthrology Myology of fore limb II
10th week	First Midterm Exam
11 st week	Arthrology of forelimbs Myology of hind limb I
12 nd week	Arthrology of hind limbs Myology of hind limb II
13 rd week	Arthrology of head, neck and trunk Myology of head and neck
14 th week	Mouth – Oral cavity and Tongue Myology of neck and trunk
15 th week	Tongue and Salivary glands Fetlock, Stifle joints and Nuchal ligament
16 th week	Pharynx Mouth, salivary glands and pharynx
17 th week	Oesophagus and Stomach Abdominal Cavity
18 th week	Stomach
19 th week	Small and Large intestines
20th week	Second Midterm Exam
21 st week	Associated glands
22 nd week	Nose and nasal cavity
23 rd week	Nose and nasal cavity
24 th week	Paranasal sinuses
25 th week	Larynx and trachea Thoracic cavity
26 th week	Lung and bronchial tree Mediastinum and pleura
27 th week	Kidneys, ureters and urinary bladder
28 th week	Male gonads and gonadal ducts Pelvic Cavity

29 th week	Penis, ancillary St. and accessory G. gl. Female gonads
30 th week	Female gonads and tubular genitalia
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Veterinary Biochemistry

1	Course name	Veterinary Biochemistry
2	Course Code	BIC103
3	Course type: /general/specialty/optional	specialist
4	Accredited units	5 credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022
	Brief description of the course	Biochemistry is study of the chemical constituents, such as proteins, carbohydrates, lipids and nucleic acids, of living cells with the chemical reactions and processes that they undergo at the molecular level. By learning that, students will be in strong position to understand the maintenance of health and how it reflects the harmonious balance of biochemical reactions occurring in the animal body; and to understand the effective diagnosis and treatment of diseases and how they reflect abnormalities in biomolecules, biochemical reactions or biochemical processes occurring in the body.
	Prescribed books	Books: •Lippincott's Illustrated Reviews: Biochemistry.ISBN-13: 978-

	1496344496 ISBN-10: 1496344499. <ul style="list-style-type: none"> • Harper's Illustrated Biochemistry. ISBN-13: 978-1259837937. ISBN-10: 1259837939. • Leininger Principles of Biochemistry. ISBN-13: 978-1429234146. ISBN-10: 1429234148. • Textbook of Medical Biochemistry. ISBN-13: 978-9350254844. ISBN-10: 9350254840. • Clinical Chemistry Techniques, Principles, Correlations. ISBN-13: 978-1496335586. ISBN-10: 9781496335586. 			
Course duration	One academic year.			
Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. 			
Objectives and target of the course	<ul style="list-style-type: none"> • The course aims to provide students with a basic understanding of: • The chemical nature of carbohydrate, lipid, protein, nucleotide and vitamin biomolecules; and the principles of bioenergetics and enzyme catalysis. • The metabolism and the metabolic control of dietary and endogenous carbohydrate, lipid, protein and nucleotides; and how the DNA in a genome is organized, replicated, and repaired and how the genetic information in the DNA is selectively expressed as functional proteins and RNA and how this expression is regulated. • The tools used in molecular biology, and their potential applications to medical and veterinary science. • The commonly used measurements in clinical biochemistry and how these measurements can contribute to assessment of the health status of individuals. 			
Assessment examination method	Time of Assessment	method of Assessment	hrs.	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment exam by the end of the year	Written exam	3hrs	50
Pract exam		1hr	20	
Oral exam		1hr	10	
Course contents				
1 st week	<ul style="list-style-type: none"> ➤ Introduction to biochemistry and cell chemistry <ul style="list-style-type: none"> -Definition, basic aspects, significance, aim and principles of biochemistry. -Biomolecules and structure of elements. -Functional groups: Alcohols, amines, esters, aldehydes, ketones, carboxyl and sulfhydryl groups. -Biochemical reactions, covalent and non-covalent bonds. -Water: Structure, properties, hydrogen bonds, polarity, hydrophilic and hydrophobic molecules, ionic dissociation, pH and buffers. 			

	<p>-Monomers and polymers: Carbohydrates, proteins, lipid, nucleic acids, formation and hydrolysis of polymers.</p> <p>-Organelles: Prokaryotes and eukaryotes, biochemical characteristics of cellular organelles.</p> <p>❖ Introduction to laboratory safety</p>
2 nd week	<p>➤ Chemistry of carbohydrates</p> <p>-Introduction, definition and biomedical importance.</p> <p>-Classification of carbohydrates: Monosaccharides, disaccharides, oligosaccharides, polysaccharides.</p> <p>-Classification of monosaccharides: According to the number of carbon atoms (Trioses, tetroses, pentoses and hexoses) and the type of the functional group (aldoses and ketoses).</p> <p>-Monosaccharides representation: Fischer and Haworth projections.</p> <p>-Importance of monosaccharides.</p> <p>-Isomerism: Enantiomers, optical activity, epimers, alpha and beta anomers, pyranose and furanose ring structures, aldose and ketose isomerism.</p> <p>❖ Preparation of chemical solutions</p>
3 rd week	<p>➤ Chemistry of carbohydrates</p> <p>-Sugar derivatives of biomedical importance: Deoxy sugars, amino sugars, amino sugar acids and glycosides.</p> <p>-Disaccharides: Maltose, lactose and sucrose.</p> <p>-Oligosaccharides.</p> <p>-Polysaccharides: Homo and heteropolysaccharides, starch, amylose and amylopectin, glycogen, inulin, cellulose, dextrin, agar, glycoaminoglycans and glycoproteins.</p> <p>❖ Chromatography</p>
4 th week	<p>➤ Chemistry of amino acids and proteins</p> <p>-Biomedical importance of proteins.</p> <p>-Structure of proteins and amino acids</p> <p>-Classification of amino acids: According to the properties of the side chain, the polarity of the side chain, the nutritional importance and the metabolic products.</p> <p>- Functions of amino acids.</p> <p>-Properties of amino acids: Optical activity of amino acids, amphoteric nature of amino acids, peptides formation and disulfide bonds.</p> <p>- Biologically important peptides.</p> <p>❖ Spectrophotometry</p>
5 th week	<p>➤ Chemistry of amino acids and proteins</p> <p>-Structural organization of proteins: Primary, secondary, tertiary and quaternary structures, protein folding and stability and chaperones.</p> <p>-Proteins misfolding and proteins denaturation.</p> <p>-General properties of protein: Taste and odor, molecular weight, viscosity, heat coagulation, amphoteric nature and precipitation of proteins</p>

	❖ Electrophoresis
6 th week	<p>➤ Chemistry of amino acids and proteins -Classification of proteins: According to the shape and size (fibrous and globular proteins and their relationship to the protein function), according to the biological functions and according to the composition, solubility and physical properties (simple, conjugated and derived proteins).</p> <p>➤ Chemistry of nucleotides and nucleic acids - Structure, types and function of purines and pyrimidines nucleotides and nucleic acids</p> <p>❖ Blotting Techniques</p>
7 th week	<p>➤ Chemistry of nucleotides and nucleic acids -Deoxyribonucleic acids (DNA): Structure (primary and secondary structure), organization, linear and circular DNA and denaturation of DNA. -Ribonucleic acid (RNA): Structure (primary, secondary and tertiary structure), types (m-RNA, t-RNA and r-RNA) and small RNAs. -Nucleotides and nucleosides of biological importance: Adenosine nucleotides, guanosine nucleotides, uridine nucleotides, cytidine nucleotides and miscellaneous nucleotides.</p> <p>❖ Immunochemical Techniques</p>
8 th week	<p>➤ Plasma proteins and immunoglobulins -Functions of plasma proteins. -Positive and negative acute phase proteins. -Classification of plasma proteins. -Immunoglobulins: Structure, types, polyclonal and monoclonal antibodies.</p> <p>➤ Enzymes -Definition, nomenclature and classification. -Properties: Active site, specificity, catalytical efficiency, cofactors and regulation of enzyme activity.</p> <p>❖ Amplification of DNA (PCR)</p>
9 th week	<p>Enzymes -Mechanism of enzyme action: The lock & key hypothesis, the induced fit hypothesis. -Factors affecting enzyme action: Substrate concentration (Michaelis-Menten equation), temperature and pH. -Inhibition of enzyme activity: Competitive and non-competitive inhibition. -Regulation of enzyme activity: Regulation of allosteric enzymes, regulation by covalent modification, induction and repression of enzyme synthesis. -Clinical significance of enzymes. Identification of PCR products using gel electrophoresis</p>
10 th week	First Midterm Exam

11 st week	<p>Chemistry of fatty acids and lipids</p> <ul style="list-style-type: none"> -Biomedical importance of lipids. -Classification of lipids. -Simple lipids: Structure and classification. -Fatty acids: Nomenclature, structure, classification (saturated and unsaturated fatty acids), conformation and physical properties. -Triglycerols and waxes. -Complex lipids: Structure and classification, (Glycerophospholipids, sphingophospholipids and glycolipids). <p>Identification of DNA sequences</p>
12 nd week	<ul style="list-style-type: none"> ➤ Chemistry of fatty acids and lipids <ul style="list-style-type: none"> -Derived lipids: Fatty acids, steroids, alcohols (glycerol and sphingosin), fat soluble vitamins (vit A, D, E and K Carotenoids (vit E precursor) and cholesterol derivatives. ➤ Cell membrane and signal transduction <ul style="list-style-type: none"> -Structure of plasma membrane. -Amphipathic lipid orientation at oil: water interface. -Importance and function of membrane proteins, lipids and carbohydrates. -Characters of plasma membranes. -Lipid peroxidation (initiation, propagation, termination). ➤ Cloning of DNA
13 rd week	<ul style="list-style-type: none"> ➤ Cell membrane and signal transduction <ul style="list-style-type: none"> -Cell signaling and signal transduction. -Definition and types of signals: Cell communication (secret chemical signal, contact-depend on signal, gap junction signal) and signal transduction. -Classification of cell signalling according to the chemical characteristics (Hydrophobic messengers, hydrophilic messengers and gaseous signals), signal location (Extracellular and intracellular) and cell receptors (membrane receptors and nucleolus receptors). - Second messenger systems: Adenylyl cyclase system and the calcium/phosphatidyl inositol system. ➤ Biochemistry of hormones <ul style="list-style-type: none"> -Biomedical importance and functions. -Classification according to the chemical nature (steroid hormones, amino acid derivatives hormones and peptide/protein hormones and according to the mechanism of action. -Intracellular receptors of hormones and cell membrane receptors of hormones. -Regulation of hormones levels. ❖ Real-time PCR
14 th week	<ul style="list-style-type: none"> ➤ Biochemistry of vitamins and minerals <ul style="list-style-type: none"> -Fat soluble vitamins: Definition, structure, active forms, function, classification, sources, transport, deficiency, and toxicity. ❖ Organismal cloning

15 th week	<p>➤ Biochemistry of vitamins and minerals</p> <ul style="list-style-type: none"> -Water soluble vitamins: Definition, structure, active forms, function, classification, sources, transport, deficiency, and toxicity. -Minerals: Classification, sources, deficiency and toxicity. <p style="text-align: center;">Gene therapy</p>
16 th week	<p>➤ Introduction of metabolism and energy</p> <ul style="list-style-type: none"> -Definition, catabolic and anabolic reactions. -Regulation of metabolism. -ATP <p>➤ Metabolism of carbohydrates</p> <ul style="list-style-type: none"> -Digestion and absorption of carbohydrates. -Fate of absorbed monosaccharides. -Clinical aspects of carbohydrates digestion and absorption -Glycolysis: Biomedical importance, definition, site, steps and reactions, energy yield, regulation and inhibition. <p>❖ Introduction to clinical biochemistry</p>
17 th week	<p>➤ Metabolism of carbohydrates</p> <ul style="list-style-type: none"> -Fate of pyruvic acid: Conversion to lactic acid, conversion to acetyl CoA (oxidative decarboxylation) and conversion to ethanol. -Citric acid cycle: Biomedical importance, definition, site, steps and reactions, energy yield, regulation, amphibolic nature and inhibition. -Electron transport chain: Biomedical importance, definition, site, steps and reactions, energy yield, oxidative phosphorylation and inhibition. -Energy yield of complete oxidation of glucose to CO₂ and H₂O. <p style="text-align: center;">Fluid and electrolyte balance</p>
18 th week	<p>➤ Metabolism of carbohydrates</p> <ul style="list-style-type: none"> -Hexose monophosphate pathway: Biomedical importance, definition, site, steps, reactions and significance. -Uses of NADPH: Reductive biosynthesis, reduction of H₂O₂, substrate hydroxylation, phagocytosis and synthesis of NO. -Glucose 6-phosphate dehydrogenase (G6PD) deficiency: Role of G6PD in RBC and precipitating factors. -Uronic acid pathway: Biomedical importance, definition, site, steps and reactions and clinical importance. -Gluconeogenesis: Biomedical importance, definition, site, substrates, steps and reactions and regulation <p style="text-align: center;">Fluid and electrolyte balance</p>
19 th week	<p>➤ Metabolism of carbohydrates</p> <ul style="list-style-type: none"> -Glycogen metabolism (Glycogenesis & Glycogenolysis): Biomedical importance, definition, site, steps and reactions, regulation and glycogen storage disease. -Metabolism of galactose: Biomedical importance, definition, site, steps and reactions, regulation and galactosaemia.

	<p>-Metabolism of fructose: Biomedical importance, definition, site, steps and reactions, regulation and disorders of fructose metabolism.</p> <p>❖ Glucose metabolism and diabetes (measurement of blood glucose and glycated hemoglobin (HbA1c))</p>
20th week	2nd MIDTERM EXAM
21 st week	<p>➤ Metabolism of proteins and amino acids</p> <p>-Digestion and absorption of proteins.</p> <p>-Catabolism of amino acids (phase 1): Transamination and oxidative deamination of amino acids; and clinical value of plasma aminotransferases.</p> <p>-Urea cycle: Biomedical importance, definition, site, steps and reactions, fate and regulation.</p> <p>-Catabolism of amino acids phase 2: Catabolism of the carbon skeleton of amino acids, glucogenic amino acids, ketogenic amino acids, glucogenic &ketogenic amino acids.</p>
22 nd week	<p>❖ Plasma enzymes of clinical significance</p> <p>Metabolism of proteins and amino acids</p> <p>-Biosynthesis of non-essential amino acids.</p> <p>-Metabolic defects in amino acids metabolism: Phenylketonuria, Alkaptonuria, Albinism, Homocystinuria, Maple syrup urine disease.</p> <p>-Conversion of amino acids to specialized products: Synthesis and degradation of porphyrins, heme, catecholamines, serotonin, creatine, histamine and melanin.</p> <p style="text-align: center;">Liver function tests</p>
23 rd week	<p>➤ Metabolism of proteins and amino acids</p> <p>-Protein turnover.</p> <p>-Protein's degradation: Ubiquitin-proteasome system, lysosomes system.</p> <p>-Protein's synthesis (translation): Definition, requirements, the genetic code, steps, co-translational and post-translational modification of polypeptide chains.</p> <p style="text-align: center;">Kidney function tests</p>
24 th week	<p>➤ Metabolism of purine and pyrimidine nucleotides</p> <p>-Biomedical importance.</p> <p>-Purine metabolism: De novosynthesis of purine nucleotides (steps and reactions), salvage pathway of purines (steps and reactions),synthetic inhibitors of purine synthesis, synthesis of Deoxyribonucleotides, degradation of purine nucleotides, disorders of purine metabolism (Gout,Lesch-Nyhan syndrome, Adenosine deaminase (ADA) deficiency and Purine Nucleoside Phosphorylase (PNP) deficiency).</p> <p>-Pyrimidine metabolism: De novosynthesis of pyrimidine nucleotides (steps and reactions), salvage pathway of pyrimidines and degradation of pyrimidine nucleotides.</p>

	Lipid profile
25 th week	<p>➤ Metabolism of purine and pyrimidine nucleotides</p> <ul style="list-style-type: none"> - DNA replication: Enzymes, steps (initiation, elongation and termination), inhibitors of DNA replication in prokaryotes and eukaryotes, proofreading and reverse transcriptases. -DNA repair: Repair of methyl-directed mismatch, UV light damage, base alteration excision repair and double strand breaks -DNA transcription: Enzymes, steps (initiation, elongation and termination), inhibitors of DNA transcription in prokaryotes and eukaryotes, posttranscriptional modification of RNA. <p>Gastric function test</p>
26 th week	<p>➤ Regulation of gene expression</p> <ul style="list-style-type: none"> -Biomedical importance, positive and negative regulation, constitutive and inducible genes. -Regulatory sequences and molecules. -Regulation of prokaryotic gene expression: Operons, the lactose operon, the tryptophan operon, coordination of transcription and translation in prokaryotes (stringent response and regulatory ribosomal proteins). <p>Cerebrospinal fluid tests</p>
27 th week	<p>➤ Regulation of gene expression</p> <ul style="list-style-type: none"> -Regulation of eukaryotic gene expression: Trans-acting molecules and Cis-acting regulatory elements, regulatory signals mediated by intracellular receptors, regulatory signals mediated by cell-surface receptors, regulation by co- and posttranscriptional processing of mRNA (Splice-site choice, mRNA editing, mRNA stability, RNA interference (RNAi), RNAi therapy, translation of mRNA) and regulation through modifications to DNA (Access to DNA, amount of DNA, arrangement of DNA, mobile DNA elements). <p>➤ Metabolism of lipids and fatty acids</p> <ul style="list-style-type: none"> -Digestion and absorption of lipids, control of lipids digestion and fate of the absorbed lipids. <p>Vitamins and trace elements measurements</p>
28 th week	<p>➤ Metabolism of lipids and fatty acids</p> <ul style="list-style-type: none"> -De novo synthesis of fatty acids: Biomedical importance, site, requirements, steps and reactions and regulation. -Biosynthesis of triacylglycerols: Biomedical importance, site, requirements, steps and reactions. -Fatty acids oxidation: Biomedical importance, site, steps, reactions and energetic. -Metabolism of ketone bodies (ketogenesis): Biomedical importance, site, requirements, steps and reactions. -Metabolism of ketone bodies (ketolysis): Biomedical importance, site, steps, reactions and ketosis. <p>Hormones measurements</p>

29 th week	<p>➤ Metabolism of lipids and fatty acids</p> <ul style="list-style-type: none"> -Metabolism of cholesterol: Biosynthesis of cholesterol (Biomedical importance, site, requirements, steps and reactions, regulation), degradation of cholesterol, hypercholesterolemia, bile acids and bile salts (Synthesis & degradation, cholelithiasis). -Metabolism of lipoproteins: Biomedical importance, structure of lipoproteins, types of lipoproteins, metabolism of chylomicrons, metabolism of VLDL&LDL, metabolism of HDL. -Metabolism of phospholipids: Biomedical importance, synthesis of glycerophospholipids and sphingophospholipids (site, steps & reactions) and degradation of phospholipids. <p>➤ Integration of metabolism</p> <ul style="list-style-type: none"> -Integration of metabolism (Metabolic effects of insulin and glucagon) -Insulin and glucagon hormones: Structure, synthesis, regulation of secretion, metabolic effects, mechanism of action and time course - Hypoglycemia <p>Tumour markers</p>
30 th week	<p>➤ Integration of metabolism</p> <ul style="list-style-type: none"> -Integration of metabolism (The feed and fast cycle): - Metabolic patterns of liver: fate of carbohydrates, amino acids and lipids - Metabolic patterns of adipose tissues -Metabolic patterns of muscles - Metabolic patterns of brain - Metabolic patterns of blood <p>➤ Xenobiotics</p> <ul style="list-style-type: none"> -Definition, classification (Exogenous and endogenous xenobiotics) and effects on the body. -Metabolism of Xenobiotics: -Phase 1 of xenobiotics metabolism: Hydroxylation, deamination, dehalogenation, desulfuration, epoxidation, preoxygenation or reduction. -Phase 2 of xenobiotics metabolism: Conjugation with glucuronic acid, sulfate, acetate, glutathione, acetylation or methylation. -Detoxification reactions. <p>Pregnancy tests</p>
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
General skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Change and modification in the course	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Veterinary Physiology I

1	Course name	Veterinary Physiology I
2	Course Code	PHY104
3	Course type: /general/specialty/optional	Specialty
4	Accredited units	3 Credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English
9	Date of course approval	2022

Brief Description	<p>Acquire an appropriate functional background of cells, tissues, organs & system and follow the rapidly changing and inflating details about molecular biology & genetics.</p> <p>Explore in detail the functions of different systems and organs as well as their integration to achieve homeostasis.</p> <p>Describe clearly the altered development, growth, structure and function of the body that occur as a result of disease</p> <p>Integrate physiological data and mechanisms with the ongoing basic sciences and their clinical application.</p>
Textbooks	<p>Books:</p> <p>Dukes' Physiology of Domestic Animals (ISBN: 978-1-118-50139-9 - Wiley-Blackwell).</p> <p>Text book of Veterinary physiology by Cunningham (4th edition, 2007). Saunders</p> <p>Physiology of Domestic animals</p> <p>Pathways to pregnancy and parturition</p>
Course Duration	One academic week.
Teaching Method	<ul style="list-style-type: none"> • Lectures. • group interaction and discussion. • self-directed activities. • active participation. • laboratory experiments.
Course Objectives	<p>The primary objective of this course is to understand the physiological processes mediated by the different tissues and organ systems, the intrinsic and extrinsic mechanisms and factors that control their function and the changes that occur in specific measurable parameters when these systems are compromised. In order to understand the changes in function that underlie disease, one must understand normal function and how it is reflected in certain biochemical tests. During this course, frequent reference will be made to disorders and disease states, the biochemical basis behind such disorders, how they affect normal physiology and how they are assessed.</p>

Assessment examination method	Time of Assessment	method of Assessment	hours	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment → Final exam by the end of the year	Written exam	3hrs	50
	Practice exam	2hr	20	
	Oral exam	1hr	10	
Course Contents				
1 st week	Functional organization of the Body? <ul style="list-style-type: none"> • Homeostasis. • Control systems in the body. 			
2 nd week	<ul style="list-style-type: none"> • Physiology of cell. Transport through cell membrane.			
3 rd week	Physiology of Nerve <ul style="list-style-type: none"> • The neuron-structure & functions. • Properties of nerve Fibres. Physiology of action potential and graded potential			
4 th week	Conduction of nerve impulse in myelinated and unmyelinated nerve fibres) . Phases of action potential and local potential Postsynaptic potential (Excitation and inhibition). Classification of Neuron according to shape and function			
5 th week	Physiology of muscle <ul style="list-style-type: none"> • Structure of the muscle. • Skeletal muscle contraction. 			
6 th week	<ul style="list-style-type: none"> • Isometric and isotonic contraction. • Smooth muscle contraction. • Neuromuscular transmission. • Excitation-contraction coupling. • Neuromuscular blockers. 			
7 th week	Autonomic nervous system (ANS): <ul style="list-style-type: none"> • Structure of the ANS(sympathetic and parasympathetic division neurotransmitters, and receptors). 			
8 th week	Functions of the ANS on various organs Accommodation of vision			
9 th week	<ul style="list-style-type: none"> • Central Nervous system (CNS) The concept of central control, revises mechanisms of neural transmission, describes the idea of neural circuits and outlines the component parts of the CNS.			
10 th week	First Mid-term Examination			
11 th week	Sensory input to the CNS: <ul style="list-style-type: none"> • General description of principals of sensory systems including receptive fields, adaption and lateral inhibition and the different modalities. Skin senses (including temperature sensation) and olfactory and taste senses			
12 th week	<ul style="list-style-type: none"> • Description of proprioception including details of the vestibular apparatus, muscle spindles and Golgi tendon organs. • physiological, psychological and philosophical aspects of pain perception 			

13 th week	Motor control: <ul style="list-style-type: none"> • Spinal reflexes, the descending pyramidal and extra-pyramidal systems, the hierarchy of motor control and the consequences of lesions in the descending pathways. • Locomotion and movement
14 th week	<ul style="list-style-type: none"> • Posture and the role of the muscle spindles, vestibular apparatus, visual system and pressure receptors in maintaining posture.
15 th week	<ul style="list-style-type: none"> • These concentrate on the structure and function of the cerebellum and basal ganglia in initiating and coordinating movement.
16 th week	Special senses: <ul style="list-style-type: none"> • Structure and function of the component parts of the eye
17 th week	<ul style="list-style-type: none"> • Central visual pathways and information processing by the visual cortex.. • Colour vision.
18 th week	The auditory senses: <ul style="list-style-type: none"> • The nature of sound and fourier analysis is explained. <p>The structure and function of the different component parts of the inner ear and the generation of neural signals by the cochlea .</p> <p>Central pathways and responses of the auditory cortex are described.</p>
19 th week	Fourier analysis of sound by cochlea
20th week	Second Midterm Exam
21 th week	Blood and Immunity <ul style="list-style-type: none"> • Composition and function of blood. • Blood cell types and function. • Blood cell disorders (anemia and polycythaemia) , white blood cells disorders
22 th week	<p>White blood cells types and function</p> <p>Blood platelets</p> <p>Plasma</p>
23 th week	<ul style="list-style-type: none"> • Blood groups: <ul style="list-style-type: none"> -ABO system -Rh factor • blood transfusion and complication
24 th week	<ul style="list-style-type: none"> • Hemostasis (blood coagulation): <ul style="list-style-type: none"> -Definition -Phase of blood coagulation -Pathways of hemostasis (Extrinsic and intrinsic pathways)
25 th week	<ul style="list-style-type: none"> • Disorders of hemostasis (thrombocytopenia and haemophilia) • Immunity and allergy.
26 ^h week	Acid base balance: <ul style="list-style-type: none"> • The mechanisms that control pH of the body. • Buffer Mechanism
27 th week	<ul style="list-style-type: none"> • Respiratory mechanism of pH control • Urinary mechanism of pH control
28 th week	Renal physiology: <ul style="list-style-type: none"> • Overview of the urinary system • Structure of urinary system

	Function of the kidney (function of nephron) .
29 th week	<ul style="list-style-type: none"> • Process of urine formation (GFR and factors affecting it). • Concentration and dilution of urine Autoregulation
30 th week	<ul style="list-style-type: none"> • Tubular reabsorption • Micturition
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Histology and Embryology

1	Course name	Histology and Embryology
2	Course code	HIE102
3	Course type: /general/specialty/optional	specialty
4	Accredited units	5 Credit
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences (BVMSc)
8	Instruction Language	English
9	Date of course approval	2022
	Brief description of the course	Veterinary histology is the science that focuses on the detailed morphology of domestic animals and correlates specific structures with function and is the basis for understanding abnormal microscopic lesions (histopathology), immunology, clinical pathology, and several other disciplines in veterinary medicine. Veterinary embryology is to understand of the origin, development, structure, final form and relationships of tissues and organs in the embryo and foetus.
	Prescribed books	Books: <ul style="list-style-type: none"> •Dellmann's Textbooks of veterinary histology-ISBN 978-0-7817-

	4148-4 <ul style="list-style-type: none"> • Textbook of applied veterinary histology-ISBN 0-8016-6610-4. • Colour Atlas of veterinary histology -ISBN 978-0-683-30618-7 • Veterinary Embryology-ISBN 978-1-4051-1147-8 • Patten`s foundations of embryology-ISBN 0-07-009875. • Textbook of veterinary histology ISBN 978-0-7216-8174-0 • Comparative Veterinary Histology with Clinical Correlates-ISBN 0-8138-2874-0 • Junqueira's Basic Histology: Text and Atlas -ISBN 978-1260288414. 			
Course duration	One academic year.			
Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ Group interaction and discussion. ❖ Self-directed activities. ❖ Active participation. ❖ Laboratory experiments. ❖ The interne office hours for the teaching staff member. 			
Objectives and target of the course	<ul style="list-style-type: none"> • To acquire a basic background in histology and comparative histology in different species and to understand the properties of cells and their interactions with one another as components of tissues and organs. • To understand how structure and function correlate at the microscopic level and be able to describe the normal structure and function of various cell types, tissues, and organs, and to differentiate their histological structures from each other through examination as well as in different species. • To acquire a basic background of embryology and understanding of the embryonic and fetal stages of developing organisms to its full term of development To discuss the various developmental abnormalities, occur during the stages of development. 			
Assessment examination method	Time of Assessment	method of Assessment	hrs	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment ➔ Final exam by the end of the year	Written exam	3hrs	50
		Pract exam	1hr	20
		Oral exam	1hr	10
Course contents				
1 st week	Cytology and Molecular cell biology			
2 nd week	Cytology and Epithelial tissue			
3 rd week	Epithelial tissue			
4 th week	Connective Tissue: Different types of connective tissue			
5 th week	Connective Tissue: Bone and cartilage			
6 th week	Connective Tissue: Blood			
7 th week	Muscular tissue and Nervous tissue			

8 th week	Nervous tissue and System
9 th week	Cardiovascular System
10th week	1st Midterm Exam
11 st week	Immune System
12 nd week	Digestive System
13 rd week	Digestive System
14 th week	Digestive System
15 th week	Urinary System and Male Genital System
16 th week	Male Genital System
17 th week	Male Genital System and Female Genital System
18 th week	Female Genital System
19 th week	Respiratory System and Endocrine System
20th week	2nd MIDTERM EXAM
21 st week	Endocrine System and Integumentary System
22 nd week	Integumentary System and Special senses
23 rd week	Introduction and gametogenesis
24 th week	Fertilization, cleavage, implantation and placentation
25 th week	Fetal membranes, gastrulation, mesoderm and notochord formation
26 th week	Neurulation and eye development
27 th week	Development of urogenital organs
28 th week	Development of digestive system
29 th week	Development of cardiovascular system
30 th week	Development of respiratory system and limbs
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

English Languish

1	Course name	English Languish
2	Course Code	ENG101
3	Course type: /general/specialty/optional	general
4	Accredited units	2 Credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English
9	Date of course approval	2022

Brief Description	<p>The English language course aim to acquire a general knowledge about veterinary medicine and improve student overall use of the language and their ability to communicate in English. The course is designed to cover the basic knowledge of different topics such as, terminology of veterinary medicine, how to write medical report. Also, the course aims to introduce the use important affixes in veterinary practice.</p>
Textbooks	<p>Books: Ethel Tiersky & Martin Tiersky by Prentice Hall Regents Prentice Hall Inc.</p>
Course Duration	One academic year / First year
Teaching Method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments.
Course Objectives	<p>To acquire a general knowledge about veterinary lexicon. To give students an introduction to the English terminology of medicine. To improve students overall use of the language. To master specific vocabulary and idioms. To improve their ability to communicate in English. To be introduced to the different topics such as, Veterinary anatomy, surgery, medicine, and first aid that the students will study comprehensively the next years. To ease the English learning environment process.</p> <p>To be introduced to a vast number of affixes concerning term of veterinary.</p>

Assessment examination method	Time of Assessment	method of Assessment	hours	Marks
	1st assessment exam at 10th week	1st midterm exam	1hrs	25
	2nd assessment exam at 20th Week	2nd midterm exam	1hrs	25
	One assessment Final exam by the end of the year	Written exam	3hrs	50
Course Contents				
1 st week	Highlights from the History of Medicine			
2 nd week	Exercises of unit 1			
3 rd week	Animal Anatomy			
4 th week	Exercises of unit 2			
5 th week	Disease: Its Symptoms and Treatments			
6 th week	Exercises of unit 3			
7 th week	Common Disease and Ailments			
8 th week	Exercises of unit 4			
9 th week	Physician and Medical Specialties			
10th week	First Midterm Exam			
11 st week	Exercises of unit 5			
12 nd week	Review Exercises: Chapters 1 – 5			
13 rd week	Surgery			
14 th week	Exercises of unit 6			
15 th week	Careers in Health Care			
16 th week	Exercises of unit 7			
17 th week	First Aid in Medical Emergencies			
18 th week	Exercises of unit 8			
19 th week	High-Tech Medicine and Its Consequences			
20th week	Second Midterm Exam			
21 st week	Exercises of unit 9			
22 nd week	Review Exercises Chapters 6 – 9			
23 rd week	Veterinary Terminology & definitions			
24 th week	Veterinary Terminology & definitions			
25 th week	Veterinary Terminology & definitions			
26 th week	Veterinary Terminology & definitions			
27 th week	Veterinary Terminology & definitions			

28 th week	Veterinary Terminology & definitions
29 th week	Veterinary Terminology & definitions
30 th week	Veterinary Terminology & definitions
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Veterinary Physiology II

1	Course name	Veterinary Physiology II
2	Course Code	PHY201
3	Course type: /general/specialty/optional	Specialty
4	Accredited units	4 Credits
5	Educational hours	-----
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English
9	Date of course approval	2022

Brief Description	<p>Acquire an appropriate functional background of cells, tissues, organs & system and follow the rapidly changing and inflating details about molecular biology & genetics.</p> <p>Explore in detail the functions of different systems and organs as well as their integration to achieve homeostasis.</p> <p>Describe clearly the altered development, growth, structure and function of the body that occur as a result of disease</p> <p>Integrate physiological data and mechanisms with the ongoing basic sciences and their clinical application.</p>
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Text books	Books: Dukes' Physiology of Domestic Animals (ISBN: 978-1-118-50139-9 - Wiley-Blackwell). Text book of Veterinary physiology by Cunningham (4th edition, 2007). Saunders Physiology of Domestic animals Pathways to pregnancy and parturition			
Course Duration	One academic year.			
Teaching Method	<ul style="list-style-type: none"> • Lectures. • group interaction and discussion. • self-directed activities. • active participation. • laboratory experiments. 			
Course Objectives	The primary objective of this course is to understand the physiological processes mediated by the different tissues and organ systems, the intrinsic and extrinsic mechanisms and factors that control their function and the changes that occur in specific measurable parameters when these systems are compromised. In order to understand the changes in function that underlie disease, one must understand normal function and how it is reflected in certain biochemical tests. During this course, frequent reference will be made to disorders and disease states, the biochemical basis behind such disorders, how they affect normal physiology and how they are assessed.			
Assessment examination method	Time of Assessment	method of Assessment	hours	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment → final exam by the end of the year	Written exam	3hrs	50
		Practice exam	2hr	20
		Oral exam	1hr	10
Course Contents				
1 st week	Respiratory system: <ul style="list-style-type: none"> • Organization / functions of respiratory tract. • Functions of lungs (respiratory & non respiratory). • Mechanics of breathing. • Protective reflexes. 			
2 nd week	<ul style="list-style-type: none"> • Lung volumes and capacities. 			
3 rd week	<ul style="list-style-type: none"> • Diffusion of gases (composition). • Ventilation and perfusion. • Transport of CO₂ in blood. • Regulation of respiration (Nervous and Chemical). 			
4 th week	<ul style="list-style-type: none"> • Hypoxia-types and cause 			
5 th week	Cardio Vascular system: <ul style="list-style-type: none"> • Introduction to heart & circulation. • Physiology of cardiac muscle. 			
6 th week	<ul style="list-style-type: none"> • Action potential in atrial & ventricular myositis. • Muscle and pacemaker potential. 			

6 th week	<ul style="list-style-type: none"> • Regulation of cardiac functions. • Cardiac impulse-origin & propagation. • Cardiac cycle- various events.
7 th week	<ul style="list-style-type: none"> • Cardiac out-put (regulation/measurement). • ECG-Recording & interpretation. • Functional types of blood vessels. • Local control of blood flow.
8 th week	<ul style="list-style-type: none"> • Systemic circulation, characteristics and control. • Regulation of peripheral resistance. • Blood pressure • Heart sound/murmurs. • Venous return & its regulation. • Coronary circulation.
9 th week	<p>Gastrointestinal Tract</p> <ul style="list-style-type: none"> • Structures of digestive system • Primary function of digestive system <p>Neural control of GIT</p>
10th week	First Mid-term Examination
11 th week	<ul style="list-style-type: none"> • Digestion of Food in the in the Oral Cavity <p>Salivary gland (function of saliva), composition, control of saliva secretion, and deficiency of saliva (Xerostomia)in monogastric animals</p>
12 th week	<p>Digestion in the stomach of monogastric animals :</p> <p>Function of stomach; structure of stomach and control of gastric juice secretion</p> <p>Cells of stomach</p> <p>Regulation of gastric Secretion, Motility and Emptying</p> <p>Vomiting (causes and mechanism of vomiting)</p> <p>Side effect of prolonged and excessive vomiting</p>
13 th week	<ul style="list-style-type: none"> • Small Intestine • Structure of small intestine • Types of motilities <p>Digestion of nutrient (carbohydrate, proteins and fats).</p>
14 th week	Ruminant digestion
15 th week	Quine digestion
16 th week	Comparative avian digestion
17 th week	<ul style="list-style-type: none"> • Endocrinology • General principles (classification, mechanism of action, feedback control). <p>Biosynthesis, transport, metabolism, actions and control of secretion of Hormones.</p>
18 th week	<p>Pituitary gland (Hypophysis) hormones.</p> <p>Releasing hormones (RH)</p> <p>Classification of hormone</p> <ul style="list-style-type: none"> • Function of growth hormone • Regulation of hormone secretion <p>Disorder of GH secretion</p>
19 th week	<ul style="list-style-type: none"> • Thyroid gland • Function of thyroxin and disorders of thyroid hormones

	<ul style="list-style-type: none"> • The Parathyroid Gland(PTH , function and disorders) Hormones regulate calcium metabolism (Vit.D , Calcitonin and PTH
20th week	Second Midterm Exam
21th week	The adrenal gland Structure of Adrenal gland Hormones of adrenal gland renin-angiotensin-Aldosterone mechanism Function of Cortisol and its clinical application Disorders of adrenal cortical hormones (Addison disease , Cushing syndrome (Hypercoticism) and Adrenogenital syndrome
22th week	THE PANCREAS Islets of Langerhans cells (Insulin and glucagon) The action of insulin Disorders of insulin (DM , types of DM and control of DM) Complication of DM
23th week	Physiology of Reproductive system 1. Female R.S. <ul style="list-style-type: none"> • Function of female reproductive system • Female reproductive cycles • Control of reproductive cycles.
24 th week	<ul style="list-style-type: none"> • Female reproductive cycles and its Control of reproductive cycles.
25 th week	Pregnancy: Fertilization, Embryo development, Fetal development, stages of pregnancy, control of pregnancy (hormonal and other factors)
26 th week	Parturition: Hormonal changes during parturition , stages of parturition , and retained placenta
27 th week	Male Reproductive system Structure and function of male reproductive system
28 th week	Spermatogenesis
29 th week	Thermoregulation (introduction)
30 th week	Mechanisms of heat exchange to maintain homeostasis: conduction, convection, radiation, and evaporation.
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Veterinary Anatomy II

1	Course name	Veterinary Anatomy II
2	Course Code	ANA206
3	Course type: /general/specialty/optional	specialty
4	Accredited units	3Credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences (BVMSc)
8	Instruction Language	English Language
9	Date of course approval	2022

Brief Description	The course of Veterinary Anatomy is designed to cover the basic knowledge of general and comparative anatomy of the domestic animals. It studies the normal shape and structure of all the different organs and systems of the body, such as locomotor, digestive and nervous systems, etc. The current course is considered a basic building block of clinical sciences which enable the student to identify the normal tissues and organs comparing them later with what is diseased or unhealthy.
Textbooks	<p>Books: The Anatomy of the Domestic Animals. ISBN: 9780721641027 Veterinary anatomy of domestic mammals. ISBN: 9783794524853 Textbook of veterinary anatomy. ISBN: 9780323442640 Miller's anatomy of the dog. ISBN: 9781455750092 Anatomy of the dromedary. ISBN: 9780198571889</p> <p><u>كتب اضافية</u> Anatomy of domestic animals, systemic and regional approach. ISBN: 9780962311420 Clinical anatomy of the horse. ISBN: 9780723433026 Anatomy of the Horse. ISBN: 9783899936667</p> <p><u>مجلات علمية</u> Anatomia, Histologia, Embryologia</p> <p><u>مواقع انترنت</u> • Minnesota Veterinary Anatomy Courseware</p>
Course Duration	One academic year.
Teaching Method	<ul style="list-style-type: none"> ❖ Theoretical lectures by using data show projector ❖ Practical sessions by using data show projector, dissected

	<ul style="list-style-type: none"> ❖ specimen and alive animal ❖ Handout of lectures and practices ❖ Library ❖ Student presentations and workshops 																						
Course Objectives	<ul style="list-style-type: none"> • Enable students to understand the principle structure and morphology of the domestic animals' tissues and organs as well as distinguishing between tissues or/and organs of different animals. - Students become familiar with anatomical language and terminology which make them able to follow up the updated knowledge, scientific articles and new research comprehensively. - Allowing students to understand the foundation of the course concept in term of correlating anatomical information with the other sciences. - Students would begin early to identify abnormalities of tissues and organs, whether congenital deformity or pathologically, and report them scientifically. • Students become able to deal with dissectional and surgical instruments and techniques as well as the proper managing of a live animal and cadaver. 																						
Assessment examination method	<table border="1"> <thead> <tr> <th>Time of Assessment</th> <th>method of Assessment</th> <th>hours</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>1st assessment exam at 10th week</td> <td>1st midterm exam</td> <td>1hrs</td> <td>10</td> </tr> <tr> <td>2nd assessment exam at 20th Week</td> <td>2nd midterm exam</td> <td>1hrs</td> <td>10</td> </tr> <tr> <td rowspan="3">3rd assessment → final exam by the end of the year</td> <td>Written exam</td> <td>3hrs</td> <td>40</td> </tr> <tr> <td>Practice exam</td> <td>3hr</td> <td>30</td> </tr> <tr> <td>Oral exam</td> <td>1hr</td> <td>10</td> </tr> </tbody> </table>	Time of Assessment	method of Assessment	hours	Marks	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10	3 rd assessment → final exam by the end of the year	Written exam	3hrs	40	Practice exam	3hr	30	Oral exam	1hr	10
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	3 rd assessment → final exam by the end of the year	Written exam	3hrs	40																			
Practice exam		3hr	30																				
Oral exam		1hr	10																				
Course Contents																							
1 st week	Pericardium and Heart																						
2 nd week	Heart																						
3 rd week	Blood supply of thorax and abdomen																						
4 th week	Blood supply of abdomen																						
5 th week	Blood supply of head and neck																						
6 th week	Blood supply of forelimb																						
7 th week	Blood supply of hind limb																						
8 th week	Blood supply of pelvis																						
9 th week	Introduction to lymph and L. centres																						
10th week	First Midterm Exam																						
11 st week	Lymph centres (thoracic, abdomen and pelvis)																						
12 nd week	Lymphatic ducts and organs																						
13 rd week	Brain, spinal cord																						

14 th week	Brain, meninges and CSF
15 th week	Cranial nerves
16 th week	Cranial nerves
17 th week	Spinal nerves (Cervical, thoracic, lumbar, sacral and caudal)
18 th week	Brachial plexus
19 th week	Lumbosacral plexus
20th week	Second Midterm Exam
21 st week	Autonomic nervous system
22 nd week	Sense organs: Eye
23 rd week	Sense organs: Eye
24 th week	Sense organs: Ear
25 th week	Endocrinology
26 th week	Common Integument: Hoof
27 th week	Common Integument: Hoof (comparative)
28 th week	Common Integument: Skin and its glands, horns
29 th week	Mammary glands
30 th week	Surface Anatomy
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Genetics and Animal Breeding

1	Course name	Genetics and Animal Breeding
2	Course code	GAB204
3	Course type: /general/specialty/optional	specialty
4	Accredited units	3 Credit
5	Educational hours	.....

6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences (BVMSc)
8	Instruction Language	English
9	Date of course approval	2022
	Brief description of the course	<ul style="list-style-type: none"> • The course aimed to introduce the principles of molecular biology, genetics and population genetics as well as animal breeding. • This course designed to use these principles in livestock improvement. • The course will also introduce to the student types of genetic syndromes and mutations and some genetic tests used to identify the genetic defects. • This course will present students to the principles and concepts of types of basic statistical analysis used to describe and evaluate animal populations. • This course then discusses selection principles for short- and long-term responses on herd improvement. • This course focuses on interpretation of performance records and estimated genetic values. • The course also aimed to explain heritability in different classes of livestock and develop a set of aims for a breeding program. • This course will introduce traditional and modern techniques that can assist them in the scientific and research field.
	Prescribed books	Books: <ul style="list-style-type: none"> • Understanding Animal Breeding -ISBN 9781292052069. • Introduction to veterinary genetics -ISBN 978-1-405-16832-8. • Principles of genetics -ISBN 978-0-683-30618-7. • Genetics of livestock improvement -ISBN 978-0023539008. • Molecular Biology Made Simple and Fun -ISBN 1889899070. • Color atlas of genetics ISBN 9783132414419.
	Course duration	One academic year.
	Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. ❖ the interne office hours for the teaching staff member.
	Objectives and target of the course	<ul style="list-style-type: none"> • The course aimed to introduce the principles of molecular biology, genetics, and population genetics as well as animal breeding. • This course designed to use these principles in livestock improvement. • The course will also introduce to the student types of genetic syndromes and mutations and some genetic tests used to identify the genetic defects. • This course will present students to the principles and concepts of types of basic statistical analysis used to describe and evaluate animal populations. • This course then discusses selection principles for short- and long-term responses on herd improvement. • This course focuses on interpretation of performance records and

	<p>estimated genetic values.</p> <ul style="list-style-type: none"> The course also aimed to explain heritability in different classes of livestock and develop a set of aims for a breeding program. This course will introduce traditional and modern techniques that can assist them in the scientific and research field. 			
Assessment examination method	Time of Assessment	method of Assessment	hrs	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment exam by the end of the year	Written exam	3hrs	50
Pract exam		1hr	20	
Oral exam		1hr	10	
Course contents				
1 st week	<p>INTRODUCTION:</p> <ul style="list-style-type: none"> An overview Brief history Basic concepts of genetics. 			
2 nd week	<p>CYTOGENETIC:</p> <ul style="list-style-type: none"> Chromosomes Sex chromosomes Gametogenesis Sex determination Dosage compensation Twins and genetics Karyotype. 			
3 rd week	<p>CYTOGENETIC:</p> <ul style="list-style-type: none"> Chromosomes Sex chromosomes Gametogenesis Sex determination Dosage compensation Twins and genetics Karyotype. 			
4 th week	<p>MOLECULAR GENETICS:</p> <ul style="list-style-type: none"> Nucleic acids Nucleoproteins Nucleosome DNA packaging Types of DNA Gene and Genetic code DNA replication DNA repair Mitochondrial DNA Flow of genetic information Gene regulation DNA & RNA extraction. Sequencing Sequencing analysis Recombinant DNA (Restriction enzymes/ Gene Transfer/ 			

	<p>Gene Knockout/knockdown).</p> <ul style="list-style-type: none"> • DNA libraries /Cloning
5 th week	<p>MOLECULAR GENETICS:</p> <ul style="list-style-type: none"> • Nucleic acids • Nucleoproteins • Nucleosome • DNA packaging • Types of DNA • Gene and Genetic code • DNA replication • DNA repair • Mitochondrial DNA • Flow of genetic information • Gene regulation • DNA & RNA extraction. • Sequencing • Sequencing analysis • Recombinant DNA (Restriction enzymes/ Gene Transfer/ Gene Knockout/knockdown). • DNA libraries /Cloning
6 th week	<p>INTRODUCTION TO MENDELIAN GENETICS:</p> <ul style="list-style-type: none"> • Basic terminology • Mendel's laws • Monohybrid cross • Polyhybrid crosses
7 th week	<p>INTRODUCTION TO MENDELIAN GENETICS:</p> <ul style="list-style-type: none"> • Basic terminology • Mendel's laws • Monohybrid cross • Polyhybrid crosses
8 th week	<p>GENETIC MUTATIONS:</p> <ul style="list-style-type: none"> • Mutagens • Mutagenesis. • Chromosomal mutations
9 th week	<p>GENETIC MUTATIONS:</p> <ul style="list-style-type: none"> • Mutagens • Mutagenesis. • Chromosomal mutations
10 th week	1st MIDTERM EXAM
11 st week	<p>GENETIC MUTATIONS:</p> <ul style="list-style-type: none"> • Mutagens • Mutagenesis. • Chromosomal mutations
12 nd week	<p>GENETIC MUTATIONS:</p> <ul style="list-style-type: none"> • Chromosomal mutations • Gene mutations. <p>GENETIC DISEASES:</p> <ul style="list-style-type: none"> • Syndromes • Mitochondrial diseases. • Genetic resistance to diseases.

13 rd week	<p>GENETIC MUTATIONS:</p> <ul style="list-style-type: none"> • Chromosomal mutations • Gene mutations. <p>GENETIC DISEASES:</p> <ul style="list-style-type: none"> • Syndromes • Mitochondrial diseases. • Genetic resistance to diseases.
14 th week	<p>INTERACTION OF GENES:</p> <ul style="list-style-type: none"> • Phenotypic expression of genes. • Modifications of inheritance ratios. • Additive genetic patterns. • Non additive genetic patterns. • Cause of variations in gene expression.
15 th week	<p>INTERACTION OF GENES:</p> <ul style="list-style-type: none"> • Phenotypic expression of genes. • Modifications of inheritance ratios. • Additive genetic patterns. • Non additive genetic patterns. • Cause of variations in gene expression.
16 th week	<p>CAUSES OF VARIATION IN PHENOTYPIC RATIOS:</p> <ul style="list-style-type: none"> • Linkage of genes: Types of linkage • Types of Sex-linked inheritance • Sex-linked inheritance (X-linked genes/ X-Y linked genes & X-Y linked genes) • Sex-influenced inheritance. • Sex-limited inheritance.
17 th week	<p>CAUSES OF VARIATION IN PHENOTYPIC RATIOS:</p> <ul style="list-style-type: none"> • Linkage of genes: Types of linkage • Types of Sex-linked inheritance • Sex-linked inheritance (X-linked genes/ X-Y linked genes & X-Y linked genes) • Sex-influenced inheritance. • Sex-limited inheritance.
18 th week	<p>SEGREGATION AND RECOMBINATION OF GENES:</p> <ul style="list-style-type: none"> • Probability • Segregation of genes in the gametes • Recombination of genes in the zygotes • Linkage, recombination and crossing-over • Gene mapping. • Genetic distance between gene loci and recombination frequency.
19 th week	<p>SEGREGATION AND RECOMBINATION OF GENES:</p> <ul style="list-style-type: none"> • Probability • Segregation of genes in the gametes • Recombination of genes in the zygotes • Linkage, recombination and crossing-over • Gene mapping. • Genetic distance between gene loci and recombination frequency.
20 th week	2nd MIDTERM EXAM
21 st week	<p>EVOLUTIONARY GENETICS:</p> <ul style="list-style-type: none"> • Genetic variation in natural populations

	<ul style="list-style-type: none"> • Genetic Markers • Segregation analysis with genetic markers. • Molecular and evolution.
22 nd week	<p><i>EVOLUTIONARY GENETICS:</i></p> <ul style="list-style-type: none"> • Genetic variation in natural populations • Genetic Markers • Segregation analysis with genetic markers. • Molecular and evolution.
23 rd week	<p><i>EVOLUTIONARY GENETICS:</i></p> <ul style="list-style-type: none"> • Genetic variation in natural populations • Genetic Markers • Segregation analysis with genetic markers. • Molecular and evolution.
24 th week	<p><i>INTRODUCTION: An overview.</i></p> <ul style="list-style-type: none"> • Overview of the livestock industry • History of Animal Breeding. • Animal breed characterization/ <p><i>MENDELIAN INHERITANCE:</i></p> <ul style="list-style-type: none"> • Patterns of Gene Inheritance • Non-Mendelian Inheritance • The Genetic Model
25 th week	<p><i>Population Genetics applied to Animal Breeding:</i></p> <ul style="list-style-type: none"> • Introduction to Population Genetics • Population Structure and Gene Flow • Gene and genotypic frequencies • Forces changing gene frequencies in populations • Hardy-Weinberg principle • ABO system
26 th week	<p><i>GENETIC AND PHENOTYPIC VARIATION:</i></p> <ul style="list-style-type: none"> • Basic statistics for animal breeding • Mean, Variance and standard deviation • Probability distributions • Variance and covariance components • Correlation and regression • Analysis of variance(ANOVA) • Genetic parameters • Hypothesis testing for a parameter of a population • Estimation of genetic parameters; • Breeding value (Computation and uses) • Heritability • Repeatability. • Genetic correlation, phenotypic correlation and environmental correlation • Production and management- • Heredity and environment. • Inheritance of quantitative traits-Inheritance of qualitative traits
27 th week	<p><i>PRINCIPLES OF SELECTION:</i></p> <ul style="list-style-type: none"> • Selection and its effects • Genotypic and phenotypic effects of selection • Basic concept; selection differential, intensity of selection. • Response to selection and generation Interval/Annual genetic

	<ul style="list-style-type: none"> gain Multiple trait selection methods (Tandem selection/ Independent culling levels/ Selection Index) Application of genomic selection Introduction to marker-assisted selection.
28 th week	<p>PROGRAMS FOR GENETIC EVALUATION:</p> <ul style="list-style-type: none"> Introduction to performance programs Adjustments of records On-farm testing Across-herd evaluation (Central test stations Reference sire concept EBVs, EPDs and accuracy). Breeding value and genetic prediction Nucleus breeding schemes; Reference sire schemes- Progeny testing- Repeated records, Repeatability, and Estimated- Producing Ability
29 th week	<ul style="list-style-type: none"> Mating systems for simply inherited traits, Random and assortative mating- Mating Strategies Based on Animal Performance Mating Strategies Based on Pedigree- Inbreeding and relationship Computing level of inbreeding and relationship Effects of inbreeding Linebreeding. Methods of estimating inbreeding coefficient Breeding value, estimation of breeding value Outbreeding Crossbreeding Developing crossbreeding systems. Hybrid vigor, Types of hybrid vigor. Quick genetic change
30 th week	<p>MODERN TECHNOLOGIES FOR ANIMAL BREEDING:</p> <ul style="list-style-type: none"> Animal Breeding programmers for rural development Impact of A.I and E.T/ Embryo manipulation, Sex control Testing for genetic abnormalities Gene mapping and Quantitative Trait Loci (QTL) Mapping and its application in animal breeding Selection for disease resistance and development. Mapping of disease resistance genes in livestock
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the

	changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.
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Animal Husbandry

1	Course name	Animal Husbandry
2	Course code	AHU202
3	Course type: /general/specialty/optional	Specialty
4	Accredited units	4 Credits
5	Educational hours	.....
6	Pre-required requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Teaching Language	English
9	Course approval date	2022
Brief description of the course		<ul style="list-style-type: none"> • Use theoretical and practical knowledge in the subjects related to animal husbandry • Obtaining and applies social skills, communication skills, thinking skills, research skills, and self-management skills throughout the program. Is aware of his professional responsibilities with knowledge, skills, values, and competencies and transfer basic knowledge and skills through written and verbal communication. • Analyzes professional events and phenomena by using scientific techniques and methods, interprets results and offers solutions and gain the ability to apply mating methods and care in cattle, sheep and goat breeding Knows the basic principles and concepts in horse and poultry breeding and evaluates the efficiency of animal breeds according to their yield. Gain the ability to apply selection to increase race yields. • Knows the relationship between environment and animal, fulfills the service obligation for society through research and technology transfer in addition to Follow and implement the developments in management and organization practices of livestock enterprises.
Prescribed books		<p>Books: Domestic Animal Behavior and Welfare. 978-1780645391. Farm Animals: Husbandry, Behavior and Veterinary Practice Hardcover. ISBN: 978-0839117698. Handbook of Laboratory Animal Management and Welfare. ISBN: 978-0-470-65549. Handbook of Laboratory Animal Management and Welfare. ISBN: 978-0-470-65549. Textbook of Animal Husbandry. ISBN: 9788127258443. Scientific Farm Animal Production. ISBN: 978-0133767209.</p>

	Animal husbandry and veterinary science. Volume I; Volume II.. ISBN: 9848094018.			
Course duration	One academic year.			
Teaching method	<ul style="list-style-type: none"> ❖ Theoretical lectures by using data show projector. ❖ Practical sessions by using data show projector, dissected specimen, and alive animal. ❖ Handout of lectures and practices. ❖ Library. ❖ Student presentations and workshops. 			
Objectives and target of the course	<ul style="list-style-type: none"> • Use theoretical and practical knowledge in the subjects related to animal husbandry • Obtaining and applies social skills, communication skills, thinking skills, research skills, and self-management skills throughout the program. Is aware of his professional responsibilities with knowledge, skills, values and competencies and transfer basic knowledge and skills through written and verbal communication. • Analyzes professional events and phenomena by using scientific techniques and methods, interprets results and offers solutions and Gain the ability to apply mating methods and care in cattle, sheep and goat breeding Knows the basic principles and concepts in horse and poultry breeding and Evaluates the efficiency of animal breeds according to their yield. Gain the ability to apply selection to increase race yields. • Knows the relationship between environment and animal, fulfills the service obligation for society through research and technology transfer in addition to Follow and implement the developments in management and organization practices of livestock enterprises. 			
Assessment examination method	Time of Assessment	method of Assessment	hrs.	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment → Final exam by the end of the year	Written exam	3hrs	40
		Pract. exam	1hr	30
		Oral exam	1hr	10
Course contents				
1 st week	INTRODUCTION: <ul style="list-style-type: none"> • An overview • Brief history • Definition of common terms 			
2 nd week	<ul style="list-style-type: none"> • Equine Care, Husbandry, and management. 			
3 rd week	<ul style="list-style-type: none"> • Equine Care, Husbandry, and management 			
4 th week	Cattle Care, Husbandry, and management (Identification and Records)			

5 th week	Cattle Care, Husbandry, and management (Identification and Records)
6 th week	Cattle Care, Husbandry, and management (Identification and Records).
7 th week	Sheep & goat Care, Husbandry, and management (Facilities & Equipment
8 th week	Sheep & goat Care, Husbandry, and management (Facilities & Equipment
9 th week	Camel Care, Husbandry and management
10th week	1st MIDTERM EXAM
11 st week	Poultry Care, Husbandry, and management.
12 nd week	Poultry Care, Husbandry, and management.
13 rd week	• Dogs & cats Care, Husbandry, and management
14 th week	• Dogs & cats Care, Husbandry, and management
15 th week	• Lab animals Care, Husbandry, and management.
16 th week	• Lab animals Care, Husbandry, and management.
17 th week	• Animal health Management veterinary care frequency.
18 th week	• Animal health Management veterinary care frequency.
19 th week	Approaching, handling & restrain a) equine b) cattle c) sheep and goat d) camel e) Dogs & cats
20th week	2nd MIDTERM EXAM
21 st week	<i>INTRODUCTION: An overview.</i> • Overview of the livestock industry • History of Animal Breeding Animal breed characterization
22 nd week	<i>INTRODUCTION: An overview.</i> • Overview of the livestock industry • History of Animal Breeding Animal breed characterization
23 rd week	Description, Identification & Points of farm animals a) horse b) cattle c) sheep d) goat e) camel f) poultry g) Dogs & cats
24 th week	Administration of Medicine • Equipment's & instrumentation Hardy-Weinberg principle, ABO

25 th week	Ageing livestock a) dentition of the horse b) dentition of cattle c) dentition of sheep d) dentition of camel e) dentition of dogs
26 th week	Grooming & clipping • Shearing & dipping • Bedding • Shoeing • Clothing Animal health signs
27 th week	Introduction on animal's behavior • Types of animal behavior The special senses resting and sleeping behavior Aim of ethology
28 th week	• Cattle behavior • Camel behavior • poultry behavior
29 th week	• poultry behavior • Equine Behavior • Sheep and Goat behavior
30 th week	• behavior of pet • Animal Environment and Housing • Behavioral Management • Artificial insemination
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
General skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Change and modification in the course	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Animal Nutrition

1	Course name	Animal Nutrition
2	Course Code	ANT203
3	Course type: /general/specialty/optional	Obligatory
4	Accredited units	4 credits

5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022
	Brief description of the course	Aware with the dietary nutrients needs for animals, primarily those in Agriculture and food and to ensure that students have good information about healthy food is a choice, before you can fully explore that choice, which it helps to have a bit an understanding about what food is and what it delivers to your body. students should have sufficient knowledge about essential nutrients, which can't make either for we or form animals in sufficient quantities to meet daily requirements. So we should added to the diet such as minerals, most vitamins, some amino acids and some fatty acids. Also they should know about the Non-essential nutrients that can be synthesized within the body, but insufficient amounts to meet the requirements or may also come from the diet. Providing with full information about sources, chemical composition, digestion, absorption, physiological mode of action, deficiency symptoms of all nutrients such as water, CHO, Protein, Lipids, energy and vitamins and minerals at different growth stages. Sufficient knowledge to use laboratory facilities (apparatus) for determination the chemical compositions of different feed stuff to be used in the ratio formulation at maintenance and production levels for farm animal feedings. Provide them with the crucial information about classification of feeds, feed additive types, evaluation of feeds (<i>in-vivo</i> , <i>in-vitro in-sacoo</i> , TDN and in direct method using markers).
	Prescribed Books	Books: <ul style="list-style-type: none"> • Animal Nutrition.ISBN 10: 1408204231 ISBN 13: 9781408204238. • Animal Nutrition SBN-100471308641. • Energy and Protein requirements of ruminants NRC for Sheep, Poultry, Cattle, and beef cattle.9780851988511
	Course duration	One academic year.
	Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments.
	Objectives and target of the course	<ul style="list-style-type: none"> • Aware with the dietary nutrients needs for animals, primarily those in Agriculture and food and to ensure that students have good information about healthy food is a choice, before you can fully explore that choice, which it helps to have a bit an understanding about what food actually is and what it delivers to your body. • To be fully aware that students have sufficient knowledge about essential nutrients, which can't make either for we or form animals in sufficient quantities to meet daily requirements. So, we should add to the diet such as minerals, most vitamins, some amino acids and some fatty acids. Also, they should know about the non-essential nutrients that can be synthesized within the body, but insufficient amounts to meet the requirements or may also come from the diet.

	<ul style="list-style-type: none"> • Providing with full information about sources, chemical composition, digestion, absorption, physiological mode of action, deficiency symptoms of all nutrients such as water, CHO, Protein, Lipids, energy and vitamins and minerals at different growth stages. Sufficient knowledge to use laboratory facilities (apparatus) for determination the chemical compositions of different feed stuff to be used in the ratio formulation at maintenance and production levels for farm animal feedings. • Crucial information about classification of feeds, feed additive types, evaluation of feeds (in-vivo, in-vitro in-sacco, TDN and in direct method using markers). 			
Assessment examination method	Time of Assessment	method of Assessment	hrs.	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment → Final exam by the end of the year	Written exam	3hrs	50
		Pract. exam	1hr	20
	Oral exam	1hr	10	
Second Year				
Course contents				
1 st week	Introduction of Nutrition Introduction to course, expectation, world feed status, nutrient classes, Micro and Macro nutrients, Essential and Non- essential nutrients, Supplements and Factors improving the nutritional needs.			
2 nd week	Water Important, Sources, Structure, Sources, quality, Properties, metabolism and of water. In addition, water losses, Requirement of water, average daily requirement, Water turn over and Effect of lack of water.			
3 rd week	Protein Definitions, schemes, composition, classifications, functions and deficiencies. Methods of protein Assessments (chemical, Biological and Microbiological), Nitrogen Balance, A As Imbalance (A. As deficiency, A. As Antagonism and A.A toxicity). Utilization of Non protein nitrogenous compounds and Urea Properties and deficiencies.			
4 th week	Protein Digestion Protein digestion in Mon- gastric Animals. Digestion of Protein in Ruminant animals.			
5 th week	Carbohydrate Definitions, source, classifications, functions, Metabolism and deficiencies of CHO.			
6 th week	Carbohydrate Digestion of CHO in Mon-gastric Animals. Digestion of CHO in Ruminant Animals.			
7 th week	Lipid Definitions, functions, deficiencies, classification of Lipids. Fatty acids (Saturated and Unsaturated fatty acids), TAG and Mixed TAC, Physical and Chemical properties of Un saturated and Saturated fatty acids. Essential Fatty acids, Iodine number, Saponification and oxidation. Fat			

	metabolism (α, β, γ)(Calculation of Net energy produced from oxidation of fatty acids.
8 th week	Lipid Digestion of fats in Mono-gastric Animals. Digestion of fats in Ruminant Animals .
9 th week	Energy Definition of energy, Some energy terms (Heat and Calories), Forms of Energy, GE Chart for Ruminant and Poultry. GE, DE, ME, CH ₄ and NE calculations.
10th week	First Midterm Exam
11 st week	Energy DE, TME, Methane loss in Herbivores. Factors effecting ME, RQ Quatient, BMR, and Factors affecting BMR , TDN.
12 nd week	Minerals General information about Minerals, Definitions, Sources, Classification, functions, and deficiency Symptom. The biological Active form of minerals and Treatments of Macro Elements.
13 rd week	Minerals General information about Trace Minerals, Definitions, Sources, Classification, functions and deficiency Symptom. The biological Active form of minerals and. Treatments of Micro Elements.
14 th week	Vitamins Definitions, history of Vitamin inventions classifications (ADEK) Fat soluble vitamins, functions, Chemical nature, metabolism, Deficiency, Clinical signs of deficiency and the active forms of vitamins.
15 th week	Water Soluble Vitamins General Vitamin B complex and vitamin C. Functions, Chemical nature, metabolism, Deficiency, Clinical signs of deficiency and the active forms of vitamins.
16 th week	Nutrient classes. (Classification of feeds), Characteristic of common feedstuffs, Urea Gossypol, Mycotoxicoses, Aflatoxins Classification of Aflatoxins. Susceptibility of Poultry to Aflatoxins.
17 th week	Feed Additives (Nutritive and Non-Nutritive Hormones as feed additives, Female Sex Hormones, MGA (Melengestrol Acetate), MAP (Medroxy progesterone Acetate), Synovex (an implant pellet), probiotic and Prebiotic.
18 th week	Evaluation of feedstuff Approximate analysis Feeding trails: <i>In vivo</i> digestibility conducted on animal. <i>In vitro</i> digestibility preformed in laboratory. <i>In Sacco</i> digestibility degradability. Total digestible Nutrients (TDN).
19 th week	Feed Intake Introduction about Feed intake. Factors effecting Intake and Short-term regulation.
20th week	Second Midterm Exam
21 st week	Feed Intake Long term regulation and calculations of Intake at different stages and animals Indoors and outdoors
22 nd week	Ration Formulation Ration formulation using Pershing Square and NRC tables for sheep and

	dairy Cattle. Calculation of the True and Apparent Digestibility. At maintenance and production levels balancing diets and premixes feeding standers.
23 rd week	Ration Formulation Using person Square and NRC tables for dairy Cattle. Calculation of the True and Apparent Digestibility. Maintenance and production levels balancing diets and premixes feeding standers.
24 th week	Dairy Cattle Feeding. Requirements, feeding of calves with Colostrum, Feeding of Heifers and feeding adult dairy cattle and feeding of bulls. Management, type of feeding for dairy cows at different stages of live.
25 th week	Sheep Feeding Program Water, CHO, Protein, Fats and vitamin and mineral requirements at maintenance and growth levels. Rearing Lambs on Milk Replacer, weaning, Feeding Lambs, Creep area, Creep ration, Feeding Mature Breeding Rams, feeding of ewes, Sheep Mating, feeding ewes during pregnancy, feeding lactated ewes and Feeding sheep in a dry season
26 th week	Creep Feeding Creep area, Creep ration, Feeding Mature Breeding Rams, feeding of ewes, Sheep Mating, feeding ewes during pregnancy, feeding lactated ewes and Feeding sheep in a dry season.
27 th week	Metabolic Disorders Common nutrient malfunctioning diseases and disorder metabolism such as bloat, acidosis, lactate state, Milk Fever, Hypomagnesaemia...ect.
28 th week	Poultry Feeding Program Daily Requirements at different stages Management, Type of feeding for poultry at different stages of growth and egg Production.
29 th week	Horse Feeding Requirement, Management and type of feeding programs according of horse activities.
30 th week	Dogs and Cats Feeding Requirement, management, type of feeding.
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
General skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Change and modification in the course	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

1	Course name	Biostatistics
2	Course Code	STA205

3	Course type: /general/specialty/optional	General
4	Accredited units	2 Credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English
9	Date of course approval	2022

Biostatistics

Brief Description	This course covers the basic principles, knowledge, understanding of biostatistics, and different type of statistical distributions with gaining the required skills to compare between different statistical tests applying the most suitable statistical test related to the problem under study.			
Textbooks	Books: <ul style="list-style-type: none"> • Introduction to Biostatistics. 			
Course Duration	One academic year.			
Teaching Method	<ul style="list-style-type: none"> • Lectures. • group interaction and discussion. • self-directed activities. • active participation. • Tutorials: biweekly questions. 			
Course Objectives	<ul style="list-style-type: none"> • To develop basic statistical analysis skills required in sciences research. • Acquiring the basic knowledge and understanding biostatistics and different type of statistical distribution. • Gaining the required skills to compare between different statistical tests and applying the most suitable statistical test related to the problem under study. 			
Assessment examination method	Time of Assessment	method of Assessment	hours	Marks
	1 th assessment exam at 10 th week	1 st midterm exam	1hrs	25
	2 nd assessment exam at 20 th week	2 nd midterm exam	1hrs	25
	3 rd assessment → Final exam by the end of the year	Written exam	3hrs	50
		Practice exam	3hr	-
		Oral exam	1hr	-
Course Contents				
1 st week	INTRODUCTION Introduction Of The course and Basic Concepts			
2 nd week	NUMERICAL METHODS Measure for Describing the Location Measures of Dispersion			

3 rd week	NUMERICAL METHODS Measure for Describing the Location Measures of Dispersion
4 th week	NUMERICAL METHODS Measure for Describing the Location Measures of Dispersion
5 th week	Introduction of probability
6 th week	Probability Rules Conditional probability and examples
7 th week	Multiplication Rules and bays Theorem
8 th week	Discrete Probability distributions
9 th week	Binomial Distribution
10th week	First Midterm Exam
11 st week	Poisson Distribution
12 nd week	Normal Distribution
13 rd week	Student –T Distribution
14 th week	Application on Normal Distribution and t – Distribution
15 th week	Sampling Sampling Distributions and the Central Limit Theorem Distribution of sample mean
16 th week	Distribution of sample mean
17 th week	Distribution of two sample means
18 th week	Distribution of sample proportion and the difference between two sample proportions.
19 th week	Examples and Exercises for Sampling distribution
20th week	Second Midterm Exam
21 st week	Estimation Confidence interval for population mean, confidence interval for a population proportion
22 nd week	Estimation Confidence interval for population mean, Confidence interval for a population proportion
23 rd week	Estimation confidence interval for the difference between both two population means and proportions.
24 th week	Examples and Exercises for Confidence interval for population mean, confidence interval for a population proportion and confidence interval for the difference between both two population means and proportions.
25 th week	Hypothesis testing of: Single population mean and the difference between two population means
26 th week	Hypothesis testing of: Single population Proportion and the difference between two population Proportions

27 th week	Examples and Exercises for Hypothesis testing of: Single population mean and the difference between two population means, Single population Proportion and the difference between two population proportions.
28 th week	Correlation and regression
29 th week	Correlation and regression
30 th week	Examples and Exercises for Correlation and regression
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Veterinary Microbiology

1	Course name	Veterinary Microbiology
2	Course code	MIC301
3	Course type: /general/specialty/optional	Specialty
4	Accredited units	7 credits
5	Educational hours	.....
6	Pre-requisite requirements	/
7	Program offered the course	Bachelor of Veterinary Medicine Sciences (BVMSc)
8	Instruction Language	English Language
9	Date of course approval	2022
	Brief description of the course	This course covers all the major aspects of veterinary microbiology and aims to give comprehensive model and descriptive information about bacteria and fungi, the basic characteristics of bacteria and their description, and an extensive discussion of the main genera of pathogenic bacteria. It also includes the study of general aspects of virology such as the characteristics of viruses, their structure, methods of reproduction and classification, and the most important viral families. In addition to, introducing the principles and basics of immunology such as types of

	immunity, the immune system, antibodies, antigens, complement and hypersensitivity.			
Prescribed books	Books: <ul style="list-style-type: none"> •Veterinary Microbiology and Microbial Disease, 2nd Edition. ISBN: 978-1-405-15823-7. • Fenner's Veterinary Virology, 5th Edition. eBook ISBN: 9780128011706. • Veterinary Immunology, 10th Edition. eBook ISBN: 9780323523486. 			
Course duration	One academic year.			
Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. 			
Objectives and target of the course	<ul style="list-style-type: none"> • Provide a compelling and relevant Microbiology curriculum that will train students at a high standard of scientific literacy and impart appropriate skill sets • Students will be able to develop a comprehensive understanding and appreciation for the diversity and significance of different microbes (Bacteria, Viruses and Fungi) as well as all basics regarding immunity to infections. • Students will be able to plan laboratory investigations and develop the technical laboratory skills that are needed for applied Microbiology. • Have developed a very good understanding of the characteristics of different types of microorganisms, methods to organize • Able to explain the useful and harmful activities of the microorganisms • Able to perform basic experiments to grow and study microorganisms in the laboratory • Able to differentiate between the characteristics of different types of microorganisms • To understand fundamental differences between each virus families • Understanding of the immune system including organs, cells and receptors • Learn the importance of immunology in developing serological diagnostic tests 			
Assessment examination method	Time of Assessment	method of Assessment	hrs.	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment → Final exam by the end of the year	Written exam	3hrs	50
		Pract exam	1hr	20
		Oral exam	1hr	10
Course contents				
1 st week	<ul style="list-style-type: none"> • Introduction and History of Microbiology • Introduction of Virology • Introduction History of Immunology 			

2 nd week	<ul style="list-style-type: none"> • Microscopy • General Characteristics of viruses • Non-specific (Innate) Immunity
3 rd week	<ul style="list-style-type: none"> • Staining of Bacteria • Structure of Viruses • Non-specific (Innate) Immunity
4 th week	<ul style="list-style-type: none"> • Function and structure of the bacterial cell • Taxonomy of viruses • General features of the immune responses
5 th week	<ul style="list-style-type: none"> • Bacterial Nutrition • Cultivation and Characterization of viruses • General features of the immune responses
6 th week	<ul style="list-style-type: none"> • Bacterial Growth • Viral Replication of DNA viruses • Antigens and antigenicity
7 th week	<ul style="list-style-type: none"> • Bacterial metabolism • Viral Replication of RNA viruses • Antigens and antigenicity
8 th week	<ul style="list-style-type: none"> • Bacterial Genetics • Viral Genetics • Pattern recognition receptors (PRRs)
9 th week	<ul style="list-style-type: none"> • Identification of Bacteria • Virus-Cell Interactions • Destruction of foreign material-The myeloid system
10th week	1st Midterm Exam
11 st week	<ul style="list-style-type: none"> • Biochemical Tests • Viral Pathogenesis • Destruction of foreign material-The myeloid system
12 nd week	<ul style="list-style-type: none"> • Control of Microorganisms • Host Defenses to Viruses • Mononuclear-phagocytic system
13 rd week	<ul style="list-style-type: none"> • Drug Resistance • Prevention of Viral Diseases • Mononuclear-phagocytic system
14 th week	<ul style="list-style-type: none"> • Pathogenesis of Infectious Bacterial Diseases • Viral Vaccines • Dendritic cells and antigen processing

15 th week	<ul style="list-style-type: none"> • Classification of Bacteria • Anti-Viral Drugs • The major histocompatibility complex
16 th week	<ul style="list-style-type: none"> • <i>Staphylococcus</i> and <i>Streptococcus</i> • Circoviridae and Parvoviridae • The tissues of the immune system
17 th week	<ul style="list-style-type: none"> • <i>Brucella</i> and <i>Corynebacterium</i> • Poxviridae • Lymphocytes
18 th week	<ul style="list-style-type: none"> • <i>Bacillus</i> and <i>Clostridium</i> • Herpesviridae • Lymphocytes
19 th week	<ul style="list-style-type: none"> • <i>Mycobacterium</i>, <i>Rickettsia</i> and <i>Chlamydia</i> • Papillomaviridae and Adenoviridae • Antibodies
20th week	Second Midterm Exam
21 th week	<ul style="list-style-type: none"> • <i>Treponema</i>, <i>Borrelia</i> and <i>Leptospira</i> • Retroviridae • Antibodies
22 th week	<ul style="list-style-type: none"> • <i>Mycoplasma</i> and <i>Neisseria</i> • Reoviridae and Birnaviridae • Antibodies
23 th week	<ul style="list-style-type: none"> • <i>Haemophilus</i>, <i>Bordetella</i> and <i>Yersinia</i> • Paramyxoviridae • Antibodies
24 th week	<ul style="list-style-type: none"> • <i>Francisella</i> and <i>Pasteurella</i> • Orthomyxoviridae • Hypersensitivity
25 th week	<ul style="list-style-type: none"> • <i>Actinomyces</i> and <i>Nocardia</i> • Rhabdoviridae • Hypersensitivity
26 th week	<ul style="list-style-type: none"> • <i>E. coli</i>, <i>Proteus</i> and <i>Klebsiella</i> • Phenuiviridae • Hypersensitivity
27 th week	<ul style="list-style-type: none"> • <i>Salmonella</i>, <i>Shigella</i> and <i>Serratia</i> • Picornaviridae and Caliciviridae • Hypersensitivity
28 th week	<ul style="list-style-type: none"> • <i>Cambylopacter</i>, <i>Helicobacter</i> and <i>Vibrio</i> • Coronaviridae • Vaccination
29 th week	<ul style="list-style-type: none"> • Pseudomonas, Bacteroids and Erysipelothrix • Viral Families with Viruses of Minor Veterinary Significance • Vaccination

30 th week	<ul style="list-style-type: none"> • <i>Yersinia</i> and <i>Moraxella</i> • Prions and Transmissible Spongiform Encephalopathies • Vaccination
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
General skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Change and modification in the course	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Veterinary Parasitology

1	Course name	Veterinary Parasitology
2	Course Code	PAR302
3	Course type: /general/specialty/optional	specialty
4	Accredited units	7 credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022
	Brief description of the course	<ul style="list-style-type: none"> • Study the morphology, life cycle, transmission, pathogenesis, diagnosis, control of most important nematodes, cestodes and trematodes parasites affecting mammals, birds and fish. • Study the morphology, life cycle, transmission, pathogenesis, diagnosis, control of most important protozoan parasites affecting mammals, birds and fish. <p>Study the morphology, life cycle, veterinary importance and control of most important arthropods affecting mammals and birds.</p>
	Prescribed books	Books: <ul style="list-style-type: none"> • Helminths, Arthropods and Protozoa of Domesticated Animals. ISBN-10: 817671089X. ISBN-13 : 978-8176710893
	Course duration	One academic year.
	Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ Group interaction and discussion. ❖ Self-directed activities. ❖ Active participation. ❖ Laboratory experiments.
	Objectives and	<ul style="list-style-type: none"> • Classify the list of nematodes, cestodes and trematodes, protozoa,

target of the course	and arthropods of veterinary importance. <ul style="list-style-type: none"> • Illustrate the morphological characters, life cycle, transmission, disease and clinical signs of important nematodes, cestodes and trematodes, protozoa and arthropods. • Mention the veterinary importance of nematodes, cestodes and trematodes, protozoa, and arthropods and methods for diagnosis. • Choose an appropriate method for diagnosis. Choose an appropriate method for control. 			
Assessment examination method	Time of Assessment	method of Assessment	hrs	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment → Final exam by the end of the year	Written exam	3hrs	50
Pract exam		1hr	20	
Oral exam		1hr	10	
Course contents				
1 st week	<ul style="list-style-type: none"> • Introduction: Definition, Structure, Locomotion, Nutrition and respiration • Introduction: reproduction and Classification of protozoa • Trypanosomatidae (Developmental stages of trypanosomatidae, Genus Trypanosoma, groups of genus Trypanosoma, species of salivarian Trypanosomes, morphology, transmission. 			
2 nd week	<ul style="list-style-type: none"> • Life cycle of salivarian trypanosomes, pathogenesis diagnosis and control. • Species of stercorarian Trypanosomes, morphology, transmission, Life cycle of stercorarian trypanosomes), pathogenesis, diagnosis and control. • Genus Leishmania (General morphology of Leishmania, Life cycle of Leishmania) 			
3 rd week	<ul style="list-style-type: none"> • Genus Leishmania (Species of Leishmania, Pathogenesis, Diagnosis and control. • Trichomonadidae (Tritrichomonas foetus, Trichomonas gallinae and T. gallinarum) Morphology, Life cycle, Pathogenesis, Diagnosis and control. • Monocercomonadidae (Histomonas meleagridis) Morphology, Transmission, reproduction, Pathogenesis, Diagnosis and control. 			

4 th week	<ul style="list-style-type: none"> Entamoebidae (Entamoeba histolytica, Entamoeba coli, Endolimax nana, Iodamoeba buetschlii and Dientamoeba fragilis), Morphology, Life cycle, Transmission, Pathogenesis, Diagnosis and control. Eimeriidae (Eimeria) Morphology, Life cycle, Transmission, Diagnosis and control Isospora, Wenyonella and Tyzzeria) Morphology, Life cycle, Transmission, Diagnosis and control.
5 th week	<ul style="list-style-type: none"> Sarcocystidae (Toxoplasma) Morphology, Life cycle, Transmission, Pathogenesis, Diagnosis and control. Sarcocystidae (Sarcocystis) Morphology, Life cycle, Transmission, Pathogenesis, Diagnosis and control. Sarcocystidae (Besnoitia and Neospora), Morphology, Life cycle, Transmission, Pathogenesis, Diagnosis and control.
6 th week	<ul style="list-style-type: none"> Plasmodiidae (Plasmodium), Morphology, Life cycle, Transmission, Pathogenesis, Diagnosis and control. Plasmodiidae (Haemoproteus and Leukocytozoon), Morphology, Life cycle, Transmission, Pathogenesis, Diagnosis and control. Babesiidae (Babesia species), Morphology, Transmission.
7 th week	<ul style="list-style-type: none"> Babesiidae (Babesia species), Life cycle, Pathogenesis, Diagnosis and control. Theileriidae (Theileria species) Morphology, Transmission, Life cycle, Pathogenesis, Diagnosis and control. Theileriidae (Theileria species) Life cycle, Pathogenesis, Diagnosis and control.
8 th week	<ul style="list-style-type: none"> Rickettsiales (Anaplasma) Morphology, Life cycle, Transmission, Pathogenesis, Diagnosis, and control. Balantiididae (Balantidium coli) Morphology, Life cycle, Transmission, Pathogenesis, Diagnosis, and control. Introduction to general Entomology History, classification, and economic importance.
9 th week	<ul style="list-style-type: none"> Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the Siphonaptera <p>Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the Mallophaga (Biting lice)</p> <ul style="list-style-type: none"> Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the Siphunculata (Sucking lice)
10 th week	1st MIDTERM EXAM

11 st week	<ul style="list-style-type: none"> • Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the family: Psycodidae. • Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the families: Cimicidae and Ceratopogonidae • Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the families: Tabanidae and Glossinidae
12 nd week	<ul style="list-style-type: none"> • Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the families: Simulidae and Hippobocidae Muscidae. • Myiasis (definition and classification). • Myiasis producing flies (Calliphoridae, Sarcophagidae).
13 rd week	<ul style="list-style-type: none"> • Myiasis producing flies (Oestridae, Gasterophilidae, Hypodermatidae). • Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the family: Ixodidae. • Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the family: Argasidae.
14 th week	<ul style="list-style-type: none"> • Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the family: Psoroptidae • Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the family: Sarcoptidae • Distribution, life cycle, seasonal pattern, pathogenesis, economic significance of arthropods belonging to the families: Dermanyssidae and Demodicidae
15 th week	<ul style="list-style-type: none"> • Introduction, types of association, Types of Parasites and Host, Mode of infection and fate of parasites in foreign host. • The effect of parasitism on hosts and parasites, Pathogenicity and mode of infection <ul style="list-style-type: none"> • Hosts reaction, immunity, protection, Economic importance
16 th week	<ul style="list-style-type: none"> • Methods of Diagnosis, Scientific nomenclature. • Introduction to general nematodes, General morphology and life cycles. • Basic taxonomy. Methods of different Helminthic examination).
17 th week	<ul style="list-style-type: none"> • Ascarididae (Ascaris and Parascaris). • Ascarididae (Toxocara and Toxascaris). • Anisakidae (Anisakis, Porrocaecum and contraecum).
18 th week	<ul style="list-style-type: none"> • Oxyuridae (<i>Oxyuris</i>, and <i>Entrobilus</i>) • Oxyuridae (<i>Skrjabinema</i> and <i>Passalurus</i>) • Heterakidae (<i>Heterakis</i>)

19 th week	<ul style="list-style-type: none"> • Ascaridiidae (<i>Ascaridia</i>) Subuluridae (<i>Subulura</i>) • Strongyloididae (<i>Strongyloides</i>) • Strongylidae (<i>Strongylus</i>)
20 th week	2nd Midterm exam
21 th week	<ul style="list-style-type: none"> • Strongylidae (<i>Oesophagostomum</i>) • Strongylidae (<i>Triodontophorus</i>) • Strongylidae (<i>Trichonema</i>)
22 nd week	<ul style="list-style-type: none"> • <i>Chabertiidae</i> (<i>Chabertia</i>) • <i>Syngamidae</i> (<i>Syngamus</i>) • <i>Ancylostomatidae</i> (<i>Ancylostoma</i> and <i>Bunostomum</i>)
23 rd week	<ul style="list-style-type: none"> • Trichostrongylidae: (<i>Trichostrongylus</i> and <i>Oestertagia</i>) • Trichostrongylidae: (<i>Cooperia</i>, and <i>Nematodirus</i>) • Trichostrongylidae (<i>Haemonchus</i>)
24 th week	<ul style="list-style-type: none"> • Trichostrongylidae (<i>Marshallagia</i>, <i>Camelosrtongylus</i> and <i>Mecistocirrus</i>) • Dictyocaulidae (<i>Dictyocaulus</i>) Protostrongylidae (<i>Protostrongylus</i>) • Spiruridae (<i>Draschia</i> and <i>Habronema</i>)
25 th week	<ul style="list-style-type: none"> • Theleziidae (<i>Thelazia</i>, <i>Spirocerca</i> and <i>Gongylonema</i>). • Filariidae (<i>Dirofilaria</i>) • Setariidae (<i>Setaria</i>) and Onchocercidae (<i>Onchocerca</i>)
26 th week	<ul style="list-style-type: none"> • Trichinellidae (<i>Trichinella</i>) • Trichuridae (<i>Trichuris</i>) and Capillariidae (<i>Capillaria</i>) • Introduction to general cestodes, General morphology and life cycles
27 th week	<ul style="list-style-type: none"> • Development of cestode and the common forms of metacestodes. • Basic taxonomy (Methods for examinations). • Anoplocephalidae (<i>Anoplocephala</i>, <i>Paranoplocephala</i>, and <i>Moniezia</i>).
28 th week	<ul style="list-style-type: none"> • Thysanosomidae (<i>Avitellina</i>, <i>Stilesia</i>, and <i>Thysaniezia</i>). • Davainidae (<i>Davainea</i> and <i>Raillietina</i>). • Dipylidiidae (<i>Dipylidium</i>) and Hymenolepididae (<i>Hymenolepis</i>).
29 th week	<ul style="list-style-type: none"> • Taeniidae (<i>Taenia</i>). • Taeniidae (<i>Echinococcus</i>). • Mesocestoididae (<i>Mesocestoides</i>).

30 th week	<ul style="list-style-type: none"> • <i>Diphyllobothriidae (Diphyllobothrium)</i> • <i>Introduction to general Trematodes, General morphology and life cycles and basic taxonomy</i> • <i>Dicrocoeliidae (Dicrocoelium)</i> • Heterophyidae (Heterophyes) • Opisthorchiidae (Opisthorchis and Chlonorchis) • Fasciolidae (Fasciola) • Echinostomatidae (Echinostoma) and Paragonimidae (Paragonimus) • Paramphistomatidae (Paramphistomum) • Schistosomatidae (Schistosoma)
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
General skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Change and modification in the course	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Veterinary Pathology

1	Course name	Veterinary Pathology
2	Course code	PAT303
3	Course type: general/specialty/optional	Specialty
4	Accredited units	7 Credits
5	Educational hours	.....
6	Pre-required requirements	Anatomy, Biochemistry, Histology, Genetics and Physiology
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022

Brief description of the course	The course of Veterinary Pathology is designed to cover the basic knowledge of general and systemic pathological changes of the domestic animal diseases. It provides the student with the causes, pathogenesis and effect of diseases at the macroscopic and microscopic levels. This course is designed to provide students the procedure that should be taken to collect samples from the field up to
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	laboratory methods to ensure the differential diagnosis of the disease.			
Prescribed Books	Pathological basis of veterinary pathology 2. Pathology of domestic animals 3. Robbins and Cotran Pathologic Basis of Disease			
Course duration	One academic year.			
Teaching method	<ul style="list-style-type: none"> ❖ Theoretical lectures by using data show projector ❖ Practical sessions by using data show projector, dissected specimen, postmortem examination and histological slides. ❖ Handout of lectures and practices ❖ Library ❖ Student presentations and workshops 			
Objectives and target of the course	<ul style="list-style-type: none"> • Provide the students with the basic concept of pathology. • Recognize the diagnostic methods in describing the pathological changes. • It is aimed to the study the time sequence of pathological changes and the mechanism of disease occurrence. • Identify the interpretation of histological changes in order to reach the final diagnosis using the diagnostic methods. 			
Assessment examination method	Time of Assessment	method of Assessment	hours	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment ➔ Final exam by the end of the year	Written exam	3hrs	50
		Practice exam	2hr	20
	Oral exam	1hr	10	
Course contents				
1 st week	<ul style="list-style-type: none"> • Introduction to pathology, terminology Definitions, basic terminology, branches of pathology. • Etiology of cell Injury and death Causes of diseases (congenital and acquired). 			
	<ul style="list-style-type: none"> • Cell injury and death: Causes of cell injury. 			
2 nd week	<ul style="list-style-type: none"> • Mechanisms of cell injury. • Mechanism of reversible cell injury. • Mechanism of irreversible cell injury. 			
	<ul style="list-style-type: none"> • Types of cell injury: <ul style="list-style-type: none"> • Acute cellular swelling • Fatty change. • Obesity. • Hyaline degeneration. • Mucoïd degeneration. Amyloid. 			
3 rd week				

4 th week	Mineral deposition: <ul style="list-style-type: none"> • Pathological calcification. • Gout. Pseudogout.
5 th week	Exogenous pigmentation. Exogenous pigmentation:
6 th week	Endogenous pigmentation and haemoglobin derivatives.
7 th week	Disturbances in circulation <ul style="list-style-type: none"> • Hyperemia and Congestion. • Edema.
8 th week	Disturbances in circulation <ul style="list-style-type: none"> • Haemorrhage. • Thrombosis, Embolism, and shock.
9 th week	Inflammation: <ul style="list-style-type: none"> • Acute inflammation.
10th week	First Midterm Exam
11 st week	Chronic inflammation
12 nd week	Healing& repair.
13 rd week	Disturbances in growth: <ul style="list-style-type: none"> • Abnormal deficient growth. • Abnormal excessive growth. • Abnormal pattern of growth.
14 th week	Neoplasia: <ul style="list-style-type: none"> • Definition and fundamentals of neoplasms. • Types. • Aetiology and terminology. • Biological feature and spreading. • Tumor grading and staging.
15 th week	Diseases of Immunity: <ul style="list-style-type: none"> • Disorders of the Immune System. • Immune reaction and hypersensitivity reactions. • Cytokine-Related Diseases. • Autoimmune Disease.
16 th week	Pathology of cardiovascular system: <ul style="list-style-type: none"> • Congenital Cardiovascular Anomalies. • Pericardial Diseases. • Disease of Myocardium. • Endocarditis. • Blood vessels disease.

	<ul style="list-style-type: none"> • Neoplasm.
17 th week	Pathology of cardiovascular system: <ul style="list-style-type: none"> • Congenital Cardiovascular Anomalies. • Pericardial Diseases. • Disease of Myocardium. • Endocarditis. • Blood vessels disease. • Neoplasm.
18 th week	Pathology of Respiratory system: <ul style="list-style-type: none"> • Diseases of the Upper Respiratory Tract. • The Lung. • Pneumonia. • Pneumoconiosis. Pleuritis, Pleuro-pneumonia and neoplasm.
19 th week	Pathology of Respiratory system: <ul style="list-style-type: none"> • Diseases of the Upper Respiratory Tract. • The Lung. • Pneumonia. • Pneumoconiosis. Pleuritis, Pleuro-pneumonia and neoplasm.
20 th week	Second Midterm Exam
21 st week	Pathology of digestive system: <ul style="list-style-type: none"> • Diseases of oral cavity. • Diseases of oesophagus. • Disease of forestomach.
22 nd week	<ul style="list-style-type: none"> • Disease of abomasum and stomach. • Disease of intestine. • Disease of peritoneum.
23 rd week	Pathology of Liver and Biliary System and Pancreas: <ul style="list-style-type: none"> • Diseases of liver. • Disease of pancreas.
24 th week	Pathology of renal system: <ul style="list-style-type: none"> • Congenital abnormalities. • Circulatory disturbances. • Glomerular disease. • Cystitis.
25 th week	Pathology of renal system: <ul style="list-style-type: none"> • Congenital abnormalities. • Circulatory disturbances. • Glomerular disease.

	<ul style="list-style-type: none"> • Cystitis.
26 th week	Pathology of male system: <ul style="list-style-type: none"> • Developmental anomalies of testis and circulatory disturbances. • Orchitis and testicular neoplasm. • Disease of epididymis, accessory glands and neoplasm.
27 th week	Pathology of female genital system and memory gland: <ul style="list-style-type: none"> • Developmental anomalies. • Oophoritis, ovarian tumors and salpingitis. • Pathology of the uterus. Mastitis.
28 th week	Pathology of female genital system and memory gland: <ul style="list-style-type: none"> • Developmental anomalies. • Oophoritis, ovarian tumors and salpingitis. • Pathology of the uterus. Mastitis.
29 th week	Pathology of nervous system: <ul style="list-style-type: none"> • Nervous malformation. • Circulatory disturbances. • Spongiform encephalomyelitis. • Inflammation of the nervous tissue. • Selected bacterial, viral, fungal and parasitic diseases. Nervous neoplasia.
30 th week	Pathology of skin and sense organs (eye and ear)
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Change and modification in the course	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Veterinary Pharmacology

1	Course name	Veterinary Pharmacology
2	Course code	PHA304
3	Course type: /general/specialty/optional	Specialty
4	Accredited units	5 Credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences (BVMSc)
8	Instruction Language	English
9	Date of course approval	2022
	Brief description of the course	In Pharmacology student will study the basic principles and the mode of action of drugs which use in veterinary treatment, their pharmacokinetics, duration of effect, toxicity on animals, methods of decomposition, in addition to methods of administering drugs and appropriate doses with the study of drugs in the treatment of diseases, cardiovascular drugs and channel drugs alimentary; The study of medicines in the treatment of infectious diseases, gastrointestinal diseases, psychology and the treatment of chemotherapy treatment.
	Prescribed books	Books: 1- Veterinary Pharmacology and Therapeutics 10th ed ISBN: 978-1-118-85588-1 2- Veterinary drug hand book 9th ed ISBN: 978-1119346494 3- Pharmacology 1th ed ISBN: 978-0683000856 4- Clinical Pharmacology 11th ed ISBN: 978-0702040849 5- Color atlas of Pharmacology 5th ed ISBN: 978-3132410657
	Course duration	3lectures + 4hrs practicals/ one academic week .
	Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments.
	Objectives and target of the course	<p>By studying the course, the student will have reliably demonstrated the ability to:</p> <ul style="list-style-type: none"> • This course aims to introduce students to the mechanism and the effect of the body on the drug and the therapeutic effect of the drug on the body. • Introducing the student to the types of drugs and their ways of working on the different organs and cells of the body • The student's understanding of some of the factors that interfere with the methods of drug administration. • Students' awareness of the ways drugs work on the central and peripheral nervous systems • Identifying the different effects of the body on the drug, the different aspects of the drug's effect on the body, and the methods of detecting the active substance in different sources.

	<ul style="list-style-type: none"> • Building students' ability to remember and synthesize information • Writing laboratory reports and prescriptions for medicines • Develop the ability to link between the methods of drug administration and therapeutic uses to reach the desired treatment • Implementation of students' survey of information and drawing conclusions. 			
Assessment examination method	Time of Assessment	method of Assessment	hrs	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment → Final exam by the end of the year	Written exam	3hrs	50
		Pract exam	1hr	20
Oral exam		1hr	10	
Course contents				
1 st week	<p>Welcome & Introduction:</p> <ul style="list-style-type: none"> - Drug and active principle. - Plants as sources of effective medicines. - Drug development. - Congeneric drugs and name. - Diversity <p>Routes of drug administration:</p> <ul style="list-style-type: none"> - Oral dosage forms. - Drug administration. - Drugs agents. - Agents as vehicles. - From application to distribution in the body. 			
2 nd week	<ul style="list-style-type: none"> • Pharmacodynamics (part 1): - Cellular sites of action. - Potential targets of drug action. - Body barrier protection. - Distribution in the body. - External barriers of the body. - Membrane permeation. - Possible modes of drug distribution. • Pharmacodynamics (part 2): - Binding to plasma proteins. - Drug elimination. - The liver as an excretory organ. - Biotransformation of drugs. - Drug metabolism by cytochrome P450. - The kidney as an excretory organ. - Presystemic elimination. 			
3 rd week	<ul style="list-style-type: none"> • Pharmacokinetics: - Drug concentration in the body as a function of time-first Order (exponential) rate processes. - Time course of drug concentration in Plasma. - Accumulation: dose, dose interval, and plasma level fluctuation change in elimination characteristics during drug therapy. 			

	<p>Drugs acting on autonomic nervous system (part 1):</p> <ul style="list-style-type: none"> - Agonists-Antagonists. - Models of the molecular mechanism of agonist/antagonist action. - Other forms of antagonism. - Receptor types. - Mode of operation of G-protein coupled.
4 th week	<ul style="list-style-type: none"> • Drugs acting on autonomic nervous system (part 2): • - Sympathetic nervous system. • - Structure of the sympathetic. • - Activity relationships of sympathomimetics. • - Indirect sympathomimetics. • - Parasympathetic nervous system. • - Parasympathomimetics. • Drugs acting on autonomic nervous system (part 3): • -Para sympatholytics. • -Ganglionic stimulants & depressants. • - Mechanisms and pathways.
5 th week	<p>Skeletal muscle relaxants & stimulants</p> <ul style="list-style-type: none"> - Drugs affecting motor function. - Muscle relaxants. <p>Skeletal muscle relaxants & stimulants</p> <ul style="list-style-type: none"> - Non depolarizing muscle relaxants. - Depolarizing muscle relaxants. - CNS neurotransmitters and their antagonists.
6 th week	<p>CNS stimulants:</p> <ul style="list-style-type: none"> - Cerebral stimulants, medullary stimulants. - Spinal cord stimulants. - Psychomimetics. - Hallucinogens. - Methylxanthines. <p>CNS inhibitory:</p> <ul style="list-style-type: none"> - Sedatives. - Hypnotics. - Anticonvulsants. - Tranquilizers.
7 th week	<p>Analgesics (narcotic)</p> <p>Analgesics (NSAIDs)</p> <ul style="list-style-type: none"> • Antipyretic analgesics vs. NSAIDs. • Nonsteroidal anti- inflammatory drugs (NSAIDs). • Cyclooxygenase (COX) inhibitors.
8 th week	<p>General anaesthetics (part 1):</p> <ul style="list-style-type: none"> - Definitions - Classification - Stages, Mechanisms of action - Volatile ana., Non-volatile ana. <p>General anaesthetics (part 2):</p> <ul style="list-style-type: none"> - Anesthetic drugs. - Inhalational anesthetics. - Injectable anesthetics.

9 th week	<p>Local anaesthetics (part 1):</p> <ul style="list-style-type: none"> - Definitions. - Classification, Stages. - Mechanisms of action. <p>Local anaesthetics (part 2):</p> <ul style="list-style-type: none"> - types of local ana., individual local ana. drugs. - Sialagogues, antisialagogues & stomachics.
10 th week	1st MIDTERM EXAM
11 st week	<p>Drugs acting on digestive system (part 1):</p> <ul style="list-style-type: none"> - Emetics & antemetics. - Antacids. -Astringents & antidiarrheals. <p>Drugs acting on digestive system (part 2):</p> <ul style="list-style-type: none"> -Laxatives & purgatives. 1. Bulk laxatives. 2. Irritant laxatives. 2a. Small-bowel irritant purgative. 2b. Large-bowel irritant purgatives.
12 nd week	<p>Drugs acting on digestive system (part 3):</p> <ul style="list-style-type: none"> 3. Lubricant laxatives. -Carminatives, cholagogues & cholaretics. <p>Diuretics (part 1):</p> <ul style="list-style-type: none"> - Diuretics-an overview. - NaCl reabsorption in the kidney. - Osmotic diuretics. - Diuretics of the sulfonamide Type.
13 rd week	<p>Diuretics (part 2):</p> <ul style="list-style-type: none"> - Potassium-sparing diuretics and vasopressin. - Potassium-sparing diuretics. - Vasopressin and derivatives. <p>Antidiuretics, uricosurics & urinary antiseptics:</p> <ul style="list-style-type: none"> -Gonadotropins & gonadotropin RFs. - Estrogens & antiestrogens; androgens & antiandrogens; progestogens & antiprogestogens.
14 th week	<p>Drug affecting cardiac system (part 1):</p> <ul style="list-style-type: none"> - Cardiac stimulants, tonics, depressants & antiarrhythmics. -Vasoconstrictors, dilators, hypertensives & antihypertensives. <p>Drug affecting cardiac system (part 1):</p> <ul style="list-style-type: none"> - Antanaemics, coagulants & anticoagulants. - Anticholinergic Drug. - Neuroleptics, Chlorpromazine. -5HT3 Antagonist.
15 th week	<ul style="list-style-type: none"> - Cervical dilators, aphrodisiacs & anaphrodisiacs - Drugs affecting skin
16 th week	<p>Biogenic Amines:</p> <ul style="list-style-type: none"> - histamine, 5-HT, angiotensin, kinins. - prostaglandins & their antagonists <p>Drugs affecting respiratory system (part 1):</p> <ul style="list-style-type: none"> - Respiratory stimulants & depressants.

17 th week	Biogenic Amines: - histamine, 5-HT, angiotensin, kinins. - prostaglandins & their antagonists Drugs affecting respiratory system (par 1): - Respiratory stimulants & depressants.
18 th week	Drugs affecting respiratory system (par 2): - Expectorants, anti-tussives & mucolytics. Drugs affecting respiratory system (par 3): - Bronchodilators & membrane shrinkers.
19 th week	Endocrine Pharmacology (part 1): - Endocrine pharmacology - Hypothalamic and hypophyseal hormones. - Thyroid Hormone therapy. - Hyperthyroidism and antithyroid drugs. - Glucocorticoid therapy. - I. Replacement therapy. - II. Pharmacodynamic therapy with. - Glucocorticoids. - Androgens, anabolic steroids, antiandrogens. Endocrine Pharmacology (part 2): - Follicular growth and ovulation, estrogen and progestin production . - Oral contraceptives. - Antiestrogen and antiprogestin active principles. - Insulin formulations . - Variations in dosage form. - Variation in amino acid sequence.
20 th week	2nd MIDTERM EXAM
21 st week	Endocrine Pharmacology (part 3): - Treatment of insulin-dependent diabetes mellitus. - Undesirable effects. - Treatment of maturity-onset (Type II) diabetes mellitus. - Oral antidiabetics. Drugs affecting water & electrolyte balance: - Drugs for maintaining calcium homeostasis.
22 nd week	Drugs affecting metabolism Growth promoting agents
23 rd week	Introduction to chemotherapy (part 3): - Inhibitors of cell wall synthesis. - Inhibitors of tetrahydrofolate. Introduction to chemotherapy (part 4): - Synthesis. - Inhibitors of DNA function.
24 th week	Introduction to chemotherapy (part 5): - Inhibitors of protein synthesis. - Drugs for treating mycobacterial. Introduction to chemotherapy (part 6): - Infections. - Antitubercular drugs. - Antileprotic drugs.

25 th week	<p>Insecticides:</p> <ul style="list-style-type: none"> - Type of activity. - Biological pesticides. - Synthetic insecticide. <p>Antiseptics & disinfectants</p> <ul style="list-style-type: none"> - Alcohols. - Chlorhexidine gluconate - Hydrogen peroxide - Iodine - Disinfectants Types - Air disinfectants - Aldehydes - Oxidizing agents - Phenolics
26 th week	<p>Antiviral drugs (part 2)</p> <ul style="list-style-type: none"> - Transcriptase-nucleoside agents - Nonnucleoside inhibitors II. HIV protease inhibitors III. Fusion inhibitors <p>Antiprotozoal drugs (part 1):</p> <ul style="list-style-type: none"> • Drugs for treating endoparasitic and ectoparasitic infestations <p>Drug toxicity:</p> <ul style="list-style-type: none"> - Cutaneous reactions - Drug toxicity in pregnancy and lactation - Drug interactions: - Pharmacodynamic interactions - Pharmacokinetic interactions
27 th week	<p>Antiprotozoal drugs (part 2):</p> <ul style="list-style-type: none"> - Antimalarials - Other tropical diseases <p>Anthelmintics (part 1):</p> <ul style="list-style-type: none"> - Benzimidazoles: - Albendazole - Mebendazole - Thiabendazole - Fenbendazole - Triclabendazole - Flubendazole
28 th week	<p>Anthelmintics (part 2):</p> <ul style="list-style-type: none"> - Abamectin - Diethylcarbamazine - Ivermectin - Suramin - Pyrantel pamoate - Levamisole - Salicylanilides <p>Anthelmintics (part 3):</p> <ul style="list-style-type: none"> - Niclosamide - Nitazoxanide - Oxytoclozanide

	<ul style="list-style-type: none"> - Praziquantel - Octadepsipeptides - Spiroindoles - Pelletierine sulphate
29 th week	<p>Insecticides:</p> <ul style="list-style-type: none"> - Type of activity. - Biological pesticides. - Synthetic insecticide. <p>Antiseptics & disinfectants</p> <ul style="list-style-type: none"> - Alcohols. - Chlorhexidine gluconate - Hydrogen peroxide - Iodine - Disinfectant Types - Air disinfectants - Aldehydes - Oxidizing agents - Phenolics.
30 th week	<p>Drug toxicity:</p> <ul style="list-style-type: none"> - Cutaneous reactions - Drug toxicity in pregnancy and lactation <p>Drug interactions:</p> <ul style="list-style-type: none"> - Pharmacodynamic interactions - Pharmacokinetic interactions
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Clinical Pathology

1	Course name	Clinical Pathology
2	Course code	CLP401
3	Course type: /general/specialty/optional	Specialist
4	Accredited units	3 Credit
5	Educational hours	.....
6	Pre-required requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English
9	Date of course approval	2022

Brief description of the course	It is a medical science that deals with the diagnosis of disease based on the laboratory examination of body fluids, such as blood and urine using the tools of hematology, microbiology, parasitology, clinical chemistry, and molecular pathology.			
Prescribed books	Books: <ul style="list-style-type: none"> • Schalm's Veterinary Hematology. ISBN-13: 978-0813817989 ISBN-10: 0813817986. • Veterinary Clinical Pathology. ISBN-13: 978-1482225877. ISBN-10: 1482225875. • Animal Clinical Chemistry. ISBN 9781420080117. • Clinical Parasitology. eBook ISBN: 9781455709632 • Diagnostic Microbiology. ISBN-13: 978-0323681056. ISBN-10: 0323681050 			
Course duration	One academic year.			
Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. ❖ Farms and Food and feed plant visits. 			
Objectives and target of the course	<ul style="list-style-type: none"> • Introducing the student to the metallurgical methods of establishing and managing a laboratory that responds to the requirement of diagnosis and treatment of animal diseases and how to link the information that studies in the preclinical stages with the clinical stages. • Familiarizing students with the best methods for collecting samples and using in laboratory analyzes. • Conducting the necessary analyzes to know the prognosis of the disease during and after treatment and the fate of the animal in term of benefit from treatment or death. • Familiarizing student with scientific methods for writing the result of the analyzes by providing the veterinarian in diagnosis and treating diseases of animals and birds. 			
Assessment examination	Time of Assessment	method of Assessment	hrs.	Marks

method	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment → Final exam by the end of the year	Written exam	3hrs	50
		Pract exam	1hr	20
		Oral exam	1hr	10
Course contents				
1 st week	Introduction, Meaning, Branches and Importance of Clinical Pathology. 1. Clinical hematology: Functions of Blood and Hematopoiesis (hemopoiesis): Cell of Hematopoiesis, Regulation of Hematopoiesis. Erythropoiesis: Erythrocyte maturation sequence and Erythrocyte (Red blood cells).			
2 nd week	The Myeloid Granulocytic Series: Granulocytes (Leukopoiesis) and A granulocytes Erythron: meaning, Hemoglobin, Types of Hemoglobin, Reactions (forms) of Hb, Fate of old RBCs, RBCs normal and abnormal morphology of animal species and Laboratory evaluation of Erythron.			
3 rd week	The Myeloid Granulocytic Series: Granulocytes (Leukopoiesis) and A granulocytes Erythron: meaning, Hemoglobin, Types of Hemoglobin, Reactions (forms) of Hb, Fate of old RBCs, RBCs normal and abnormal morphology of animal species and Laboratory evaluation of Erythron.			
4 th week	Bone Marrow Examination: Bone Marrow Structure, functions, Types, Indications for Bone Marrow aspiration, Collection of samples, and Technique for bone marrow aspiration, Preparation of the smear and Examination of the stained slide and Interpretation			
5 th week	Hemostasis and coagulation of blood: Factors involved in hemostasis, laboratory tests for coagulation defects – general techniques, testes for measuring intrinsic system factors and laboratory finding in hemorrhagic disorder			
6 th week	RBCs disorders: Anemia, Polycythemia, Causes and Classification of Anemia, Importance of RBCs Indices, diagnosis and treatment and clinical cases.			
7 th week	RBCs disorders: Anemia, Polycythemia, Causes and Classification of Anemia, Importance of RBCs Indices, diagnosis and treatment and clinical cases.			
8 th week	RBCs disorders: Anemia, Polycythemia, Causes and Classification of Anemia, Importance of RBCs Indices, diagnosis and treatment and clinical cases.			
9 th week	Hemiparasites (Blood Parasites): Babesia, Theileria, Ana plasma and Trypanosomiasis.			
10th week	1st MIDTERM EXAM			
11 st week	White blood cells (Leukocytes): Types of blood cells, Blood Cells Production, Granulocyte Maturation and Maturation and Morphology of Immature Granulocytes.			
12 nd week	Diseases of leukocytes (non-neoplastic). Neoplasia of hematopoietic tissues.			
13 rd week	Diseases of leukocytes (non-neoplastic). Neoplasia of hematopoietic tissues.			

14 th week	Avian clinical pathology: Avian hematology. Avian chemistries and examination of avian droppings.
15 th week	<u>2. Clinical parasitology:</u> A. Internal parasites: <u>Diagnosis of G.I. parasites</u> , clinical signs, Fecal sample, collection, preservation, Macroscopical examination of Feces and Microscopical examination. <u>Hem-parasites</u> , Clinical signs, Sampling and clinical cases
16 th week	B. External parasites, Laboratory diagnosis of mange: Sampling, processing, differentiation.
17 th week	<u>3. Clinical Biochemistry:</u> a. Kidney and Kidney function test: Introduction, pathophysiology, Important diseases, Tests for glomerular function, Tests for tubular function, Urinalysis and clinical cases.
18 th week	<u>3. Clinical Biochemistry:</u> a. Kidney and Kidney function test: Introduction, pathophysiology, Important diseases, Tests for glomerular function, Tests for tubular function, Urinalysis and clinical cases.
19 th week	b. Acid base balance – water and electrolytes. Introduction, meaning, disorders (imbalance) and Clinical cases.
20th week	2nd MIDTERM EXAM
21 st week	c. Liver and liver function tests: Introduction: structure & physiology of the liver,
22 nd week	Important liver diseases, Clinical signs, laboratory tests, Serum enzymes, Biochemical test and clinical cases.
23 rd week	d. Plasma proteins: Fractionation, Measurement, Total plasma proteins, Albumin – globulin ratio, Types, functions, changes, clinical interpretation and clinical cases.
24 th week	d. Plasma proteins: Fractionation, Measurement, Total plasma proteins, Albumin – globulin ratio, Types, functions, changes, clinical interpretation and clinical cases.
25 th week	e. Carbohydrate metabolism and function of the Pancreas and digestive tract: Introduction: carbohydrate metabolism, Physiology & histology of pancreas, Diseases of exocrine pancreas, Clinical signs and lab, tests/ Examination of feces, Blood biochemistry, Hematological changes, clinical cases and digestive diseases. f. Adrenal and pituitary function: Anterior pituitary (Adenohypophysis), Posterior pituitary (Neurohypophysis), adrenal cortex and adrenal medulla.
26 th week	e. Carbohydrate metabolism and function of the Pancreas and digestive tract: Introduction: carbohydrate metabolism, Physiology & histology of pancreas, Diseases of exocrine pancreas, Clinical signs and lab, tests/ Examination of feces, Blood biochemistry, Hematological changes, clinical cases and digestive diseases. Thyroid function: Diseases of the thyroid and thyroid function test.

27 th week	Mineral balance and parathyroid function: Calcium and phosphorus metabolism, Calcium and phosphorus in blood, diseases of parathyroid, other causes of mineral imbalance and magnesium balance. g. Diagnostic cytology, synovial fluid, genital fluids and cerebrospinal fluid: Indications, techniques, laboratory examination of fluids and alteration of fluid in diseases.
28 th week	<u>4. Clinical Microbiology:</u> Introduction, Sampling, preparation of direct smears, Direct rapid lab, Bacterial culture methods, identification and Diagnosis of certain important infectious Diseases: a- Diseases causing sudden death. b- Granulomatous diseases. c- Diseases causing abortion. d- Diseases causing diarrhea. Field and laboratory diagnosis of mastitis.
29 th week	Cases study
30 th week	Cases study
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
General skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Change and modification in the course	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Milk Hygiene

1	Course name	Milk Hygiene
2	Course Code	MIH403
3	Course type: /general/specialty/optional	Specialist
4	Accredited units	3 credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language

9	Date of course approval	2022		
Brief description of the course	This course covers the physical and chemical properties of milk, heat treatments of milk, factors affecting the quality of milk, sources of contamination of milk. Diseases transmitted, food poisoning, indicator organisms, cleaning and disinfecting of milk plants, mastitis, residues of antibiotics and pesticides, HACCP, and how to protect consumers from fraud and compliance with Libyan Standard Specifications.			
Prescribed books	Books: <ul style="list-style-type: none"> • Dairy Microbiology Handbook. ISBN:9780471723950. • Modern Food microbiology. 978-0-387-23413-7. • Dairy Processing Handbook. ISBN-10 : 9163134276. ISBN-13 : 978-9163134272. 			
Course duration	One academic year .			
Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. 			
Objectives and target of the course	<ul style="list-style-type: none"> • Knowing the composition and properties of natural and chemical milk and the factors affecting it and knowing the healthy methods of milk production and its sources of pollution. • Knowing the methods of producing pasteurized milk and long-life milk and the factors affecting their validity and knowing the fermentation of natural and unnatural milk. • Knowledge of diseases transmitted through milk of animal and human origin. • Understand the role of microorganisms and their relationship to dairy products and identify pathogenic microorganisms and microorganisms that cause dairy product spoilage and how to control them. • Assessing the importance of applying microbiological standards with reference to public health systems in the dairy industry to produce safe milk. 			
Assessment examination method	Time of Assessment	method of Assessment	hours	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment ➔ Final exam by the end of the year	Written exam	3hrs	50
		Practice exam	3hr	20
		Oral exam	1hr	10
Fourth Year				
Course contents				
1 st week	Introduction of Milk Hygiene.			
2 nd week	Physical Properties of Milk			

3 rd week	Physical Properties of Milk
4 th week	Chemical Composition of Milk
5 th week	Chemical Composition of Milk
6 th week	Sources of Milk Contamination
7 th week	Factors Affecting The Microbial Growth in Foods
8 th week	Normal Fermentation of Milk
9 th week	Abnormal Fermentation of Milk
10th week	1st MIDTERM EXAM
11 st week	Heat Treatment of Milk
12 nd week	Heat Treatment of Milk
13 rd week	Milk-borne Diseases
14 th week	Milk-borne Diseases
15 th week	Food poisoning
16 th week	Cleaning and Sanitizing Dairy Utensils and Equipment
17 th week	Cleaning and Sanitizing Dairy Utensils and Equipment
18 th week	Laboratory Diagnostic Methods for Detection of Sub-clinical mastitis
19 th week	Laboratory Diagnostic Methods for Detection of Sub-clinical mastitis
20th week	2nd MIDTERM EXAM
21 st week	Dairy Products: 1- Cream: 2- Butter and Ghee:
22 nd week	Fermented Dairy Products
23 rd week	Microbiology of therapeutic milks
24 th week	Dried Milk Products
25 th week	Concentrated Milk:
26 th week	Ice cream
27 th week	Cheese
28 th week	Cheese
29 th week	Edible Eggs and Egg Products
30 th week	Edible Eggs and Egg Products
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.

Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.
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Toxicology and Forensic Medicine

1	Course name	Toxicology and Forensic Medicine
2	Course code	TFM404
3	Course type: /general/specialty/optional	specialty
4	Accredited units	3 Credit
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medicine Sciences (BVMSc)
8	Instruction Language	English
9	Date of course approval	2022
Brief description of the course	This course covers knowledge of pollutants, mineral substances, acids and alkalis, organic acids, pesticides, radioactive substances and animal toxins, mycotoxins and food in addition, to the various poisonous plants as well as their source and how to calculate toxic doses, also how to treat them. This course also deals with the teaching of forensic medicine with a detailed explanation of the laws and the relationship between them.	
Prescribed books	Books: <ul style="list-style-type: none"> •Veterinary Toxicology. 9780128114117. • Clinical Veterinary Toxicology 13: 978-0323011259. • introduction to Veterinary and comparative forensic medicine ISBN:9781405111010. 	
Course duration	One academic year.	
Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. 	
Objectives and target of the course	<ul style="list-style-type: none"> • In this course, a comprehensive study is made of the fields and activities of toxicology, pollutants and their types, types of poisoning, calculation of toxic doses, sources and types of toxic substances, the metabolism and mechanism of action of toxic substances, methods of diagnosis and treatment of poisoning cases. Mineral substances, acids, alkalis, and various organic acids and their sources are studied, and ways animals and humans are exposed to these substances, in addition to diagnosing 	

	<p>treatment and prevention.</p> <ul style="list-style-type: none"> Pesticides, radioactive substances, animal toxins, mycotoxins and food poisoning are also studied, as well as the definition of poisonous plants, as well as the study of forensic medicine with an extensive explanation of the laws and the relationship between them, as well as clarification of death and its types, methods and detection of the cause that led to death and the changes that occur after death and how to link them and determine the time of death as well as linking the resulting damage Of the natural causes (heat, cold, starvation, neglect) and the factors of change due to the change in electricity and drowning and the study of suffocation (and its types) 																						
Assessment examination method	<table border="1"> <thead> <tr> <th>Time of Assessment</th> <th>method of Assessment</th> <th>hrs</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>1st assessment exam at 10th week</td> <td>1st midterm exam</td> <td>1hrs</td> <td>10</td> </tr> <tr> <td>2nd assessment exam at 20th Week</td> <td>2nd midterm exam</td> <td>1hrs</td> <td>10</td> </tr> <tr> <td rowspan="3">3rd assessment → Final exam by the end of the year</td> <td>Written exam</td> <td>3hrs</td> <td>50</td> </tr> <tr> <td>Pract exam</td> <td>1hr</td> <td>20</td> </tr> <tr> <td>Oral exam</td> <td>1hr</td> <td>10</td> </tr> </tbody> </table>	Time of Assessment	method of Assessment	hrs	Marks	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10	3 rd assessment → Final exam by the end of the year	Written exam	3hrs	50	Pract exam	1hr	20	Oral exam	1hr	10
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Course contents																							
1 st week	<ul style="list-style-type: none"> Introduction to toxicology science Toxicology concepts & terminology. 																						
2 nd week	<ul style="list-style-type: none"> Toxicodynamic of poisons 																						
3 rd week	<ul style="list-style-type: none"> Toxicokinetic of poisons 																						
4 th week	<ul style="list-style-type: none"> Factors influencing toxicity 																						
5 th week	<ul style="list-style-type: none"> Safety testing & Common causes of poisoning 																						
6 th week	<ul style="list-style-type: none"> Treatment, management of toxicosis & types of antidotes 																						
7 th week	<ul style="list-style-type: none"> Metallic poisoning (Irritant toxic agent); Arsenic, Antimony, Fluoride. 																						
8 th week	<ul style="list-style-type: none"> Mercury& Molybdenum 																						
9 th week	<ul style="list-style-type: none"> Aluminum, Phosphorous, Zinc& Iodine. 																						
10th week	1st Midterm Exam																						
11 st week	<ul style="list-style-type: none"> Insecticides. 																						
12 nd week	<ul style="list-style-type: none"> Herbicides & Rodenticides. 																						
13 rd week	<ul style="list-style-type: none"> Molluscicides & Fungicides. 																						
14 th week	<ul style="list-style-type: none"> Acaricide& Feed related toxicosis. 																						
15 th week	<ul style="list-style-type: none"> Toxic gases & vapors. 																						
16 th week	<ul style="list-style-type: none"> Zootoxins & Water related toxicosis 																						
17 th week	<ul style="list-style-type: none"> Mycotoxins 																						
18 th week	<ul style="list-style-type: none"> Poisonous Plants. 																						
19 th week	<ul style="list-style-type: none"> Radioactive materials. 																						

20th week	2nd MIDTERM EXAM
21 st week	<ul style="list-style-type: none"> • Introduction & the doctor of the law & Definition
22 nd week	<ul style="list-style-type: none"> • Types of death and Unexpected & sudden death from natural causes
23 rd week	<ul style="list-style-type: none"> • Clinical signs & causes of death
24 th week	<ul style="list-style-type: none"> • Changes after death
25 th week	<ul style="list-style-type: none"> • Injury due to hypo. and hyperthermia
26 th week	<ul style="list-style-type: none"> • Wounds & explosive injuries
27 th week	<ul style="list-style-type: none"> • Injury due to electricity.
28 th week	<ul style="list-style-type: none"> • Lightening, neglect & starvation
29 th week	<ul style="list-style-type: none"> • Asphyxia & Pressure on the neck & chest
30 th week	<ul style="list-style-type: none"> • Drowning & immersion
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Meat Hygiene

1	Course name	Meat Hygiene
2	Course Code	MEH 402
3	Course type: /general/specialty/optional	Specialty
4	Accredited units	4 Credits
5	Educational hours	.....

6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English
9	Date of course approval	2022

Brief Description	This course covers the identification of the basic principles for maintaining healthy meat free of contaminants and pathogens to be suitable for human consumption, by knowing the correct and appropriate designs and constructions for slaughter slaughterhouses. This course also deals with teaching how to treat the different type of live animals before slaughter and how to prepare and slaughter carcasses in ways that ensure the availability of high-quality meat. Furthermore, this course covers the zoonotic diseases that may transported from animals to human and how to inspection onmeat for the consumer has food free from disease.
Textbooks	Books: <ul style="list-style-type: none"> • Meat Hygiene. ISBN:9781118650028. • Integrated Food Safety and Veterinary Public Health. ISBN-10: 9780851999081. ISBN-13: 978-0851999081. • Ovine Meat Inspection. ISBN-13: 978-1907284762. ISBN-10: 1907284761. • Bovine Meat Inspection. ISBN-10: 1899043551. ISBN-13: 978-1899043552 • Lawrie`s Meat Science. ISBN: 9780081006979.
Course Duration	One academic week.
Teaching Method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments.
Course Objectives	<ul style="list-style-type: none"> • Identifying the basic designs and constructions of old and modern slags and the difference between them. • Learn about the methods of treating live animals before slaughter, methods of slaughtering and preparing different carcasses, and their importance in the production of high-quality meat. • Getting to know the different ways of detecting the different carcasses and how to evaluate the quality of the carcasses. • Identifying the physiological changes and the most important diseases (their causes, symptoms, and judgment) that are transmitted and non-transmitted between humans and animals and how to distinguish them. • Learn how to detect these diseases before and after slaughter, judge them and their suitability for human consumption. • Identifying the basic components of poultry and rabbit skins, methods of slaughter and processing, and the diseases that affect them, as well as judging those carcasses. • Identifying the nutritional value and seafood and the factors affecting the changes that occur to fish after they are caught, how to preserve fish, knowing the diseases that affect fish and which are transmitted to humans, and judging them and their suitability

	<p>for human consumption.</p> <ul style="list-style-type: none"> Learn about the different methods of preserving meat and meat products, the basics of the HACCP system, and the methods of its application in slaughterhouses and meat products factories. Identifying ways to dispose of slaughtering waste and benefit from it as an important economic resource for the state. 			
Assessment examination method	Time of Assessment	method of Assessment	hours	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment exam by the end of the year	✈️Final Written exam Practice exam Oral exam	3hrs 3hr 1hr	40 30 10
Course Contents				
1 st week	Introduction to Meat Hygiene and Slaughterhouse.			
2 nd week	Construction of abattoirs			
3 rd week	Transportation of Animals to the Slaughterhouse			
4 th week	Ante-mortem Care of the Food Animals and Animal Slaughter			
5 th week	Lymphatic System			
6 th week	Chemical Composition of the Meat and Meat Cuts			
7 th week	Conversion of Muscle to Meat			
8 th week	Abnormal Conditions, Diseases, and its judgments			
9 th week	Abnormal Conditions within Physiological Limits and its judgment			
10th week	First Midterm Exam			
11 st week	Abnormal Conditions within Physiological Limits and its judgment			
12 nd week	C. Generalized Conditions and its judgment D. Constitutional disorders and blood diseases and its judgment			
13 rd week	E. Specific Diseases Bacterial Diseases (<i>causative agent, antemortem and postmortem findings and Judgment</i>)			
14 th week	E. Specific Diseases 2. Viral and Prion Diseases (<i>causative agent, antemortem and postmortem findings and Judgment</i>)			
15 th week	Foot and mouth disease			
16 th week	E. Specific Diseases (cont.) E. Specific Diseases (cont.)			
17 th week	3. Parasitic Diseases (<i>causative agent, antemortem and postmortem findings and Judgment</i>)			
18 th week	Parasites transmitted to human			

19 th week	Parasites not transmitted to human
20th week	Second Midterm Exam
21 st week	Meat Preservation
22 nd week	Meat Preservation
23 rd week	Meat Microbiology and Food Poisoning
24 th week	Meat Microbiology
25 th week	Food Poisoning
26 th week	Chemical Residues in Meat
27 th week	Poultry Hygiene and Inspection
28 th week	Fish Hygiene and Inspection Fish zoonotic diseases
29 th week	Fish poisoning Fish parasites
30 th week	HACCP
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Veterinary Medicine I

1	Course name	Veterinary Medicine I
2	Course code	MED405
3	Course type: /general/specialty/optional	Specialty
4	Accredited units	3 credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022
	Brief description	Veterinary internal medicine subject is a fundamental for any field

of the course	veterinarian's and practitioners. It provides the students with an up-to date knowledge and information on diseases caused by non-infectious agents that affect farm animals' health and productivity (cattle, sheep, goats, camels, equine, pets). Firstly, the students understand meanings of medicine diseases and its importance as a General Systemic State, which contribute to the effects of many diseases. Then, the students undergo an up-to date knowledge about body system diseases emphasizing on principle body systems dysfunction, manifestations of dysfunction and special examination and principle of treatment. Furthermore, the subject provides more information and knowledge on specific diseases associated with body systems.			
Prescribed books	Books: <ul style="list-style-type: none"> • Department Handout, by Teaching Staff Member • TEXTBOOK OF THE DISEASES OF CATTLE, HORSES, SHEEP, PIGS, AND GOATS, Constable PD; et al, 11TH EDITION • THE MERCK VETERINARY MANUAL, Aiello SE & Moses MA 11TH EDITION • Text Book of Veterinary Internal Medicine, S Ettinger & E Feldman, 6th Edition 			
Course duration	One academic year			
Teaching method	<ul style="list-style-type: none"> ❖ Theoretical lectures by using data show projector. ❖ Practical sessions by using data show projector, dissected specimen and alive animal. ❖ Handout of lectures and practices. ❖ Library. ❖ Student presentations and workshops. 			
Objectives and target of the course	<ul style="list-style-type: none"> ❖ Provide the students with the necessary knowledge and information regarding diseases caused by non-infectious agents, affecting mainly domestic food-producing animals (cattle, sheep, goats and camels) and other animal including equine spp. and pets, to provide animal health and production ❖ It is aimed to acquire knowledge about non-infectious diseases of different systems of these animal species and ability to make differential diagnosis according to laboratory findings ❖ Teaching appropriate and effective treatment, prophylaxis methods and preventive medication 			
Assessment examination method	Time of Assessment	method of Assessment	hrs	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment Final exam by the end of the year	Written exam	3hrs	40
		Pract exam	1hr	30
		Oral exam	15min	10
Course contents				
1 st week	Introduction to Internal Medicine			
2 nd week	General systemic state: Hypothermia, hyperthermia, fever, Septicemia/viremia,			

3 rd week	Toxemia and endotoxemia
4 th week	Hypovolemic, hemorrhagic, maldistributed and obstructive shock.
5 th week	Allergy and anaphylaxis.
6 th week	Edema.
7 th week	Disturbances of free water, electrolytes and acid-base balance.
8 th week	(Hyponatremia, hypokalemia, hypochloremia, acidemia, alkalemia and principals of fluid therapy).
9 th week	General medicine: pain, weight loss or failure to gain weight (ill -thrift), sudden or unexpected death.
10th week	1st MIDTERM EXAM
11 st week	Disease of Cardiovascular system: Principles of circulatory failure, Manifestations of circulatory failure,
12 nd week	Special examination of the cardiovascular system, Arrhythmias
13 rd week	Diseases of the heart.
14 th week	Diseases of the blood vessels.
15 th week	Digestive System I Principles Of Alimentary Tract Dysfunction, Manifestations and Principles of Treatment in Alimentary Tract Diseases, Diseases Of the Buccal Cavity and Salivary Glands.
16 th week	Disease Of Pharynx and Esophagus. Chock.
17 th week	Esophagitis. Pharyngitis.
18 th week	Dental Diseases.
19 th week	Equine Colic.
20th week	2nd MIDTERM EXAM
21 st week	Diseases of the respiratory system (Ruminant) Principles of respiratory insufficiency Principal manifestations of respiratory insufficiency
22 nd week	Principles of treatment and control of respiratory tract disease.
23 rd week	Diseases of the upper respiratory tract.
24 th week	Diseases of the lungs.
25 th week	Diseases of the pleura and diaphragm.
26 th week	Diseases of the respiratory system (horse). <ol style="list-style-type: none"> 1. Recurrent airway obstruction. 2. Inflammatory airway diseases. 3. Exercise induced pulmonary hemorrhage. 4. Guttural pouch diseases (tympany, empyema).

	<p>5. and mycosis.</p> <p>6. Ethmoid Hematoma.</p>
27 th week	Diseases of urinary system Clinical Manifestations of Urinary Tract Diseases.
28 th week	Principles of Treatment of Urinary Tract Diseases. Nephrosis and Renal Ischemia.
29 th week	Glomerulonephritis.
30 th week	Embolic Nephritis. Pyelonephritis. Cystitis.
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Theriogenology I

1	Date of course approval	Theriogenology I
2	Date of course approval	THE407
3	Course type: /general/specialty/optional	Specialist
4	Accredited units	3 credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022
	Brief description of the course	Theriogenology is a specialty of veterinary medicine, taught during the fourth and fifth years of study at the college, in the form of theoretical and practical lessons, concerned with animal reproduction. Our aim is to provide the student with the necessary knowledge and skills for the field of reproduction, fertility and artificial insemination; in addition to training him in the necessary skills in diagnosing and treating reproductive diseases, diagnosing pregnancy in many animals, and diagnosing and treating infertility diseases and weak sexual desire in males of different animals. Also, the clinical practices of veterinary obstetrics and the science of assisted reproductive technology.

Prescribed books	Books: <ul style="list-style-type: none"> •Veterinary Reproduction and Obstetrics. 10th Edition (ISBN 978-0-7020-7233-8). • Current Therapy in Large Animal Theriogenology Vol. 2. ISBN-13: 978-0721693231. ISBN-10: 0721693237 • Reproduction in Farm Animals.ISBN:9780683305777. 			
Course duration	One academic year.			
Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. 			
Objectives and target of the course	<ul style="list-style-type: none"> • By studying the course, the student will be able to: • To familiarize with the natural and functional structure of the male and female reproductive system in the different farm animals. • The student memorizes the information, terms and dates related to reproduction for each studied animal. • The student recognizes the normal reproductive status and be able to identify various pathological conditions of the male and female reproductive system in the animals. • Differential diagnoses between cases, and how to deal, then how to treat. • Building and developing practical skills through practical lessons and field visits. • The student should be able to explain the different pathological conditions he faces. 			
Assessment examination method	Time of Assessment	method of Assessment	hrs.	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment ➔ Final exam by the end of the year	Written exam Pract exam Oral exam	3hrs 1hr 1hr	40 30 10
Fourth Year				
Course contents				
1 st week	➤ (Gynecology1) Development of reproductive organs. The origin of sex.			
2 nd week	<ul style="list-style-type: none"> • The postnatal development. Definitions and general information. Puberty in the female. Structure and functions of the female reproductive organs of different domestic animals.			
3 rd week	<ul style="list-style-type: none"> • The postnatal development. Definitions and general information. Puberty in the female.			

	Structure and functions of the female reproductive organs of different domestic animals.
4 th week	<ul style="list-style-type: none"> The postnatal development. Definitions and general information. Puberty in the female. Structure and functions of the female reproductive organs of different domestic animals.
5 th week	<ul style="list-style-type: none"> The control of reproduction The role of hormones.
6 th week	<ul style="list-style-type: none"> The control of reproduction The role of hormones.
7 th week	<ul style="list-style-type: none"> The control of reproduction The role of hormones.
8 th week	The roles of the nervous system Regulation of gonadotrophin secretion. Regulation of female reproductive function
9 th week	<ul style="list-style-type: none"> The estrous cycle. General introduction. Phases of the cycle.
10th week	1st MIDTERM EXAM
11 st week	<ul style="list-style-type: none"> Mechanisms governing the cycle.
12 nd week	<ul style="list-style-type: none"> Factors effecting the cycle.
13 rd week	<ul style="list-style-type: none"> Physiology of fertilization.
14 th week	<ul style="list-style-type: none"> Physiology of fertilization.
15 th week	<ul style="list-style-type: none"> Physiology of fertilization.
16 th week	(Gynecology2) Introduction to infertility Hereditary or congenital causes. Hormonal causes.
17 th week	(Gynecology2) Introduction to infertility Hereditary or congenital causes. Hormonal causes.
18 th week	Pathological causes.
19 th week	Hereditary and pathological causes affecting.
20th week	2nd MIDTERM EXAM
21 st week	Environment and infertility.
22 nd week	Repeat breeder syndrome Reproduction performance and efficiency. Mare infertility.
23 rd week	Repeat breeder syndrome Reproduction performance and efficiency. Mare infertility.

24 th week	(Andrology) Introduction Anatomy and function of male reproduction The secondary sex organs (location, function, secretion).
25 th week	Comparative anatomy of male reproductive system: Bull, stallion, camel, ram, dog, cat
26 th week	Male sexual physiology. Puberty,
27 th week	Libido, Mating, Spermatogenesis.
28 th week	Reproductive abnormalities of male animals (male infertility).
29 th week	Male selection. Semen collection, and Semen evaluation.
30 th week	Artificial Insemination.
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Infectious Diseases I

1	Course name	Infectious Diseases
2	Course code	INF408
3	Course type: /general/specialty/optional	Specialty
4	Accredited units	3 credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022
	Brief description of the course	Infectious Disease is considered as a main core subject for any successful veterinarian. It provides the students with the required knowledge & information regarding important diseases caused by infectious agents (Bacteria, Virus, Perion, Parasitic, Fungal & Protozoa) affecting farm animals health and

	production as Ruminant (Cattle, Sheep, Goat and Camels), Equines Spp. and Pet Animals (Dogs & Cats). Firstly, the students know the definition of infectious diseases and their importance in terms of economic importance and morbidity and case fatality rate, with general diagnosis and control and their responsibility towards animals and animal owners. Then the student undergoes an intensive knowledge on specific diseases caused by infectious microorganisms (mentioned above), on disease definition, etiology, epidemiology, pathogenesis, clinical signs, deferential diagnosis, diagnosis, treatment and control.			
Prescribed books	<ul style="list-style-type: none"> • TEXTBOOK OF THE DISEASES OF CATTLE, HORSES, SHEEP, PIGS, AND GOATS, Constable PD; et al, 11TH EDITION • THE MERCK VETERINARY MANUAL, Aiello SE & Moses MA 11TH EDITION Textbook of Veterinary Internal Medicine, S Ettinger & E Feldman, 6 th Edition			
Course duration	One academic year			
Teaching method	<ul style="list-style-type: none"> ❖ Theoretical lectures by using data show projector. ❖ Practical sessions by using data show projector, dissected specimen and alive animal. ❖ Handout of lectures and practices. ❖ Library. ❖ Student presentations and workshops. 			
Objectives and target of the course	<ul style="list-style-type: none"> ✓ Provide the students with the necessary knowledge and information regarding diseases caused by infectious agents, affecting mainly domestic food-producing animals (cattle, sheep, goats and camels) and other animal including equine spp. and pets, to provide animal health and production ✓ It is aimed to acquire knowledge about infectious diseases of different systems of these animal species and ability to make differential diagnosis according to laboratory findings ✓ Teaching appropriate and effective treatment, prophylaxis methods and preventive medication. 			
Assessment examination method	Time of Assessment	method of Assessment	hrs	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment Final exam by the end of the year	Written exam	3hrs	40
		Pract exam	1hr	30
		Oral exam	15min	10
Course contents				
1 st week	Introduction To Infectious Diseases Mastitis - Bovine mastitis - Ewes and goat doe mastitis - Horse Mastitis			

	<ul style="list-style-type: none"> - Camel Mastitis - Dog & Cat Mastitis
2 nd week	<p>Introduction To Infectious Diseases</p> <p><u>Mastitis</u></p> <ul style="list-style-type: none"> - Bovine mastitis - Ewes and goat doe mastitis - Horse Mastitis - Camel Mastitis - Dog & Cat Mastitis
3 rd week	<p>Introduction To Infectious Diseases</p> <p><u>Mastitis</u></p> <ul style="list-style-type: none"> - Bovine mastitis - Ewes and goat doe mastitis - Horse Mastitis - Camel Mastitis - Dog & Cat Mastitis
4 th week	<p>Introduction To Infectious Diseases</p> <p><u>Mastitis</u></p> <ul style="list-style-type: none"> - Bovine mastitis - Ewes and goat doe mastitis - Horse Mastitis - Camel Mastitis - Dog & Cat Mastitis
5 th week	<p>BACTERIAL DISEASES</p> <p><u>A. Diseases Caused By <i>Escherichia Coli</i> & <i>Salmonella Spp.</i></u></p> <ul style="list-style-type: none"> - Acute Undifferentiated Diarrhea Of Newborn - Colibacillosis Of Newborn Calves, Lambs & Foals - Salmonellosis (Paratyphoid) - Bovine Salmonellosis - Ovine And Caprine Salmonellosis - Equine Salmonellosis
6 th week	<p>BACTERIAL DISEASES</p> <p><u>A. Diseases Caused By <i>Escherichia Coli</i> & <i>Salmonella Spp.</i></u></p> <ul style="list-style-type: none"> - Acute Undifferentiated Diarrhea Of Newborn - Colibacillosis Of Newborn Calves, Lambs & Foals - Salmonellosis (Paratyphoid) - Bovine Salmonellosis - Ovine And Caprine Salmonellosis - Equine Salmonellosis
7 th week	<p>BACTERIAL DISEASES</p> <p><u>A. Diseases Caused By <i>Escherichia Coli</i> & <i>Salmonella Spp.</i></u></p> <ul style="list-style-type: none"> - Acute Undifferentiated Diarrhea Of Newborn - Colibacillosis Of Newborn Calves, Lambs & Foals - Salmonellosis (Paratyphoid) - Bovine Salmonellosis - Ovine And Caprine Salmonellosis - Equine Salmonellosis
8 th week	<p><u>B. Diseases Caused By <i>Clostridium Spp.</i></u></p> <ul style="list-style-type: none"> - Tetanus - Botulism - Black Leg

	<ul style="list-style-type: none"> - Black Disease (Infectious Necrotic Hepatitis) - Malignant Edema - Bacillary Hemoglobinuria - Braxy - Enterotoxaemia & Lamb Dysentery - Pulpy Kidney
9 th week	<p><u>B. Diseases Caused By Clostridium Spp.</u></p> <ul style="list-style-type: none"> - Tetanus - Botulism - Black Leg - Black Disease (Infectious Necrotic Hepatitis) - Malignant Edema - Bacillary Hemoglobinuria - Braxy - Enterotoxaemia & Lamb Dysentery - Pulpy Kidney Horse
10 th week	1st MIDTERM EXAM
11 st week	<p><u>B. Diseases Caused by Clostridium Spp.</u></p> <ul style="list-style-type: none"> - Tetanus - Botulism - Black Leg - Black Disease (Infectious Necrotic Hepatitis) - Malignant Edema - Bacillary Hemoglobinuria - Braxy - Enterotoxaemia & Lamb Dysentery - Pulpy Kidney
12 nd week	<p><u>C. Diseases Caused By Bacillus Spp.</u></p> <ul style="list-style-type: none"> - Anthrax <p><u>D. Diseases Of Caused By Fungi</u></p> <ul style="list-style-type: none"> - Dermatormycosis (Ring Worm) - Sporthricosis
13 rd week	<p><u>C. Diseases Caused By Bacillus Spp.</u></p> <ul style="list-style-type: none"> - Anthrax <p><u>D. Diseases Of Caused By Fungi</u></p> <ul style="list-style-type: none"> - Dermatormycosis (Ring Worm) - Sporthricosis
14 th week	<p><u>E. Diseases Caused By Mycoplasma Spp.</u></p> <ul style="list-style-type: none"> - Contagious Bovine Pleuropneumonia (Cbpp) - Contagious Caprine Pleuropneumonia (Ccpp) - Contagious Agalactia Of Goat And Sheep
15 th week	<p><u>E. Diseases Caused By Mycoplasma Spp.</u></p> <ul style="list-style-type: none"> - Contagious Bovine Pleuropneumonia (Cbpp) - Contagious Caprine Pleuropneumonia (Ccpp) - Contagious Agalactia Of Goat And Sheep
16 th week	<p><u>Diseases Caused by Pasteurella Spp.</u></p> <ul style="list-style-type: none"> - Septicemic Pasteurellosis (Hemorrhagic Septicemia) - Pneumonic Pasteurellosis Of Cattle (Shipping Fever) - Pasteurellosis Of Sheep And Goat
17 th week	<p><u>Diseases Caused By Pasteurella Spp.</u></p> <ul style="list-style-type: none"> - Septicemic Pasteurellosis (Hemorrhagic Septicemia)

	<ul style="list-style-type: none"> - Pneumonic Pasteurellosis Of Cattle (Shipping Fever) - Pasteurellosis Of Sheep And Goat
18 th week	<p><u>Diseases Caused By Mycobacterium Spp.</u></p> <ul style="list-style-type: none"> - Tuberculosis (M Bovis) - Skin TB - Para TB
19 th week	<p><u>Diseases Caused By Mycobacterium Spp.</u></p> <ul style="list-style-type: none"> - Tuberculosis (M Bovis) - Skin TB - Para TB
20th week	2nd MIDTERM EXAM
21 st week	<p><u>Diseases Caused By Actinomyces Spp., Actinobacillus Spp. & Nocardia Spp.</u></p> <ul style="list-style-type: none"> - Actinomycosis (Lumpy Jaw) - Actinobacillosis (Wooden Tongue) - Glander
22 nd week	<p><u>Diseases Caused By Actinomyces Spp., Actinobacillus Spp. & Nocardia Spp.</u></p> <ul style="list-style-type: none"> - Actinomycosis (Lumpy Jaw) - Actinobacillosis (Wooden Tongue) - Glander
23 rd week	<p><u>VIRAL AND CHLAMYDIAL DISEASES</u> Viral Diseases Characterized by Respiratory Signs</p> <ul style="list-style-type: none"> - Equine Viral Rhinopneumonitis (EVR) - Equine Influenza - Equine Viral Arteritis (EVA) - Viral Pneumonia In Older Calves, Yearling And Adult Cattle (Acute Interstitial Pneumonia) - Infections Bovine Rhino-Tracheitis (IBR) - Ovine Progressive Pneumonia (Media-Visna)
24 th week	<p><u>VIRAL AND CHLAMYDIAL DISEASES</u> Viral Diseases Characterized By Respiratory Signs</p> <ul style="list-style-type: none"> - Equine Viral Rhinopneumonitis (EVR) - Equine Influenza - Equine Viral Arteritis (EVA) - Viral Pneumonia In Older Calves, Yearling And Adult Cattle (Acute Interstitial Pneumonia) - Infections Bovine Rhino-Tracheitis (IBR) - Ovine Progressive Pneumonia (Media-Visna)
25 th week	<p><u>VIRAL AND CHLAMYDIAL DISEASES</u> Viral Diseases Characterized By Respiratory Signs</p> <ul style="list-style-type: none"> - Equine Viral Rhinopneumonitis (EVR) - Equine Influenza - Equine Viral Arteritis (EVA) - Viral Pneumonia In Older Calves, Yearling And Adult Cattle (Acute Interstitial Pneumonia) - Infections Bovine Rhino-Tracheitis (IBR) - Ovine Progressive Pneumonia (Media-Visna)
26 th week	<p><u>DISEASES CAUSED BY HELMINTHES PARASITES</u></p> <ul style="list-style-type: none"> - Hepatic Fascioliasis (Liver Fluke Disease) - Lung Worm Infestation in Cattle (Verminous Pneumonia &

	<p>Verminous Bronchitis)</p> <ul style="list-style-type: none"> - Parasitic Gastro-Enteritis - Cutaneous Stephanfilarosis
27 th week	<p><u>DISEASES CAUSED BY HELMINTHES PARASITES</u></p> <ul style="list-style-type: none"> - Hepatic Fascioliasis (Liver Fluke Disease) - Lung Worm Infestation In Cattle (Verminous Pneumonia & Verminous Bronchitis) - Parasitic Gastro-Enteritis - Cutaneous Stephanfilarosis
28 th week	<p><u>DISEASES OF PET ANIMALS</u></p> <ul style="list-style-type: none"> - Canine Distemper - Canine Infectious Hepatitis - Parvo Virus Infection - Feline Panleukopenia
29 th week	<p><u>DISEASES OF PET ANIMALS</u></p> <ul style="list-style-type: none"> - Canine Distemper - Canine Infectious Hepatitis - Parvo Virus Infection - Feline Panleukopenia
30 th week	<p><u>DISEASES OF PET ANIMALS</u></p> <ul style="list-style-type: none"> - Canine Distemper - Canine Infectious Hepatitis - Parvo Virus Infection - Feline Panleukopenia
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

General Veterinary Surgery

1	Course name	General Veterinary Surgery
2	Course Code	GVS406
3	Course type: general/specialty/optional	Specialty

4	Accredited units	3 credits			
5	Educational hours	.....		
6	Pre-requisite requirements	Non			
7	Program offered the course	Bachelor of Veterinary Medical Sciences			
8	Instruction Language	English Language			
9	Date of course approval	2022			
Brief description of the course		The curriculum of veterinary surgery is aimed to enable the student to know about the principle of general surgery including technique of sterilization, pre operative preparation, different types of anesthesia to control animals during examination or during minor or major surgical procedures as well as handling and transportation and to learn about diagnostic tools and imaging, as well as, implanting knowledge and practicing the various surgical problems of the body systems including digestive, respiratory, cardiovascular, urogenital and abdominal wall. Moreover, to accustomed students how to pick the principles up to recognize case appraisal, etiology, clinical signs, diagnosis and differential diagnosis, prognosis and different traits of treatment.			
Prescribed books		Books: <ul style="list-style-type: none"> • Small animal surgery. ISBN: 9780323443432. • Large animal surgery. ISBN 10: 0721613470. ISBN 13: 9780721613475. • Textbook of Veterinary Anaesthesia .ISBN:9789386453129. • Textbook of Veterinary Diagnostic Radiology.ISBN. 978-0-323-48247-9. 			
Course duration		One academic year.			
Teaching method		<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. 			
Objectives and target of the course		<ul style="list-style-type: none"> • Provide students with basic information regarding the Veterinary Surgery, Anesthesia and Radiology. • Teach student how to perform basic preparation for surgery, operative techniques, and post- operative care. • Teach students the most commonly used surgical instruments • Teach the different drugs used for pre-anesthetic medication, local anesthesia, and general anesthesia. • Teach students with basic principle of diagnostic imaging and their clinical applications. 			
Assessment examination method		Time of Assessment	method of Assessment	Hrs.	Marks
		1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
		2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
		3 rd assessment → Final exam by the end of the year	Written exam	3hrs	40
			Pract. exam	1hr	30
	Oral exam	1hr	10		

Fourth Year			
Course contents			
1 st week	- INTRODUCTION (Objective- Mission & Vision of Surgery) - INFLAMMATION: Definition- Classification- Causes- Phenomena of inflammation-		
2 nd week	<ul style="list-style-type: none"> • INFLAMMATION: Cardinal signs of inflammation- Principle lines of treatment of (ACUTE & CHRONIC) inflammation- Fate of inflammation. • MUSCLE DISORDER 		
3 rd week	<ul style="list-style-type: none"> • JOINT DISORDER • TENDON & LIGAMENT SURGERY 		
4 th week	SURGICAL SWELLINGS: Abscesses- Bursitis- Haematoma- Hernia - Neoplasm- Cysts- Phlegmone		
5 th week	SURGICAL SWELLINGS: Abscesses- Bursitis- Haematoma- Hernia - Neoplasm- Cysts- Phlegmone		
6 th week	WOUNDS & BURNS		
7 th week	WOUNDS & BURNS		
8 th week	<ul style="list-style-type: none"> • WOUNDS & BURNS • HAEMORRHAGE & HEMSTASIS 		
9 th week	NECROSIS & GANGRENE		
10 th week	1st MIDTERM EXAM		
11 st week	SINUSES & FISTULAE and ULCER		
12 nd week	SHOCK		
13 rd week	FLUID THERAPY & BLOOD TRANSFUSION		
14 th week	FRACTURE AND DISLOCATION		
15 th week	FRACTURE AND DISLOCATION		
16 th week	<ul style="list-style-type: none"> • DEFINITION & CLASSIFICATION OF ANAESTHESIA. • PREMEDICATION (PREANAESTHETIC) 		
17 th week	PREMEDICATION (PREANAESTHETIC)		
18 th week	LOCAL ANALGESIA		
19 th week	<ul style="list-style-type: none"> • LOCAL ANALGESIA • REGIONAL ANALGESIA 		
20 th week	2nd MIDTERM EXAM		
21 st week	REGIONAL ANALGESIA		
22 nd week	REGIONAL ANALGESIA		
23 rd week	REGIONAL ANALGESIA		
24 th week	GENERAL ANAESTHESIA		
25 th week	GENERAL ANAESTHESIA		
26 th week	GENERAL ANAESTHESIA		
27 th week	RADIOGRAPHY (Roentgenology)		

28th week	RADIOGRAPHY (Roentgenology)
29th week	ULTRASONOGRAPHY
30th week	REGIONAL ANALGESIA
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
General skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Change and modification in the course	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Veterinary Medicine II

1	Course name	Veterinary Medicine II
2	Course code	MED500
3	Course type: /general/specialty/optional	Specialty
4	Accredited units	3 credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022
	Brief description of the course	Veterinary internal medicine subject is a fundamental for any field veterinarian's and practitioners. It provides the students with an up-to date knowledge and information on diseases caused by non-infectious agents that affect farm animals' health and productivity (cattle, sheep, goats, camels, equine, pets). Firstly, the students understand meanings of medicine diseases and its importance as a General Systemic State, which contribute to the effects of many diseases. Then, the students undergo an up-to date knowledge about body system diseases emphasizing on principle body systems dysfunction, manifestations of dysfunction and special examination and principle of treatment. Furthermore, the subject provides more information and knowledge on specific diseases associated with body systems.
	Prescribed books	Books: <ul style="list-style-type: none"> • TEXTBOOK OF THE DISEASES OF CATTLE, HORSES, SHEEP, PIGS, AND GOATS, Constable PD; et al, 11TH EDITION

	<ul style="list-style-type: none"> THE MERCK VETERINARY MANUAL, Aiello SE & Moses MA 11TH EDITION Textbook of Veterinary Internal Medicine, S Ettinger & E Feldman, 6 th Edition			
Course duration	One academic year			
Teaching method	<ul style="list-style-type: none"> ❖ Theoretical lectures by using data show projector. ❖ Practical sessions by using data show projector, dissected specimen and alive animal. ❖ Handout of lectures and practices. ❖ Library. ❖ Student presentations and workshops. 			
Objectives and target of the course	<ul style="list-style-type: none"> ❖ Provide the students with the necessary knowledge and information regarding diseases caused by non-infectious agents, affecting mainly domestic food-producing animals (cattle, sheep, goats and camels) and other animal including equine spp. and pets, to provide animal health and production ❖ It is aimed to acquire knowledge about non-infectious diseases of different systems of these animal species and ability to make differential diagnosis according to laboratory findings ❖ Teaching appropriate and effective treatment, prophylaxis methods and preventive medication 			
Assessment examination method	Time of Assessment	method of Assessment	hrs	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment Final exam by the end of the year	Written exam	3hrs	40
		Pract exam	1hr	30
Oral exam	15min	10		
Course contents				
1 st week	Digestive System II Disease of Rumen, Reticulum and Omasum. Disease of Abomasum.			
2 nd week	Disease of Intestine Diseases of Stomach.			
3 rd week	Gastric Ulceration Gastric Impaction/ Dilatation or Rupture			
4 th week	Gastric Neoplasia Gastric Parasites			
5 th week	Diseases Of the Liver and Pancreas Clinical Manifestations, Diagnostic Tests & Treatment of Liver Diseases			
6 th week	Hepatitis In Ruminants.			
7 th week	Liver Abscesses in Cattle			
8 th week	Jaundice			
9 th week	Liver Diseases of Horse			
10 th week	1st MIDTERM EXAM			

11 st week	Hepatitis
12 nd week	Diseases Of Musculoskeletal and Metabolic Disorders Rhabdomyolysis Of Horses Equine Pars Intermedia Dysfunction (Equine Cushing's Disease)
13 rd week	Lactation Tetany of Mares (Eclampsia) Transit Tetany Laminitis
14 th week	Diseases of nutritional deficiencies Deficiencies Of Protein Cobalt Deficiency Copper Deficiency Iodine Deficiency
15 th week	Iron Deficiency Sodium Chloride Deficiency Magnesium Deficiency Manganese Deficiency
16 th week	Zinc Deficiency (Parakeratosis) Potassium Deficiency Selenium/Or Vitamin E Deficiency Rickets
17 th week	Osteomalacia Osteodystrophia Fibrosa Vitamin A Deficiency (Hypovitaminosis-A) Vitamin K Deficiency
18 th week	Thiamine Deficiency (Hypothiaminosis) Riboflavin Deficiency (Hyporiboflavinosis) Nicotinic Acid Deficiency (Hyponiacinosis) Pyridoxine (Vitamin B6) Deficiency
19 th week	Biotin (Vita Min H) Deficiency (Hypobiotinosis) Folic Acid Deficiency (Hypofolicosis) Choline Deficiency (Hypocholelinosis) Vitamin B12 Deficiency (Hypocyanocobalaminosis)
20 th week	2nd MIDTERM EXAM
21 st week	Metabolic and production Diseases(ruminants) Compton Metabolic Profile Test Parturient Paresis (Milk Fever) Downer Cow Syndrome (Non-Ambulatory Cows with Non-Progressive Neurological Findings) Transit Recumbency of Ruminants
22 nd week	Hypomagnesemic Tetany (Lactation Tetany, Grass Tetany, Grass Staggers, Wheat Pasture Poisoning) Hypomagnesemic Tetany of Calves Ketosis, Subclinical Ketosis, Acetonemia
23 rd week	Pregnancy Toxemia in Sheep Fatty Liver in Cattle (Fat Cow Syndrome, Hepatic Lipidosis, Pregnancy Toxemia in Cattle) Postparturient Haemoglobinuria In Cattle

24 th week	Diseases of nervous system (general) Principles of nervous dysfunction Clinical Manifestations of Disease of The Nervous System Principles Of Treatment of Diseases of The Nervous System
25 th week	Diseases Of the Brain Diseases Of the Meninges Toxic And Metabolic Encephalomyelopathies Diseases Of the Peripheral Nervous System
26 th week	Diseases of nervous system horses Otitis Media Cerebellar Abiotrophy and Degeneration Equine Protozoal Myeloencephalitis Equine Grass Sickness (Dysautonomia) Head Shaking
27 th week	Diseases Of the Skin and Eye (Ruminant +Horses) Principles Of Treatment of Diseases of The Skin Diseases Of the Epidermis and Dermis Insect Hypersensitivity
28 th week	Atopy Photosensitization Seborrhea Eosinophilic Granuloma Urticaria
29 th week	Greasy Heal and Scratches (Pastern Dermatitis) Keratitis
30 th week	Uveitis Cataract
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Special Veterinary Surgery

1	Course name	Special Veterinary Surgery
2	Course Code	SVS501
3	Course type: general/specialty/optional	Specialty
4	Accredited units	4credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022
Brief description of the course		The curriculum of veterinary surgery is aimed to enable the student to know about the principle of general surgery including technique of sterilization, pre operative preparation, different types of anesthesia to control animals during examination or during minor or major surgical procedures as well as handling and transportation and to learn about diagnostic tools and imaging, as well as, implanting knowledge and practicing the various surgical problems of the body systems including digestive, respiratory, cardiovascular, urogenital and abdominal wall. Moreover, to accustomed students how to pick the principles up to recognize case appraisal, etiology, clinical signs, diagnosis and differential diagnosis, prognosis and different traits of treatment.
Prescribed books		Books: <ul style="list-style-type: none"> • Small animal surgery. ISBN: 9780323443432. • Large animal surgery. ISBN 13: 9780721613475. • Adams and Stashak's lameness in horses. 6th ed. ISBN 978-0-8138-1549-7 • EQUINE SURGERY, 4th Edition ISBN: 978-1-4377-0867-7
Course duration		One academic year.
Teaching method		<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments.
Objectives and target of the course		<ul style="list-style-type: none"> • Is to provide students with: <ul style="list-style-type: none"> A general knowledge of the surgical treatments of soft tissue, orthopedic, and neurologic disorders in large and small animals needed in the veterinary practice and field. • Also aimed to learn student Special skills that can be used in conjunction with the clinical signs and symptoms to diagnose the different surgical affections in various organs, as well as, implanting knowledge and practicing the various surgical problems of the body systems with possible prognosis of surgical operations. • How to classify, evaluate & master the methods of diagnosis of

	<p>lameness.</p> <ul style="list-style-type: none"> Recognize the various trials of lameness treatment. 																						
Assessment examination method	<table border="1"> <thead> <tr> <th>Time of Assessment</th> <th>method of Assessment</th> <th>hrs</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>1st assessment exam at 10th week</td> <td>1st midterm exam</td> <td>1hrs</td> <td>10</td> </tr> <tr> <td>2nd assessment exam at 20th Week</td> <td>2nd midterm exam</td> <td>1hrs</td> <td>10</td> </tr> <tr> <td rowspan="3">3rd assessment ➔ Final exam by the end of the year</td> <td>Written exam</td> <td>3hrs</td> <td>40</td> </tr> <tr> <td>Pract. exam</td> <td>1hr</td> <td>30</td> </tr> <tr> <td>Oral exam</td> <td>1hr</td> <td>10</td> </tr> </tbody> </table>	Time of Assessment	method of Assessment	hrs	Marks	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10	3 rd assessment ➔ Final exam by the end of the year	Written exam	3hrs	40	Pract. exam	1hr	30	Oral exam	1hr	10
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Course contents																							
1st week	<ul style="list-style-type: none"> HORN SURGERY: Separation-Fracture-Disbudding-Dehorning EYE SURGERY: Examination & anatomy-Congenital anomalies. Affections of eyelids & eyelashes: Blepharoptosis-Ectropion-Entropion-Trichiasis-Distichiasis-Tumors-Traumatic injuries. 																						
2nd week	<p>EYE SURGERY:</p> <ul style="list-style-type: none"> Affection of conjunctiva: Conjunctivitis. Affection of Nictating membrane. Affection of Cornea: Dermoid-anophthalmia-Enucleation & Extirpation of eye ball. <ul style="list-style-type: none"> EAR SURGERY: Othematoms-Otitis(Externa,Media,Interna)-Guttural pouch disorder. NASAL CAVITY AFFECTIONS: Epistaxis-Atheroma-Fracture-Neoplasms. 																						
3rd week	<ul style="list-style-type: none"> PARANASAL CAVITY AFFECTIONS: Empyema - Neoplasms - Trephying. <p>ORALL AFFECTIONS</p> <ul style="list-style-type: none"> TONGUE AFFECTION: <p>-Traumatic injuries -Glossitis-Glossplagia</p>																						
4th week	<p>ORALL AFFECTIONS</p> <ul style="list-style-type: none"> TONGUE AFFECTION: <p>-Strangulation -Playing with Tongue -Partial Glossectomy</p>																						
5th week	<p>SALIVARY GLANDS AFFECTIONS:</p> <ul style="list-style-type: none"> Salivary Fistula- Ranula- Salivary Calculi. 																						
6th week	<p>DENTISTRY:</p> <p>-Congenital & Acquired Anomalies -Periodntitis -Dental Fistula-Sharp Teeth.</p>																						
7th week	<p>SURGERY OF NECK:</p> <p>-Atlantal Bursitis(Poll Evil) -Tracheostomy -Oesophegeal Obstruction(Choke) -Laryngeal hemiplegia(Roaring) -Supraspinous Bursitis(Fistulous Withers)</p>																						

	-Jugular Vein Fistula.
8th week	SURGERY OF NECK: -Supraspinous Bursitis(Fistulous Withers) -Jugular Vein Fistula. SURGERY OF THE CHEST: Wounds-Rib fracture. SURGERY OF THE ABDOMEN: Abdominal wounds-Laparotomy.
9th week	SURGERY OF THE ABDOMEN: -Traumatic reticuloperitonitis -Rumenotomy -Abomasum displacement -Abomasum Impaction.
10th week	1st MIDTERM EXAM
11st week	<ul style="list-style-type: none"> • Affections of umbilical region
12nd week	<ul style="list-style-type: none"> • Hernias
13rd week	<ul style="list-style-type: none"> • Hernias • Equine Colic
14th week	Simple Stomach: Foreign body in small animal-Gastrotoomy
15th week	Affection of Intestinal: Intestinal obstruction
16th week	Affections of the rectum & anus: -Rectal Prolapse-Atrasia Ani -Atrasia Recti -Ratained Meconium -Inflammation of peri-anal glands in dogs.
17th week	SURGERY OF THE UROGENITAL SYSTEM <ul style="list-style-type: none"> • Urinary system: -Urolithiasis - Cystotomy -Rupture of the Urinary Bladder
18th week	Male genital system: <ul style="list-style-type: none"> • Affection of Penis & Prepuce (Phemosis-Paraphemosis-Postitis-Balanopostitis-Penal hematoma & Amputation of penis). • Affection of testes scrotum -Creptochidism -Castration
19th week	Female genital system: <ul style="list-style-type: none"> - Ovariectomy - Hysterectomy - Cesarean Section - Perineal laceration
20th week	2nd Midterm Exam
21st week	MAMMARY GLAND FFECTIONS: <ul style="list-style-type: none"> • General Examination (Inspection-Palpation-Exam. of gland secretion). • Surgery of Teat: -Amputation of Supernumerary -Amputation of normal teat -Contracted sphincter (Hard Milker)

	<ul style="list-style-type: none"> -Enlarged teat orifice -Calculus of the teat canal - membranous Obstruction of teat -Laceration of teat & udder -Teat Fistula Amputation of the mammary gland
22nd week	<p>EQUINE LAMENES Definition & Classification of lameness, Diagnosis, Sound & faulty conformation of the limbs. Procedures for Examination.</p>
23rd week	<p>SURGERY OF THE FOR LIMBS: Foot: Examination Sand crack (Toe, Quarter & Heel). Seedy Toe (White line disease) Corns & Bruised Sole. Thrush Canker Quittor Side Bones Punctured foot</p>
24th week	<p>Affection of Bony Skeleton within the Hoof: Fracture of Distal Phalanx Fracture of the Extensor Process Pyramidal Disease (Buttress foot). Pedal ostitis. Infectious ostitis of the distal phalanx. Nail bind Nail prick Laminitis Navicular Disease</p>
25th week	<p>Pastern: Ring Bone Fracture of the Middle Phalanx. Fetlock: -Sasamoiditis- Trumatic arthritis of themetacarpophalangeal joint (Osselets). - Rupture of the Suspensory Apparatus. -Chip fracture of the Proximal Phalanx - Fracture of the proximal SesamoidBones. -Luxation of fetlock joint.</p>
26th week	<p>Metacarpus and Metatarsus: Sore Shins Splints Rupture of the common Digital Extensor Tendon. Contracted Flexor Tendons Carpal joint: Hygroma of the Carpus -Fracture of Accessory Carpal Bone</p>
27th week	<p>Fore-arm: Sprain of the Accessory Ligament (Check Lig.). Elbow: Capped Elbow. Humerus: Paralysis of Radial Nerve Shoulder: -Sweeny (Paralysis of Suprscapular (Nerve). -Arthritis of shoulder joint.</p>

28th week	Tarsus: Spavin (Bog, Blood & Occult). Capped Hock Rupture of Achilles Tendon Rupture of Gastronemius Tendon Stringhalt
29th week	Stifle Joint: Gonitis Upward Fixation of Patella Affection of pelvis: -Hip Dislocation - Fracture
30th week	<i>BOVINE LAMENESS</i> Surgery of claw: Traumatic injury of sole Solar Ulcer White Line Disease Surgery of the interdigital skin: -Foot Rot -Digital Dermatitis
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
General skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Change and modification in the course	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Theriogenology II

1	Date of course approval	Theriogenology II
2	Date of course approval	THE502
3	Course type: /general/specialty/optional	Specialist
4	Accredited units	3 credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022
	Brief description of the course	Theriogenology is a specialty of veterinary medicine, taught during the fourth and fifth years of study at the college, in the form of theoretical and practical lessons, concerned with animal reproduction. Our aim is to provide the student with the necessary knowledge and skills for the field of reproduction, fertility, and artificial insemination; in addition to

	training him in the necessary skills in diagnosing and treating reproductive diseases, diagnosing pregnancy in many animals, and diagnosing and treating infertility diseases and weak sexual desire in males of different animals. Also, the clinical practices of veterinary obstetrics and the science of assisted reproductive technology.			
Prescribed books	Books: <ul style="list-style-type: none"> •Veterinary Reproduction and Obstetrics. 10th Edition (ISBN 978-0-7020-7233-8). • Current Therapy in Large Animal Theriogenology Vol. 2. ISBN-13: 978-0721693231. ISBN-10: 0721693237 Reproduction in Farm Animals.ISBN:9780683305777. 			
Course duration	One academic year.			
Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. 			
Objectives and target of the course	<ul style="list-style-type: none"> • By studying the course, the student will be able to: • To familiarize with the natural and functional structure of the male and female reproductive system in the different farm animals. • The student memorizes the information, terms and dates related to reproduction for each studied animal. • The student recognizes the normal reproductive status and be able to identify various pathological conditions of the male and female reproductive system in the animals. • Differential diagnoses between cases, and how to deal, then how to treat. • Building and developing practical skills through practical lessons and field visits. • The student should be able to explain the different pathological conditions he faces. 			
Assessment examination method	Time of Assessment	method of Assessment	Hrs.	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment ➔ Final exam by the end of the year	Written exam Pract exam Oral exam	3hrs 1hr 1hr	40 30 10
Course contents				
1 st week	Introduction to Veterinary Obstetrics			
2 nd week	The placenta.			
3 rd week	Fetal fluid			

4 th week	Position of fetus in the uterus. Position of uterus during gestation. Middle uterine artery. Bacterial flora of pregnant uterus
5 th week	Gestation period. Factor effecting gestation period
6 th week	Endocrine control of pregnancy in the domestic animals
7 th week	<ul style="list-style-type: none"> • Disturbances arising from Reproductive Organs: <ul style="list-style-type: none"> - Pseudo pregnancy / phantom pregnancy. - Oestrus symptoms during gestation. - Bleeding during gestation. - Cervical & Vaginal discharges during gestation.
8 th week	<p><i>* Disturbances arising from General Health Disturbance of the dam:</i></p> <p>A) <i>Hernia.</i></p> <p>B) <i>Paraplegia:</i></p> <ol style="list-style-type: none"> 1. Malnutrition. 2. Ketosis (Acetonemia). 3. Paresis / Milk fever (Hypocalcaemia). 4. Grass Tetany.
9 th week	<ol style="list-style-type: none"> 5. Eclampsia. 6. Dropsy of Fetal Membranes & Fetus. 7. Injuries of Joints & Tendons. 8. Fractures of Hind Legs & Vertebrae.
10th week	1ST MIDTERM EXAM
11 st week	<ul style="list-style-type: none"> • Septic or Infectious Diseases associated with advanced pregnancy due to <i>Paresis</i> • Another cases may cause Paraplegia or Paresis affecting pregnant females
12 nd week	Introduction to parturition
13 rd week	Preparturient changes in farm animals
14 th week	The Natural control of Parturition
15 th week	Stages of Parturition
16 th week	Presentation, Position and Posture
17 th week	Care of Parturient mothers Care of Newborns Care of Postpartum dam
18 th week	Pregnancy diagnosis in cows
19 th week	Normal puerperium

20 th week	2 ND MIDTERM EXAM
21 st week	Lochia Histological and microbial changes during Puerperium Factors influencing Puerperium Ovarian Function / Cyclical Activity
22 nd week	Pathology of puerperium <ul style="list-style-type: none"> • Postpartum Haemorrhage. • Contusions and Lacerations of Birth canal. • Rupture of Uterus, Cervix, Vagina and Perineum.
23 rd week	<ul style="list-style-type: none"> • Gluteal Paralysis. • Obturator Paralysis. • Puerperal Laminitis. • Puerperal Tetanus. • Retention of Placenta. • Uterine Prolapse.
24 th week	Dystocia Factors affecting Incidence of Dystocia Causes of dystocia
25 th week	Immediate causes of Dystocia Basic causes of Dystocia
26 th week	Symptoms and diagnosis of Dystocia
27 th week	Obstetrical Maneuvers
28 th week	Obstetrical Operations <ol style="list-style-type: none"> 1) Episiotomy. 2) Caesarean Section (Hysterotomy).
29 th week	Obstetrical Operations <ol style="list-style-type: none"> 1) Fetotomy.
30 th week	Embryo transfer in cows
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Infectious Diseases II

1	Course name	Infectious Diseases II
2	Course code	INF503
3	Course type: /general/specialty/optional	Specialty
4	Accredited units	3 credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English Language
9	Date of course approval	2022
Brief description of the course		Infectious Disease is considered as a main core subject for any successful veterinarian. It provides the students with the required knowledge & information regarding important diseases caused by infectious agents (Bacteria, Virus, Perion, Parasitic, Fungal & Protozoa) affecting farm animals health and production as Ruminant (Cattle, Sheep, Goat and Camels), Equines Spp. and Pet Animals (Dogs & Cats). Firstly, the students know the definition of infectious diseases and their importance in terms of economic importance and morbidity and case fatality rate, with general diagnosis and control and their responsibility towards animals and animal owners. Then the student undergoes an intensive knowledge on specific diseases caused by infectious microorganisms (mentioned above), on disease definition, etiology, epidemiology, pathogenesis, clinical signs, deferential diagnosis, diagnosis, treatment and control.
Prescribed books		<ul style="list-style-type: none"> • Textbook Of the Diseases Of Cattle, Horses, Sheep, Pigs, And Goats, Constable PD; et al, 11TH EDITION • The Merck Veterinary Manual, Aiello Se & Moses Ma 11th Edition • Textbook Of Veterinary Internal Medicine, S Ettinger & E Feldman, 6th Edition
Course duration		One academic year
Teaching method		<ul style="list-style-type: none"> ❖ Theoretical lectures by using data show projector. ❖ Practical sessions by using data show projector, dissected specimen and alive animal. ❖ Handout of lectures and practices. ❖ Library. ❖ Student presentations and workshops.
Objectives and target of the course		<ul style="list-style-type: none"> ✓ Provide the students with the necessary knowledge and information regarding diseases caused by infectious agents, affecting mainly domestic food-producing animals (cattle, sheep, goats and camels) and other animal including equine spp. and pets, to provide animal health and production ✓ It is aimed to acquire knowledge about infectious diseases of different systems of these animal species and ability to

	<p>make differential diagnosis according to laboratory findings</p> <p>✓ Teaching appropriate and effective treatment, prophylaxis methods and preventive medication.</p>																						
Assessment examination method	<table border="1"> <thead> <tr> <th>Time of Assessment</th> <th>method of Assessment</th> <th>hrs</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>1st assessment exam at 10th week</td> <td>1st midterm exam</td> <td>1hrs</td> <td>10</td> </tr> <tr> <td>2nd assessment exam at 20th Week</td> <td>2nd midterm exam</td> <td>1hrs</td> <td>10</td> </tr> <tr> <td rowspan="3">3rd assessment Final exam by the end of the year</td> <td>Written exam</td> <td>3hrs</td> <td>40</td> </tr> <tr> <td>Pract exam</td> <td>1hr</td> <td>30</td> </tr> <tr> <td>Oral exam</td> <td>15min</td> <td>10</td> </tr> </tbody> </table>	Time of Assessment	method of Assessment	hrs	Marks	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10	3 rd assessment Final exam by the end of the year	Written exam	3hrs	40	Pract exam	1hr	30	Oral exam	15min	10
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	Pract exam	1hr	30																				
	Oral exam	15min	10																				
Course contents																							
1 st week	<p>Diseases Caused by <i>Corynebacterium Spp.</i></p> <ul style="list-style-type: none"> - Caseous Lymphadenitis Of Sheep And Goats - Ulcerative Lymphangitis Of Horse And Cattle - Rhodococcus Equi Pneumonia Of Horses And Cattle <p>Diseases Caused by <i>Streptococcus Spp.</i></p> <ul style="list-style-type: none"> - Strangles Of Horses - Neonatal Streptococcal Infection 																						
2 nd week	<p>Diseases Caused by <i>Corynebacterium Spp.</i></p> <ul style="list-style-type: none"> - Caseous Lymphadenitis Of Sheep And Goats - Ulcerative Lymphangitis Of Horse And Cattle - Rhodococcus Equi Pneumonia of Horses And Cattle <p>Diseases Caused by <i>Streptococcus Spp.</i></p> <ul style="list-style-type: none"> - Strangles Of Horses - Neonatal Streptococcal Infection 																						
3 rd week	<p>Diseases Caused By <i>Fusobacterium And Bacteriodes Spp.</i></p> <ul style="list-style-type: none"> - Bovine Interdigital Necrobacillosis (Foot Rot) - Oral And Laryngeal Necrobacillosis - Necrobacillosis Of the Liver - Infectious Footrot of Sheep 																						
4 th week	<p>Diseases Caused by <i>Fusobacterium and Bacteriodes Spp.</i></p> <ul style="list-style-type: none"> - Bovine Interdigital Necrobacillosis (Foot Rot) - Oral And Laryngeal Necrobacillosis - Necrobacillosis Of the Liver - Infectious Footrot of Sheep 																						
5 th week	<p>Diseases Caused by <i>Brucella Spp</i></p> <ul style="list-style-type: none"> - Brucellosis Caused by <i>Brucella Abortus</i> - Brucellosis Caused by <i>Brucella Ovis</i> - Brucellosis Caused by <i>Brucella Melitensis</i> 																						
6 th week	<p>Diseases Caused By <i>Brucella Spp</i></p> <ul style="list-style-type: none"> - Brucellosis Caused by <i>Brucella Abortus</i> - Brucellosis Caused by <i>Brucella Ovis</i> - Brucellosis Caused by <i>Brucella Melitensis</i> 																						
7 th week	<p>Diseases Caused by <i>Leptospira Spp.</i></p> <ul style="list-style-type: none"> - Leptospirosis <p>Diseases Caused By <i>Listeria Spp.</i></p> <ul style="list-style-type: none"> - Listeriosis 																						
8 th week	<p><u>B</u> Diseases Caused by <i>Leptospira Spp.</i></p> <ul style="list-style-type: none"> - Leptospirosis <p>Diseases Caused by <i>Listeria Spp.</i></p>																						

	- Listeriosis
9 th week	Diseases caused by <i>Haemophilus</i> and <i>Moraxella spp.</i>
10 th week	1 st MIDTERM EXAM
11 st week	Diseases Caused by <i>Trypanosoma</i> - Trypanosomiasis
12 nd week	Viral Diseases of The Alimentary Tract - Foot And Mouth Disease (FMD) - Rinder Pest (Cattle Plague) - Peste Des Petits Ruminants (PPR) - Bovine Malignant Catarrh - Bovine Virus Diarrhea And Mucosal Disease - Blue Tongue
13 rd week	Viral Diseases of The Alimentary Tract - Foot And Mouth Disease (FMD) - Rinder Pest (Cattle Plague) - Peste Des Petits Ruminants (PPR) - Bovine Malignant Catarrh - Bovine Virus Diarrhea And Mucosal Disease - Blue Tongue
14 th week	Viral Diseases of The Alimentary Tract - Foot And Mouth Disease (FMD) - Rinder Pest (Cattle Plague) - Peste Des Petits Ruminants (PPR) - Bovine Malignant Catarrh - Bovine Virus Diarrhea And Mucosal Disease - Blue Tongue
15 th week	Viral Diseases Of The Alimentary Tract - Foot And Mouth Disease (FMD) - Rinder Pest (Cattle Plague) - Peste Des Petits Ruminants (PPR) - Bovine Malignant Catarrh - Bovine Virus Diarrhea And Mucosal Disease - Blue Tongue
16 th week	Viral Diseases Characterized By Nervous Signs - Rabies - Scrapie - Bovine Spongiform Encephalopathy (BSE) - Caprine Arthritis Encephalitis (CAE) - Ovine Encephalomyelitis (Loping Ill) Diseases Caused By <i>Rickettsia</i> - Ovine And Caprine Contagious Ophthalmia - Anaplasmosis - Q Fever
17 th week	Viral Diseases Characterized By Nervous Signs - Rabies - Scrapie - Bovine Spongiform Encephalopathy (BSE) - Caprine Arthritis Encephalitis (CAE) - Ovine Encephalomyelitis (Loping Ill) Diseases Caused By <i>Rickettsia</i> - Ovine And Caprine Contagious Ophthalmia

	<ul style="list-style-type: none"> -Anaplasmosis - Q Fever
18 th week	<p>Viral Diseases Characterized By Nervous Signs</p> <ul style="list-style-type: none"> - Rabies - Scrapie - Bovine Spongiform Encephalopathy (BSE) - Caprine Arthritis Encephalitis(CAE) - Ovine Encephalomyelitis(Loping Ill) <p>Diseases Caused By Rickettsia</p> <ul style="list-style-type: none"> -Ovine And Caprine Contagious Ophthalmia -Anaplasmosis - Q Fever
19 th week	<p>Viral Diseases Characterized By Nervous Signs</p> <ul style="list-style-type: none"> - Rabies - Scrapie - Bovine Spongiform Encephalopathy (BSE) - Caprine Arthritis Encephalitis(CAE) - Ovine Encephalomyelitis(Loping Ill) <p>Diseases Caused By Rickettsia</p> <ul style="list-style-type: none"> -Ovine And Caprine Contagious Ophthalmia -Anaplasmosis - Q Fever
20th week	2nd MIDTERM EXAM
21 st week	<p>Viral Diseases Characterized By Nervous Signs</p> <ul style="list-style-type: none"> - Rabies - Scrapie - Bovine Spongiform Encephalopathy (BSE) - Caprine Arthritis Encephalitis(CAE) - Ovine Encephalomyelitis(Loping Ill) <p>Diseases Caused By Rickettsia</p> <ul style="list-style-type: none"> -Ovine And Caprine Contagious Ophthalmia -Anaplasmosis - Q Fever
22 nd week	<p>Viral Diseases Attributed To The Body As A Whole</p> <ul style="list-style-type: none"> - Equine Infectious Anemia - African Horse Sickness - Bovine Ephemeral Fever (Three Days Sickness) - Rift Valley Fever - Akaban Virus Disease Of Cattle - Enzootic Bovine Leukosis (Bovine Lymphosarcoma)
23 rd week	<p>Viral Diseases Attributed To The Body As A Whole</p> <ul style="list-style-type: none"> - Equine Infectious Anemia - African Horse Sickness - Bovine Ephemeral Fever (Three Days Sickness) - Rift Valley Fever - Akaban Virus Disease Of Cattle - Enzootic Bovine Leukosis (Bovine Lymphosarcoma)
24 th week	<p>Viral Diseases Characterized By Skin Lesion</p> <ul style="list-style-type: none"> - Contagious Ecthyma (Orf) - Papillomatosis - Lumpy Skin Disease - Pox Disease In Different Farm Animals - Sarcoid

25 th week	<p>Viral Diseases Characterized By Skin Lesion</p> <ul style="list-style-type: none"> - Contagious Ecthyma (Orf) - Papillomatosis - Lumpy Skin Disease - Pox Disease In Different Farm Animals - Sarcoid
26 th week	<p>Diseases Caused By Protozoa</p> <ul style="list-style-type: none"> - Babesiosis - Coccidiosis - Theilariosis (Tropical Theileriosis, East Coast Fever, Mediterranean Fever) - Toxoplasmosis - Cryptosporiosis - Trichomoniasis <p>Diseases Caused By Trypanosoma</p> <ul style="list-style-type: none"> - Trypanosomiasis
27 th week	<p>Diseases Caused By Protozoa</p> <ul style="list-style-type: none"> - Babesiosis - Coccidiosis - Theilariosis (Tropical Theileriosis, East Coast Fever, Mediterranean Fever) - Toxoplasmosis - Cryptosporiosis - Trichomoniasis <p>Diseases Caused By Trypanosoma</p> <ul style="list-style-type: none"> - Trypanosomiasis
28 th week	<p>Diseases Caused By Protozoa</p> <ul style="list-style-type: none"> - Babesiosis - Coccidiosis - Theilariosis (Tropical Theileriosis, East Coast Fever, Mediterranean Fever) - Toxoplasmosis - Cryptosporiosis - Trichomoniasis <p>Diseases Caused By Trypanosoma</p> <ul style="list-style-type: none"> - Trypanosomiasis
29 th week	<p>Diseases Caused by Arthropod Parasites</p> <ul style="list-style-type: none"> - Sarcoptic Mange, Psoroptic Mange, Chorioptic Mange & Demodectic Mange - Gastrophilus Spp Infestation (Bot Fly) - Hypoderma Spp. Infestation (Warble Fly) - Screw Worm Infestation (Myiasis)
30 th week	<p>Diseases Caused By Arthropod Parasites</p> <ul style="list-style-type: none"> - Sarcoptic Mange, Psoroptic Mange, Chorioptic Mange & Demodectic Mange - Gastrophilus Spp Infestation (Bot Fly) - Hypoderma Spp. Infestation (Warble Fly) - Screw Worm Infestation (Myiasis)
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be

	lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Preventive Medicine

1	Course name	Preventive Medicine
2	Course Code	PRM504
3	Course type: /general/specialty/optional	General
4	Accredited units	7 Credits
5	Educational hours	.....
6	Pre-requisite requirements	Non
7	Program offered the course	Bachelor of Veterinary Medical Sciences
8	Instruction Language	English
9	Date of course approval	2022
	Brief description of the course	<ul style="list-style-type: none"> • Provide students with basic knowledge of a wide range of preventive medicine principles and details of animal hygiene, epidemiological and Zoonosis concepts • Describe the different measures of prevention and control of infectious and zoonotic diseases, and general measures for dealing with notifiable diseases • Discuss and assesses (apply) the preventive medicine measures (Epidemiology, animal hygiene and zoonoses) and laboratory methods of investigation, and assessment of surveillance program for prevention, control on animal human interface (One health approach) • Learn the different type of epidemiological study
	Prescribed books	Books: Blackwell Science Ltd. ISBN 9781118280249. Iowa State University Press, Ames IA. 9780813818566. Pana America. 92 75 11991 0.
	Course duration	One academic year.
	Teaching method	<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. ❖ Scientific field visits.
	Objectives and target	<ul style="list-style-type: none"> • The student will be able to define the basic principles of preventive

of the course	<p>medicine deals with animal hygiene, epidemiological and Zoonosis concepts.</p> <ul style="list-style-type: none"> • The student will be able to know and understand the different measures of prevention, control and eradication of epidemic diseases. • The student will be able to learn the basic principles related to epidemic outbreak investigation and importance of field hygienic measures to provide safe and comfortable environment. • The student will be able to understand strategies for combating pandemic, epidemic and endemic (study design, survey, active surveillance, monitoring). • Be familiar with the traditional and new methods of controlling and preventing. • The student will be to explain and discuss suitable method for diagnostic tools. • Appropriate intervention measures during pandemic outbreaks. • Be able to analyze, discuss and deal with emerging and re-emerging infectious disease. • The student should be able to conduct study design for monitoring and surveillance program. • Describe the appropriate use of diagnostic tests and their roles in both quantitative and subjective clinical assessment. • The student should be able to assess and evaluate animal health situation. • To be able to use the specific tool for diagnose of disease. • The student should be active member in team running large scale and farms. • The student will be able to use the computer and internet to search for information. • The student will be able to self-learning, communicate and convey the right knowledge in the community. 			
Assessment examination method	Time of Assessment	method of Assessment	hrs.	Marks
	1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
	2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
	3 rd assessment → Final exam by the end of the year	Written exam	3hrs	40
		Pract exam	1hr	30
		Oral exam	1hr	10
Course contents				
1 st week	<ul style="list-style-type: none"> • The scope of epidemiology • Principles and concepts of animal hygiene • General Zoonoses 			
2 nd week	<ul style="list-style-type: none"> • General epidemiologic concepts and principles • Environmental animal hygiene (air, soil, water) • Bacterial Zoonoses 			
3 rd week	<ul style="list-style-type: none"> • Bacterial Zoonoses • General epidemiologic concepts and principles • Environmental animal hygiene (air, soil and water) 			

4 th week	<ul style="list-style-type: none"> • Bacterial Zoonoses • General epidemiologic concepts and principles • Environmental animal hygiene (air, soil and water)
5 th week	<ul style="list-style-type: none"> • Measures of disease frequency and production • Animal housing and animal hygiene • Chlamydial and Rickettsial Zoonoses
6 th week	<ul style="list-style-type: none"> • Measures of disease frequency and production • Animal housing and animal hygiene • Chlamydial and Rickettsial Zoonoses
7 th week	<ul style="list-style-type: none"> • Sampling design • Midterm Exam • Viral Zoonoses
8 th week	<ul style="list-style-type: none"> • Sampling design • Midterm Exam • Viral Zoonoses
9 th week	<ul style="list-style-type: none"> • Surveys • Biosecurity measures for disease control • Mycotic Zoonoses
10th week	1st MIDTERM EXAM
11 st week	<ul style="list-style-type: none"> • Surveys • Biosecurity measures for disease control • Mycotic Zoonoses
12 nd week	<ul style="list-style-type: none"> • Surveys • Biosecurity measures for disease control • Mycotic Zoonoses
13 rd week	<ul style="list-style-type: none"> • Analytical study designs • Disease control and prevention and eradication • Methods of human exposure to parasitic zoonoses
14 th week	<ul style="list-style-type: none"> • Analytical study designs • disease control and prevention and eradication • Methods of human exposure to parasitic zoonoses
15 th week	<ul style="list-style-type: none"> • Measures of association and disease causation • Principles of animal hygiene management • Protozoonoses
16 th week	<ul style="list-style-type: none"> • Measures of association and disease causation • Principles of animal hygiene management • Protozoonoses
17 th week	<ul style="list-style-type: none"> • Clinical epidemiology (sero-epidemiology) • Disinfection in veterinary practice • Zoonoses caused by Cestodes
18 th week	<ul style="list-style-type: none"> • Clinical epidemiology (sero-epidemiology) • Disinfection in veterinary practice • Zoonoses caused by Cestodes
19 th week	<ul style="list-style-type: none"> • Clinical epidemiology (sero-epidemiology) • Disinfection in veterinary practice • Zoonoses caused by Cestodes
20th week	2nd MIDTERM EXAM

21 st week	<ul style="list-style-type: none"> • Field investigation (outbreak investigation). • Small ruminant animal hygiene (sheep and goats). • Zoonoses caused by Nematodes
22 nd week	<ul style="list-style-type: none"> • Surveillance and monitoring of disease in population. • Animal transportation. • Zoonoses caused by Arthropods
23 rd week	<ul style="list-style-type: none"> • Surveillance and monitoring of disease in population. • Animal transportation. <p>Zoonoses caused by Arthropods</p>
24 th week	<ul style="list-style-type: none"> • Surveillance and monitoring of disease in population • Animal transportation • Zoonoses caused by Arthropods
25 th week	<ul style="list-style-type: none"> • Surveillance and monitoring of disease in population • Animal transportation • Zoonoses caused by Arthropods
26 th week	<ul style="list-style-type: none"> • Surveillance and monitoring of disease in population • Animal transportation • Zoonoses caused by Arthropods
27 th week	<ul style="list-style-type: none"> • strategies and concepts of animal disease control, prevention and eradication • Disposal of animal wastes, biological veterinary materials • Emerging and re-emerging zoonotic diseases
28 th week	<ul style="list-style-type: none"> • strategies and concepts of animal disease control, prevention and eradication • Disposal of animal wastes, biological veterinary materials • Emerging and re-emerging zoonotic diseases
29 th week	<ul style="list-style-type: none"> • strategies and concepts of animal disease control, prevention and eradication • Disposal of animal wastes, biological veterinary materials • Emerging and re-emerging zoonotic diseases
30 th week	<ul style="list-style-type: none"> • strategies and concepts of animal disease control, prevention and eradication • Disposal of animal wastes, biological veterinary materials • Emerging and re-emerging zoonotic diseases
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
Generic Skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Course Change	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Poultry Diseases

1	Course name	Poultry Diseases			
2	Course code	POU505			
3	Course type: General / specialization / elective	Specialty			
4	Accredited units	4 credits			
5	Educational hours	.....		
6	Pre-requisite requirements	Non			
7	Program offered the course	Bachelor of Veterinary Medical Sciences (BVMSc)			
8	Instruction Language	English Language			
9	Date of course approval	2022			
Brief description of the course		This course covers the breeding methods, production cycles, and understanding the mechanism of the immune system in poultry, in addition to the need to know the diseases that affect poultry, the mechanism of infection and symptoms caused, as well as methods of diagnosis, treatment and methods of control.			
Prescribed books		Books: •Diseases of Poultry, ISBN10 0813807182, ISBN13 9780813807188.			
Course duration		One academic year.			
Teaching method		<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. 			
Objectives and target of the course		<ul style="list-style-type: none"> • Acquires the necessary information about breeding methods, production cycles and an understanding of the mechanism of action of the immune system in poultry. • Ability to make a tentative and final diagnosis of poultry diseases • Able to create control programs of diseases in poultry farms. • Recognize how to create field investigation of poultry disease. • Describe the different diseases that affect poultry (viral, bacterial, fungal, parasitic and nutritional disorder) with Define the tentative and final diagnosis and differential diagnosis of poultry disease. 			
Assessment examination method		Time of Assessment	method of Assessment	hrs.	Marks
		1 st assessment exam at 10 th week	1 st midterm exam	1hrs	10
		2 nd assessment exam at 20 th Week	2 nd midterm exam	1hrs	10
		3 rd assessment ➔ Final exam by the end of the year	Written exam	3hrs	50
			Pract exam	1hr	20
	Oral exam	1hr	10		
Course contents					

1 st week	<p>Poultry production (Broilers and Layers): Brief description of the chicken breeds, housing systems, production chain, animal welfare, and the role of the management in birds' health.</p> <p>Avian immunology: Brief description of the organs of the immune system, cells of the immune system and avian immunoglobulin.</p>
2 nd week	<p>Avian influenza: Introduction (definition, public health significance, and economic impact), Etiology (brief description of virus classification, structure, replication, antigenic variation, and susceptibility to chemical and physical agents), Epidemiology (incidence and distribution, natural hosts, sources and transmission and pathogenesis), Clinical signs and lesions, Diagnosis, Differential diagnosis, Treatment and Control. enclosures.</p>
3 rd week	<p>Paramyxoviridae: Newcastle Disease (ND) and Pneumovirus (TRT): Introduction (definition, public health significance, and economic impact), Etiology (brief description of virus classification, structure, replication, antigenic variation, and susceptibility to chemical and physical agents), Epidemiology (incidence and distribution, natural hosts, sources and transmission), Clinical signs and lesions, Diagnosis, Differential diagnosis, Treatment and Control.</p>
4 th week	<p>Adenovirus infections and Egg drop syndrome: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p> <p>Infectious bronchitis (IB): Introduction, Etiology (strain classification, serotypes and variants), Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>
5 th week	<p>Infectious laryngotracheitis (ILT): Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p> <p>Infectious Bursal Diseases (IBD): Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p>
6 th week	<p>Fowl pox: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p> <p>Chicken Anemia Virus (CAV): Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p> <p>Avian Encephalomyelitis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p>
7 th week	<p>Viral Enteric Infections (Rotavirus infection & Astrovirus Infection): Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p> <p>Reovirus infection (Viral arthritis): Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p> <p>Duck Hepatitis and Duck Virus Enteritis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control. Viral Enteric Infections (Turkey</p>

	<p>Coronavirus Enteritis & Turkey Torovirus Infection): Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p> <p>Turkey Viral Hepatitis & Avian Hepatitis E Virus Infections: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p>
8 th week	<p>Marek's disease: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p> <p>Lymphoproliferative & Reticulo-endotheliosis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control</p>
9 th week	<p>Leucosis sarcoma group (1): Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p> <p>Leucosis sarcoma group (2): Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.</p> <p>Other viral infections: Avian nephritis, transmissible viral proventriculitis, Proventricular dilatation disease, Psittacine beak and feather disease</p>
10th week	1st MIDTERM EXAM
11 st week	Nutritional and Metabolic Disorders (1) & (2): Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.
12 nd week	Nutritional and Metabolic Disorders (3) & (4): Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.
13 rd week	Salmonellosis: Introduction, Etiology and epidemiology, Diseases caused by Salmonella in poultry (Pullorum disease, fowl typhoid, fowl paratyphoid) including Clinical signs and lesions, Diagnosis and differential
14 th week	Colibacillosis: Diseases caused by E. coli. The course will cover, Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and
15 th week	Mycoplasmosis: Diseases caused by Mycoplasma in chicken and turkey. The lecture will cover, Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.
16 th week	<p>Fowl cholera: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p> <p>Infectious coryza: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p> <p>Ornithobacterium rhinotracheale: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>

17 th week	<p>Avian chlamydiosis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p> <p>Clostridial diseases: diseases caused by clostridia including (Necrotic enteritis, Ulcerative enteritis, Gangrenous dermatitis and Botulism). The lecture will cover Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>
18 th week	<p>Staphylococcosis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p> <p>Streptococcosis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>
19 th week	<p>Erysipelas in poultry: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>
20 th week	2nd MIDTERM EXAM
21 st week	<p><i>Riemerella anatipestifer</i>: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>
22 nd week	<p>Tuberculosis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>
23 rd week	<p>Fungal diseases: (brooder pneumonia) Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control</p>
24 th week	<p>Other Fungal diseases: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control</p>
25 th week	<p>External parasites: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>
26 th week	<p>Helminthic diseases: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>
27 th week	<p>Cryptococcus and Histomonas: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>
28 th week	<p>Internal parasite: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.</p>
29 th week	<p>Coccidiosis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control. (1)</p>
30 th week	<p>Coccidiosis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control. (2)</p>

Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
General skills	The College is committed to ensuring that students acquire the full knowledge and skills necessary to participate fully in all aspects of their lives, including skills that enable them to be lifelong learners. To ensure that graduates obtain this preparation, general skills such as computer, personal communication, and thinking skills will be included.
Change and modification in the course	The information in this course outline is correct at the time of publication. Course content is revised on an ongoing basis to ensure its relevance to the changing educational process and labor market needs. The course instructor will endeavor to provide notice of changes to students in a timely manner. The schedule can also be revised.

Fish Disease

1	Course name	Fish Diseases			
2	Course code	FIS506			
3	Course type: /general/specialty/optional	Specialty			
4	Accredited units	3 credits			
5	Educational hours	.....		
6	Pre-required requirements	Non			
7	Program offered the course	Bachelor of Veterinary Medical Sciences (BVMSc)			
8	Instruction Language	English Language			
9	Date of course approval	2022			
Brief description of the course		This course covers everything related to fish diseases, as it includes infectious and non- infectious diseases that affect fish from fish farms and seawater fish. In addition to that, infect seawater fish, and therefore it is necessary to teach the student the types of bacterial, fungal, parasitic and viral diseases in addition to non-infectious diseases, the causes of their occurrence, the causative agent and the predisposing, the clinical symptoms that can occur, as well as the tissue changes that It can result from infection, its life cycle and how to treat and prevent it.			
Prescribed books		<ul style="list-style-type: none"> • Fish Medicine, ISBN: 0-7216-2629-7. • Australian Fish Farmer a Practical Guide to Aquaculture, ISBN: 9780643068650. • Fish Diseases and Medicine, ISBN 9781498727860. • Fish Disease: Diagnosis and Treatment, ISBN-13: 978-0813806976, ISBN-10: 0813806976 			
Course duration		One academic year			
Teaching method		<ul style="list-style-type: none"> ❖ Lectures. ❖ group interaction and discussion. ❖ self-directed activities. ❖ active participation. ❖ laboratory experiments. ❖ Scientific field visits. 			
Objectives and target of the course		<ol style="list-style-type: none"> 1. The student acquires the necessary knowledge of the basics of fish aquaculture methods and their feeding and how to protect them from diseases. 2. Knowledge of the types of fish diseases (Bacterial, Mycotic, Viral, Parasites and Nutritional deficiency). 3. Building the student's ability to differentiation between types of fish diseases. 			
Evaluation method		Time of Assessment	method of Assessment	hrs	Marks
		1 st evaluation exam	1st midterm exam	1hrs	35
		2 nd evaluation exam	2nd midterm exam	1hrs	35

	3 rd evaluation Final exam ➔	Paper exam		3hrs	100
		Pract exam		1hr	100
		Oral exam		15min	100
Course contents					
1 th week	Aquaculture: Aim of fish culture. How we can establish successful fish culture. Classified of aquaculture according to density of fish per cubic meter (m ³). Extensive system (advantage and disadvantage). Semi-intensive system (advantage and disadvantage). Intensive system (advantage and disadvantage).				
2 nd week	Classified of aquaculture according to number of culture species. Classified of aquaculture according to water salinity. Classified of aquaculture according to water movement. Classified of aquaculture according to farming enclosures.				
3 th week	Introduction of Stress cycle.				
4 th week	Bacterial Fish Diseases Classification. - Septicemic Diseases. - Motile Aeromonas Septicemia: Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.				
5 th week	Furunculosis. Vibriosis (Salt Water Furunculosis): Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.				
6 th week	Pseudomonas Septicemia: Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.				
7 th week	Yersiniosis (ERM). Enteric Septicemia of Catfish (ESC): Emphysematous Putrefactive Disease of Catfish (EPDC): Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.				
8 th week	Phobacteriosis: Streptococcosis: Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.				
9 th week	Bacterial Gill Disease, Columnaris, Bacterial Gill Disease, Coldwater Diseases: Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.				
10 th week	1th MIDTERM EXAM				
11 st week	Chronic granulomatous Diseases, Bacterial Kidney Disease, Mycobacteriosis, Nocardiosis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.				

12 nd week	Mycotic Diseases, Saprolegniosis Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.
13 rd week	Branchiomycosis, Ichthyophonosis, Phaecomycosis: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.
14 th week	Spring Viremia of Carp, Viral Hemorrhagic Septicemia: Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.
15 th week	Viral Hemorrhagic Septicemia, Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.
16 th week	Infectious Hematopoietic Necrosis: Infectious Salmon Anemia Influenza, Viral Nervous Necrosis. Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.
17 th week	Taura Syndrome Virus, White Spot Syndrome Virus: Large Mouth Bass Virus. Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment and control.
18 th week	Lymphocystis Disease Virus, Carp Pox, Red Seabream Iridovirus. Introduction, Etiology and Epidemiology, Clinical signs and lesions, Diagnosis and differential diagnosis, Treatment, and control.
19 th week	Parasitic Diseases: Introduction- Classification -External Protozoal Diseases: Ciliated & protozoa: 1- White spot disease (freshwater & marine). Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.
20th week	2nd MIDTERM EXAM
21 st week	2-Trichodinosis, Chilodinellois, Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.
22 nd week	3-Epistylis. Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.
23 rd week	Flagellated Protozoal Diseases: 1.External flagellated protozoa: Oodinium, Amyloodinium, Ichthyobodo infections, cryptobiosis Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.
24 th week	2.Internal Flagellated protozoa: A. Hemoflagellates: Trypanosomiasis&Trypanoplasmosis Intestinal flagellates: Hexamitiosis Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.

25 th week	<p>1. Tissue sporulated protozoa:</p> <p>A. Muscle tissue: Microsporidia.</p> <p>B. Cartilagenous tissue: Myxosporidia.</p> <p>Myxosomacerebralis (Whirling Disease)</p> <p>Miscellaneous tissues: Myxobolustilapiae</p> <p>Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.</p>
26 th week	<p>Helminthes infestations:</p> <p>1. Trematodes: classification</p> <p>a. Monogeneans:</p> <p>i. Dactylogyus</p> <p>ii. Cichlidogyus</p> <p>iii. Gyrodactyllus</p> <p>Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.</p> <p>b. Digeneans:</p> <p>c. Diplostomatidae:</p> <p>1) Black spot disease.</p> <p>2) Parasitic cataract.</p> <p>Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.</p> <p>i. Clinostomatidae : Yellow grub disease.</p> <p>Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.</p> <p>Sanguinicola: Fish blood flukes.</p> <p>Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.</p>
27 th week	<p>1. Nematodes:</p> <p>i. Amblicicum & Contracicum (heart worms).</p> <p>Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.</p> <p>ii. Nephrocephala. Anisakis.</p> <p>Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.</p>
28 th week	<p>Parasitic crustaceans:</p> <p>1. Barnchiura: Argulus (Fish lice).</p> <p>2. Copepoda:</p> <p>i. Ergasillus (Gill maggot).</p> <p>Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.</p> <p>ii. Lernea (Anchor worm).</p> <p>Introduction, Etiology (brief description of bacteria classification), Epidemiology, Clinical signs and lesions, Diagnosis, Treatment and Control.</p>

	Control.
29 th week	Classification 1. Chemical noninfectious diseases a. Nitrite toxicity (Brown blood disease). b. Ammonia toxicity (Environmental gill disease). c. Environmental hypoxia.
30 th week	2. Physical noninfectious diseases a. Gas Bubble Disease. b. Thermal shock. c. High water current
Attendance Expectation	Students must attend all the course on time, truancy is only allowed for medical reasons and must be supported by a medical report.
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نبذة مختصرة عن مقررات الأقسام العلمية

Courses Brief Description

1 . Veterinary Anatomy I&II - ANA101 - ANA206

يغطي هذا المقرر معرفة القواعد الأساسية للتشريح العام ومعرفة الفرق في التشريح بين الحيوانات الأليفة. يدرس الشكل والهيكل الطبيعي لجميع أعضاء وأنظمة الجسم المختلفة، مثل الجهاز الحركي، الجهاز الهضمي والجهاز العصبي، وما إلى ذلك. يعتبر المقرر الحالي لبنة أساسية في العلوم السريرية التي تمكن الطالب من التعرف على الأنسجة الطبيعية وتعارفها فيما بعد بما هو مريض أو غير صحي.

The course of Veterinary Anatomy is covered the basic knowledge of general and comparative anatomy of the domestic animals. It studies the normal shape and structure of all the different organs and systems of the body, such as locomotors, digestive and nervous systems, etc. The current course is considered a basic building block of clinical sciences, which enable the student to identify the normal tissues and organs comparing them later with what is diseased or unhealthy.

2 . Histology and Embryology - HIE102

علم الأنسجة البيطري هو العلم الذي يركز على التشكل المفصل للحيوانات الأليفة ويربط بين الهياكل المحددة والوظيفة، وهو الأساس لفهم الآفات المجهرية غير الطبيعية (علم الأنسجة) وعلم المناعة وعلم الأمراض السريري والعديد من التخصصات الأخرى في الطب البيطري. علم الأجنة البيطري هو فهم أصل وتطور وهيكل وشكل وعلاقات الأنسجة والأعضاء في الجنين والجنين.

veterinary histology is the science that focuses on the detailed morphology of domestic animals and correlates specific structures with function and is the basis for understanding abnormal microscopic lesions (histopathology), immunology, clinical pathology, and several other disciplines in veterinary medicine. veterinary embryology is to understand of the origin, development, structure, final form and relationships of tissues and organs in the embryo and fetus.

3 . Veterinary Biochemistry - BIC103

طلبة السنة الأولى في قسم وظائف الأعضاء، الكيمياء الحيوية وتغذية الحيوان يتوجب عليهم دراسة المكونات الكيميائية للخلايا الحية مثل، البروتينات، السكريات، الدهون والأحماض النووية، مع التفاعلات والعمليات الكيميائية التي تحدث عند المستوى الجزيئي. بتعلم ذلك، الطلبة سوف يكونون في موقع قوي لفهم دوام الصحة وما تعنيه من توازن كامل ومنسجم للتفاعلات الكيميائية التي تحدث في الجسم ولفهم التشخيص والعلاج الفعال للأمراض وما تعنيه من اختلال في تركيب المكونات، التفاعلات أو العمليات الكيميائية التي تحدث في الجسم

.Biochemistry is study of the chemical constituents, such as proteins, carbohydrates, lipids and nucleic acids, of living cells with the chemical reactions and processes that they undergo at the molecular level. By learning that, students will be in strong position to understand the maintenance of health and how it reflects the harmonious balance of biochemical reactions occurring in the animal body; and to understand the effective diagnosis and treatment of diseases and how they reflect abnormalities in biomolecules, biochemical reactions or biochemical processes occurring in the body.

4 . Veterinary Physiology I&II - PHY104 - PHY201

يتعامل علم وظائف الاعضاء مع دراسة اجهزة الحيوانات ووظائف وطريقة عمل هذه الاجهزة العضوية متضمناً العمليات الكيميائية والفيزيائية التي تحدث داخل هذه الأجهزة في مختلف الحيوانات، تشمل هذه العمليات فسيولوجيا

الخلية، الدم والعضلات. يتم دراسة هذه الوظائف على مستويات مختلفة ابتداء من الخلية، الانسجة، الاعضاء حتى اجهزة الحيوان. تختلف وترتبط هذه الوظائف ارتباط وثيق بالتركيب التشريحية لمختلف الحيوانات

Physiology is the study of the functions of animal systems and the mechanisms by which these organ systems work, as well as the chemical and physical processes that occur inside these systems in different animals. Cell physiology, blood, and muscles are examples of these processes. These functions are investigated at several levels, beginning with cells, tissues, organs, and finally animal systems. The functions of these organs vary depending on the anatomical structure of the animal.

5 . Genetic and Animal Breeding - GEB204

يقدم مقرر "علم الوراثة" المبادئ الأساسية لعلم الأحياء الجزيئي وعلم الوراثة وعلم وراثه العشائر. حيث يدرس في هذا المقرر تركيب ووظيفة الكروموسومات والجينات، الوراثة المندلية وأنواع التعبيرات الجينية. كما سيتم تعريف الطلاب بأنواع الطفرات والمتلازمات الوراثية وبعض الاختبارات الجينية المستخدمة لتحديد وتشخيص الطفرات والمتلازمات الوراثية. كما سيقدم المقرر للطلاب مبادئ ومفاهيم التحليلات الإحصائية الأساسية المستخدمة لوصف وتقييم المجموعات الحيوانية. المقرر الحالي يأخذ في الاعتبار التعرف على التقنيات التقليدية والحديثة التي يمكن أن تساعد في المجال العلمي والبحثي.

صمم مقرر "علم الأنسال" لإدخال المصطلحات والمبادئ الأساسية لعلم الانسال والتربية التقليدية، مثل التوريث المندلي. كما يكتسب الطالب المعرفة الأساسية حول علم وراثه العشائر; الذي يتضمن المبادئ الأساسية مثل تركيبية العشيرة والمسار الجيني، وتكرارات الجينية، والقوى المؤثرة على تغيير التكرار الجيني، وأساسيات هاردي واينبرغ (Hardy-Weinberg principles). هذا المقرر سيتعامل مع نظم التناسل، والتغيرات الوراثية والمظهرية، وأساسيات الانتخاب، وبرامج التسجيل والتقييم الوراثي. كما سيأخذ بعين الاعتبار في المقرر الحالي الاكتشافات والتقنيات الأساسية والحديثة التي يمكن أن تساعد في برامج التحسين الوراثي للعشائر وتحسين أنسالها ونظم مكافحة الأمراض.

- Genetics course introduces the principles of molecular biology, genetics and population genetics. It studies the structure and function of chromosomes and genes, Mendelian genetics and types of gene expressions. The course will also introduce to the student types of genetic syndromes and mutations and some genetic tests used to identify the genetic defects. The course will also present students to the principles and concepts of types of basic statistical analysis used to describe and evaluate animal populations. The current course is considers a certain knowledge of the traditional and modern techniques that can assist in the scientific and research field.
- Animal Breeding course designed to introduce breeding terminology and the basic principles of classical breeding, like Mendelian inheritance. The student will gain basic knowledge on population Genetics; includes basic principles like population structure, gene flow, gene and genotypic frequencies, forces changing gene frequency and Hardy-Weinberg principle. The course will deal with mating system, the genetic and phenotypic variation, principles of selection, and programs for recording and genetic evaluation. The current course will consider a

certain knowledge of traditional and modern discoveries and technologies that can assist livestock improvement programs and disease control systems.

6 . Animal Nutrition - ANT203

أساسيات تغذية حيوان وتشمل التعريف بمصطلحات علم التغذية وتطورها مع شرح مفصل للعناصر الغذائية الأساسية لتغذية الحيوان وأهميتها وتتمثل في الكربوهيدرات، البروتين، الدهون والطاقة، بحيث تشمل تصنيفاتها، هضمها، امتصاصها وأيضها في كل من حيوانات المعدة البسيطة والمجترات. دراسة الفيتامينات والمعادن مما يشمل مصادرها ووظيفتها وأعراض نقصها في الحيوان. كما ندرس التغذية التطبيقية وتشمل دراسة الأعلاف من حيث تعريفها وتقسيماتها والمضافات الغذائية بأنواعها مع تقييم الأعلاف وتطبيقها علي الحيوان وتشمل قياس كفاءة القدرة الهضمية للمواد الغذائية بمختلف التجارب التي تقوم علي الحيوان، وأيضاً دراسة معدل الاستهلاك الطوعي للحيوان في المزرعة والأسطبل. كما تتم دراسة الأمراض التي تحدث للحيوان نتيجة عدم الاتزان الأيضي. إضافة إلي ذلك كيفية تكوين العليقة المتزنة للحيوان ومعرفة قياس الطاقة للعليقة لتغطية احتياج الحيوان منها.

Aware with the dietary nutrients needs for animals, primarily those in Agriculture and food and to ensure that students have good information about healthy food is a choice, before you can fully explore that choice, which it helps to have a bit an understanding about what food actually is and what it delivers to your body. students should have sufficient knowledge about essential nutrients, which can't make either for we or form animals in sufficient quantities to meet daily requirements. So we should added to the diet such as minerals, most vitamins, some amino acids and some fatty acids. Also, they should know about the non-essential nutrients that can be synthesized within the body, but insufficient amounts to meet the requirements or may also come from the diet. Providing with full information about sources, chemical composition, digestion, absorption, physiological mode of action, deficiency symptoms of all nutrients such as water, CHO, Protein, Lipids, energy and vitamins and minerals at different growth stages. Sufficient knowledge to use laboratory facilities (apparatus) for determination the chemical compositions of different feed stuff to be used in the ratio formulation at maintenance and production levels for farm animal feedings. Provide them with the crucial information about classification of feeds, feed additive types, evaluation of feeds (*in-vivo*, *in-vitro in-sacoo*, TDN and in direct method using markers).

7 . Animal Husbandry - AHU202

استخدام المعرفة النظرية والعملية في الموضوعات المتعلقة بتربية الحيوانات. اكتساب وتطبيق المهارات الاجتماعية ومهارات الاتصال ومهارات التفكير ومهارات البحث ومهارات الإدارة الذاتية في جميع أنحاء البرنامج. يدرك مسؤولياته المهنية بالمعرفة والمهارات والقيم والكفاءات وينقل المعارف والمهارات الأساسية من خلال التواصل الكتابي والشفهي. تحليل الأحداث والظواهر المهنية باستخدام الأساليب والأساليب العلمية ، وتفسير النتائج وتقديم الحلول واكتساب القدرة على تطبيق طرق التزاوج والرعاية في تربية الماشية والأغنام والماعز. معرفة المبادئ والمفاهيم الأساسية في تربية الخيول والدواجن وتقييم الكفاءة من سلالات الحيوانات حسب محصولها. اكتساب القدرة على تطبيق التحديد لزيادة إنتاجية السباق. يعرف العلاقة بين البيئة والحيوان، وفي بواجب الخدمة للمجتمع من خلال البحث ونقل التكنولوجيا بالإضافة إلى متابعة وتنفيذ التطورات في ممارسات الإدارة والتنظيم لمشاريع الثروة الحيوانية.

Use theoretical and practical knowledge in the subjects related to animal husbandry.

Obtaining and applies social skills, communication skills, thinking skills, research skills, and self-management skills throughout the program. Is aware of his professional

responsibilities with knowledge, skills, values and competencies and transfer basic knowledge and skills through written and verbal communication.

Analyzes professional events and phenomena by using scientific techniques and methods, interprets results and offers solutions and Gain the ability to apply mating methods and care in cattle, sheep and goat breeding Knows the basic principles and concepts in horse and poultry breeding and Evaluates the efficiency of animal breeds according to their yield. Gain the ability to apply selection to increase race yields.

Knows the relationship between environment and animal fulfills the service obligation for society through research and technology transfer in addition to Follow and implement the developments in management and organization practices of livestock enterprises.

8 . Veterinary Microbiology - MIC301

هذا المقرر يغطي جميع الجوانب الرئيسية لعلم الأحياء المجهرية البيطرية ويهدف إلى إعطاء معلومات نموذجية ووصفية شاملة عن البكتيريا والفطريات والخصائص الأساسية للبكتيريا ووصفها ومناقشة مستفيضة للأجناس الرئيسية من البكتيريا المسببة للأمراض. كما يشمل دراسة الجوانب العامة في علم الفيروسات مثل خصائص الفيروسات وتركيبها وطرق تكاثرها وتصنيفها وأهم العائلات الفيروسية. بالإضافة للتعريف بمبادئ وأساسيات علم المناعة مثل أنواع المناعة والجهاز المناعي والأجسام المضادة والمستضدات والمتممة وفرط التحسس.

This course covers all the major aspects of veterinary microbiology and aims to give comprehensive model and descriptive information about bacteria and fungi, the basic characteristics of bacteria and their description, and an extensive discussion of the main genera of pathogenic bacteria. It also includes the study of general aspects of virology such as the characteristics of viruses, their structure, methods of reproduction and classification, and the most important viral families. In addition to, introducing the principles and basics of immunology such as types of immunity, the immune system, antibodies, antigens, complement and hypersensitivity.

9 . Veterinary Parasitology - PAR302

يشمل هذا المقرر علم الحيوانات الأولية وعلم الديدان و يهدف إلى تدريس الطلاب بأاساسيات علم الطفيليات وتقسيمه العلمي وتسمياته المختلفة, وصف أشكالها وطرق الحركة والتكاثر والأمراض التي تسببها وأنواع العلاقات بين الطفيليات والمضيف (الحيوان). كما يشمل أيضًا علم الحشرات الذي يهتم بوصف الحشرات البالغة المختلفة ومراحل نموها المختلفة ودورة حياتها ودورها في نقل الأمراض والمشاكل التي تسببها لحيوانات المزرعة والدواجن بسبب التطفل . كما يتناول المقرر طرق جمع العينات المختلفة وطرق التشخيص و الوقاية منها ومكافحتها لضمان الحفاظ على الثروة الحيوانية.

This course includes protozoology, helminthology and entomology, and aims to teach the students to the basics of parasitology, its scientific division, its different nomenclature, description of its forms, the methods of movement and reproduction, the diseases they cause, the types of relationships between the parasite and the host (animal). Also, includes entomology, which is concerned with describing of the different adult insects, their different stages of growth, their life cycle, their role in transmitting diseases and the problems they cause with farm animals and poultry due to parasitism. The course also deals with the various methods of collecting samples, methods of diagnosis, prevention and control to ensure the preservation of livestock.

10 . Veterinary Pathology - PAT303

مقرر مادة علم الأمراض صمم لتقديم المفاهيم المعرفية الخاصة بالتغيرات المرضية على مستوى الخلايا والأجهزة الحيوية في الأمراض التي تصيب الحيوانات. المقرر يوضح للطلاب الأسباب المرضية والية حدوث الأمراض، بالإضافة الي التغيرات المرضية العينية المجهرية،بالإضافة انه يزود الطلاب بالطرق التي يجب اتخاذها ابتداء من جمع العينات في الحقل الي الطرق المختبرية اللازمة للتوصل الي تشخيص دقيق للمرض.

The course of Veterinary Pathology is designed to cover the basic knowledge of general and systemic pathological changes of the domestic animal diseases. It provides the student with the causes, pathogenesis and effect of diseases at the macroscopic and microscopic levels. This course is designed to provide students the procedure that should be taken to collect samples from the field up to laboratory methods to ensure the differential diagnosis of the disease.

11 . Veterinary Pharmacology - PHA 304

هذه المادة تغطي دراسة شاملة عن المبادئ الأساسية وطريقة عمل الأدوية التي تستخدم في العلاج البيطري، الحركة الدوائية لها، مدة تأثيرها، سميتها على الحيوانات، طرق تحللها، بالإضافة إلى طرق إعطاء الأدوية والجرعات المناسبة مع دراسة الأدوية المستخدمة في علاج الأمراض العصبية وأدوية القلب والأوعية الدموية وأدوية القناة الهضمية وأمراض الجهاز الهضمي وأمراض الجهاز التنفسي، بالإضافة إلى أدوية الستيرويدات وغير الستيرويدات والأدوية المستخدمة في حالات الالتهابات والحساسية و دراسة الأدوية المستخدمة في علاج الأمراض المعدية الي جانب دراسة مستقيضة للمضادات الحيوية، مضادات الفيروسية، مضادات الديدان وأدوية علاج الأمراض السرطانية.

In Pharmacology student will study the basic principles and the mode of action of drugs which use in veterinary treatment, their pharmacokinetics, duration of effect, toxicity on animals, methods of decomposition, in addition to methods of administering drugs and appropriate doses with the study of drugs in the treatment of diseases, cardiovascular drugs and channel drugs alimentary; The study of medicines in the treatment of infectious diseases, gastrointestinal diseases, psychology and the treatment of chemotherapy treatment.

12 . Clinical Pathology - CLP401

هو علم طبي يتعامل مع تشخيص المرض بناءً على الفحص المخبري لسوائل الجسم، مثل الدم والبول باستخدام أدوات أمراض الدم وعلم الأحياء الدقيقة، علم الطفيليات، الكيمياء السريرية وعلم الأمراض الجزيئي.

It is a medical science that deals with the diagnosis of disease based on the laboratory examination of body fluids, such as blood and urine using the tools of hematology, microbiology, parasitology, clinical chemistry and molecular pathology.

13 . Milk Hygiene - MIH403

يعرض المنهج للصفات الطبيعية والكيميائية للألبان ومنتجاتها، المعاملات الحرارية للحليب، العوامل المؤثرة على كمية ونوعية اللبن، مصادر تلوث الحليب ومنتجاته، الأمراض التي تنتقل من خلال اللبن ومنتجاته، كيفية الوقاية من مسببات الأمراض، التسمم الغذائي، البادئات، الميكروبات الدالة، منظفات ومطهرات مصانع الأغذية، التهاب الصرع، بقايا المضادات الحيوية والمبيدات الحشرية في الألبان ومنتجاتها وطرق الكشف، نظام الهاسب وطرق التطبيق في مصانع الألبان، تصنيع منتجات الألبان وكيفية حماية المستهلك من الغش والمطابقة للمواصفات القياسية الليبية.

This course covers the physical and chemical properties of milk and its products, heat treatments of milk, factors affecting the quality of milk, sources of contamination of milk and its products, diseases transmitted through milk and its products, how to prevent pathogens, food poisoning, milk starters, indicator organisms, cleaning and disinfecting of milk plants. Mastitis, Residues of Antibiotics and Pesticides in Milk and Milk Products, Detection Methods, HACCP System, Dairy Products Manufacturing, and How to Protect Consumers from Fraud and Compliance with Libyan Standard Specifications.

14 . Meat Hygiene - MEH402

يغطي هذا المقرر تعريف المبادئ الأساسية للحفاظ على لحوم صحية خالية من الملوثات ومسببات الأمراض لتكون مناسبة للاستهلاك الأدمي، من خلال معرفة التصاميم والإنشاءات الصحيحة والمناسبة للمسالخ. يتناول هذا المقرر أيضاً تعليم كيفية التعامل مع الأنواع المختلفة من الحيوانات الحية قبل الذبح وكيفية تحضير وذبح الذبائح بطرق تضمن توافر لحوم عالية الجودة. علاوة على ذلك، يغطي هذا المقرر الأمراض التي تنتقل من الحيوان إلى الإنسان وكيفية التفتيش على اللحوم للمستهلكين ليكون لديهم طعام خالي من الأمراض.

This course covers the identification of the basics principles for maintaining healthy meat free of contaminants and pathogens to be suitable for human consumption, by knowing the correct and appropriate designs and constructions for slaughter slaughterhouses. This course also deals with teaching how to treat the different type of live animals before slaughter and how to prepare and slaughter carcasses in ways that ensure the availability of high-quality meat. Furthermore, this course covers the zoonotic diseases that may transported from animals to human and how to inspection on meat for the consumer has food free from disease.

15 . Toxicology &Forensic Medicine - TFM404

يغطي هذا المقرر الدراسي المعرفة بالملوثات والمواد المعدنية، الأحماض، القلويات، الأحماض العضوية، مبيدات الآفات، المواد المشعة، السموم الحيوانية، السموم الفطرية والأغذية. بالإضافة إلى النباتات السامة المختلفة وكذلك مصدرها وكيفية حساب الجرعات السامة، وكيفية حساب الجرعات السامة. لمعالجتهم. كما يتناول هذا المقرر تدريس الطب الشرعي مع شرح مفصل للقوانين والعلاقة بينهما.

This course covers knowledge of pollutants, mineral substances, acids and alkalis, organic acids, pesticides, radioactive substances and animal toxins, mycotoxins and food in addition, to the various poisonous plants as well as their source and how to calculate toxic doses, also how to treat them. This course also deals with the teaching of forensic medicine with a detailed explanation of the laws and the relationship between them.

16 . General & Special Veterinary Surgery GVS406 - SVS501

تقوم شعبة الجراحة والتخدير والأشعة بتدريس أساسيات علم الجراحة والتخدير الأشعة والتي تؤهل الطالب لفهم وتطبيق النظريات الخاصة بالجراحة العامة والخاصة وتهدف كذلك لتدريب الطلاب عملياً على طرق استعمال كافة أنواع المعدات الجراحية وأنواع التخدير المختلفة التي تساعده على طرق تشخيص الأمراض الجراحية وكيفية التعامل معها وذلك في كافة أنواع الحيوانات وبكافة وسائل التشخيص الحديثة من أشعه سينييه، موجات فوق صوتيه والمناظير الجراحية حتى يكتسب الطالب المهارات والخبرة العملية في التعامل مع الاصابات الجراحية المختلفة والتي تؤهله لأن يكون طبيباً ناجحاً في الحقل وذلك بإقحامه في الممارسة الحقلية خلال دراسته بالكلية.

The curriculum of veterinary surgery is aimed to enable the student to know about the principle of general surgery including technique of sterilization, pre operative

preparation, different types of anesthesia to control animals during examination or during minor or major surgical procedures as well as handling and transportation and to learn about diagnostic tools and imaging, as well as, implanting knowledge and practicing the various surgical problems of the body systems including digestive, respiratory, cardiovascular, urogenital and abdominal wall. Moreover, to accustomed students how to pick the principles up to recognize case appraisal, etiology, clinical signs, diagnosis and differential diagnosis, prognosis and different traits of treatment.

17 .Theriogenology THE407- THE502

علم التناسليات هو أحد تخصصات الطب البيطري، يتم تدريس منهج التناسليات خلال السنوات الرابعة والخامسة من سنوات الدراسة بالكلية ويهتم بتزويد الطالب بالمعلومات اللازمة في مجال التناسل والخصوبة والتلقيح الاصطناعي بالإضافة الى تدريبه على المهارات اللازمة في تشخيص وعلاج الأمراض التناسلية وتشخيص الحمل في العديد من الحيوانات وتشخيص وعلاج امراض الذكورة وضعف الرغبة الجنسية في ذكور الحيوانات المختلفة. أيضا ما يخص الممارسات السريرية للتوليد البيطري وعلم التقنيات التناسلية المساعدة الحديث.

Theriogenology is a specialty of veterinary medicine, taught during the fourth and fifth years of study at the college, in the form of theoretical and practical lessons, concerned with animal reproduction. Our aim is to provide the student with the necessary knowledge and skills for the field of reproduction, fertility and artificial insemination; in addition to training him in the necessary skills in diagnosing and treating reproductive diseases, diagnosing pregnancy in many animals, and diagnosing and treating infertility diseases and weak sexual desire in males of different animals. Also, the clinical practices of veterinary obstetrics and the science of assisted reproductive technology.

18 . Veterinary Medicine MED405 - MED500

تعتبر مادة الأمراض الباطنية من المواد الأساسية لأي طبيب بيطري أو ممارس ميداني. حيث يزود الطلاب بمعرفة ومعلومات حديثة عن الأمراض التي تسببها العوامل غير المعدية التي تؤثر على صحة وإنتاجية حيوانات المزرعة (الأبقار والأغنام والماعز والإبل والخيول والحيوانات الأليفة). فأولاً: يُقدم للطلاب معاني أمراض الباطنة وأهميتها مثل التي تساهم في آثار العديد من الأمراض. بعد ذلك، يخضع الطلاب لمعرفة حديثة حول أمراض أجهزة الجسم المختلفة، مع التركيز على الخلل الأساسي في أنظمة الجسم ومظاهر الخلل الوظيفي والفحص الخاص ومبدأ العلاج. علاوة على ذلك، تُوفر هذه المادة مزيداً من المعلومات والمعرفة حول أمراض معينة مرتبطة بأجهزة الجسم.

Veterinary internal medicine subject is a fundamental for any field veterinarian's and practitioners. It provides the students with an up-to date knowledge and information on diseases caused by non-infectious agents that affect farm animals' health and productivity (cattle, sheep, goats, camels, equine, pets). Firstly, the students understand meanings of medicine diseases and its importance as a General Systemic State, which contribute to the effects of many diseases. Then, the students undergo an up-to date knowledge about body system diseases emphasizing on principle body systems dysfunction, manifestations of dysfunction and special examination and principle of treatment. Furthermore, the subject provides more information and knowledge on specific diseases associated with body systems.

19. Infectious Diseases -INF408- INF503

تعتبر الأمراض المعدية من المواد الجوهرية الهامة لأي طبيب بيطري ناجح. حيث يزود الطلاب بالمعرفة والمعلومات المطلوبة المحدثة الجديدة أولاً بأول فيما يتعلق بالأمراض الهامة التي تسببها مسببات الممرضة (البكتيريا والفيروسات والبريون والطفيليات والفطريات والبروتوزوا) التي تؤثر على صحة حيوانات المزرعة وإنتاجها مثل الحيوانات المجترة (الماشية والأغنام والماعز والجمال)، الفصيلة الخيلية. والحيوانات الأليفة (الكلاب والقطط). فأولاً، يُعرّف الطلاب بالأمراض المعدية وأهميتها من حيث الأهمية الاقتصادية ومعدل الإصابة بالأمراض ومعدل الوفيات، مع التشخيص العام والتحكم بالمرض ومسؤولية الأطباء البيطريين تجاه الحيوانات وأصحاب الحيوانات. ثم يخضع الطالب لمعرفة مكثفة عن الأمراض المعدية بالدولة والدول المجاورة والمعلن عنها بالمنظمة العالمية للصحة الحيوانية بما في ذلك الأمراض العابرة للحدود التي تسببها الكائنات الحية الدقيقة المعدية (المذكورة أعلاه)، من ناحية التعريف بالمرض، المسبب المرضي، وبائية المرض، والإراضية، والعلامات السريرية، والتشخيص التفريقي، والتشخيص، والعلاج والتحكم والسيطرة.

Infectious Disease considered as a main core subject for any successful veterinarian. It provides the students with up-to-date required knowledge & information regarding important diseases caused by infectious agents (Bacteria, Virus, Perion, Parasitic, Fungal & Protozoa) affecting farm animals health and production as Ruminant (Cattle, Sheep, Goat and Camels), Equines Spp. and Pet Animals (Dogs & Cats). Firstly, the students know the definition of infectious diseases and their importance in terms of economic importance and morbidity and case fatality rate, with general diagnosis and control and the veterinarian's responsibility towards animals and animal owners. Then the students undergo an intensive knowledge on important infectious diseases in the country and neighboring states, notifiable diseases by OIE and TADs caused by infectious microorganisms (mentioned above), on disease definition, Etiology, epidemiology, pathogenesis, clinical signs, deferential diagnosis, diagnosis, treatment and control.

20 . Preventive Medicine - PRM504

تهدف المكونات التدريسية الى تزويد الطالب بالمعرفة الواسعة بجملة من المفاهيم والتفاصيل المعقدة في علم الوبائيات والأمراض المشتركة (حيوانية المنشأ) المتناقلة بين الإنسان والحيوان، وكذلك الأمراض الطارئة والمستجدة التي لها تأثير مباشر على صحة الحيوان و الإنسان ولها تداعيات صحية مجتمعية ، واقتصادية والتي تمثل تهديد للصحة العامة والصحة البيطرية. تلك المعارف المكتسبة ذات أهمية حيوية في تطوير وتصميم البرامج الفعالة والناجعة لمجابهة الأمراض والأوبئة ووضع خطط واستراتيجيات السيطرة والتحكم.

ينفرد علم الوبائيات باهتمامه وتركيزه على دراسة الأمراض والجوائح التي تظهر بشكل وبائي والتي غالباً ما تسجل في مجاميع

الحيوانات أو السكان على السواء، أي تظهر بشكل "مجتمعي" بينما باقي المواد تهتم بالحالات الاكلينيكية والسريرية الفردية.

يكتسب الطالب مهارة حساب وعد تكرار الإصابات وتحديد وتوصيف عوامل الاختطار بالمرض وكيفية تصميم وتحديد نوعية الدراسات الوبائية المختلفة واختيار طرق الاعتيان وتحديد حجم العينة المطلوبة لدراسة الأمراض الوبائية و الظواهر الصحية. ودراسة المقررات يتعلم الطالب أيضاً كيفية اعداد وتجميع البيانات الوبائية و تحليلها واستخلاص المعلومات والنتائج النهائية التي من خلالها يتم التوصل للاستنتاجات والتوصيات. كما يدرس الطالب

طرق الاستقصاء والتحري عن تفشي الأمراض الوبائية و كيفية وضع وااثبات الفرضيات المحتملة لحدوث الأمراض ، مع وضع سيناريوات علمية شاملة لتلك الأحداث الصحية سواء" الأمراض والجوائح ذات الصفة الوبائية أو حتى الطارئة و المستجدة ، ومن ثم يتم وضع استراتيجيات لمواجهة تلك التحديات والمشاكل الصحية سواء أكان ذلك على مستوى مناطقي محلي أو مستوى وطني. وأخيرا يتعلم الطالب مهارة تحرير وكتابة النصوص العلمية وإعداد التقارير الوبائية وآليات التواصل وكيفية تقديمها الى الجهات الصحية التنفيذية و المسؤولة لوضعها موضع التنفيذ.

The goal of the courses are to provide the students with knowledge of a wide range of principles and details of some important concepts for epidemiology and zoonotic infectious communicable diseases between animals and humans, newly emerging and re-emerging diseases, addressing its impact on livestock animals, socio-economy and public health threat. These concepts are vital to the development and targeting of effective control and prevention measures. The approaches taken will be from the epidemiology, or public health viewpoint, rather from the clinical standpoint. Counting cases of disease in a population is the unique domain of epidemiology, it is the core component of preventive medicine. Gaining the students how can gathering the epidemiological data and how to analyze them. Also, students would learn how to select appropriate designing for epidemiological studies and how to use different types of techniques of sampling. Students must learn how to perform investigation responsibly, and how to establish clear operational priorities for outbreak investigation study. How can epidemiology help to solve the problem? Also, students would learn Strategic application of control and eradication methods. Lastly, considering different scenarios, student will be asked to provide a written report and epidemiologic skills communication.

21 . Poultry Diseases - POU505

يغطي هذا المقرر طرق التربية ودورات الإنتاج وفهم آلية الجهاز المناعي في ، بالإضافة إلى ضرورة معرفة الأمراض التي تصيب الدواجن وآلية العدوى والأعراض التي تسببها، وكذلك طرق التشخيص والعلاج وطرق المكافحة.

This course covers the breeding methods, production cycles, and understanding the mechanism of the immune system in poultry, in addition to the need to know the diseases that affect poultry, the mechanism of infection and symptoms caused, as well as methods of diagnosis, treatment and methods of control.

22 . Fish Diseases- FIS506

يغطي هذا المقرر كل ما يتعلق بأمراض الأسماك، حيث يشمل الأمراض المعدية وغير المعدية التي تصيب أسماك المزارع السمكية وأسماك مياه البحر والأنهار وغيرها. بالإضافة إلى ذلك، وبالتالي من الضروري تعليم الطالب أنواع الأمراض البكتيرية، الفطرية، الطفيلية والفيروسية بالإضافة إلى الأمراض غير المعدية وأسباب حدوثها والعامل المسبب والمهيا لها، الأعراض السريرية التي يمكن أن تحدث، وكذلك التغيرات في الأنسجة التي يمكن أن تنتج عن العدوى، ودورة حياتها وكيفية علاجها والوقاية منها.

This course covers everything related to fish diseases, including infectious and non-infectious diseases that affect aquaculture fish, seawater fish, rivers, and others. In addition, and therefore it is necessary to teach the student the types of bacterial, fungal, parasitic and viral diseases as well as non-communicable diseases and their causes and causative agent and predisposing them, clinical symptoms that can occur, as well as

tissue changes that can result from infection, their life cycle and how Its treatment and prevention.

23 . Biostatistics - STA205

مقدمة في علم الإحصاء الحيوي و العرض البياني للبيانات و العرض البياني للبيانات و مقاييس التشتت و الاحتمالات و توزيع الاحتمالات و اختبار الفرضيات و لارتباط والانحدار و تحليلات التباين.

Introduction and importance of basic statistics, presentation of data, Measure of central tendency, Measure of central dispersion, Probability, probability distribution, Sampling and statistic estimation, one – sampling and statistical hypothesis testing Statistical inference for two samples, correlation and regression and Analyses of variance.

24 . Arabic Language - ARA100

يساعد هذا المقرر في تنمية الثروة اللغوية للطلاب في الألفاظ والمعاني والأساليب، وتمكينهم من محاكاة ما يدرسون من الأدب بطريقة لاشعورية نتيجة لتأثرهم به ، فيصبحون لديهم القدرة على التعبير الجيد عن أفكارهم ومشاعرهم . كذلك يساعد تنمية ميل الطلاب إلى القراءة واستخدام الأدب فيشغل أوقات فراغهم وتوسيع ثقافتهم و صقل عقولهم. تزويد الطلاب بطرائق استخدام علامات الترقيم والوقف، مما من شأنه أن ينظم كتاباتهم، ويقرب معانيهم ويوصلها كما أراد.

25 . English Language - ENG101

The English language course aim to acquire a general knowledge about veterinary medicine and improve student overall use of the language and their ability to communicate in English. The course is designed to cover the basic knowledge of different topics such as, terminology of veterinary medicine, how to write medical report. Also, the course aims to introduced the use important affixes in veterinary practice.