

# EATM M190: ANIMAL NUTRITION

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**Originator**

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**Co-Contributor(s)**
**Name(s)**

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**College**

Moorpark College

**Attach Support Documentation (as needed)**

RVT\_Advisory\_Meeting Minutes 11-22-19 v3.pdf  
 RVTProgramJustification.pdf  
 RVTProgramCourseRequirements.docx

**Discipline (CB01A)**

EATM - Exotic Animal Training Mgmt

**Course Number (CB01B)**

M190

**Course Title (CB02)**

Animal Nutrition

**Banner/Short Title**

Animal Nutrition

**Credit Type**

Credit

**Honors**

No

**Start Term**

Fall 2020

**Catalog Course Description**

Introduces concepts relative to nutritional requirements of animals in captivity and in the wild. Emphasizes techniques in safely feeding domestic and non-domestic animals in captivity. Focuses on the constituents of feed (carbohydrates, proteins, fats, minerals, vitamins and water), and their utilization by the animal body. Discusses the digestive system, the process of digestion and assimilation of the various feed constituents, identification of feed-stuffs, feeding standards, computation of simple rations for livestock, and economy in feeding and purchasing feeds by nutritive values.

**Additional Catalog Notes**

Course Credit Limitation: Completion of EATM M190 will meet the subject requirement for EATM M19. However, EATM M19 will not meet the subject requirement of M190. Maximum credit: 3 units if completed both EATM M19 and EATM M190.

**Taxonomy of Programs (TOP) Code (CB03)**

0102.10 - \*Veterinary Technician (Licensed)

**Course Credit Status (CB04)**

D (Credit - Degree Applicable)

**Course Transfer Status (CB05) (select one only)**

B (Transferable to CSU only)

**Course Basic Skills Status (CB08)**

N - The Course is Not a Basic Skills Course

**SAM Priority Code (CB09)**

C - Clearly Occupational

**Course Cooperative Work Experience Education Status (CB10)**

N - Is Not Part of a Cooperative Work Experience Education Program

**Course Classification Status (CB11)**

Y - Credit Course

**Educational Assistance Class Instruction (Approved Special Class) (CB13)**

N - The Course is Not an Approved Special Class

**Course Prior to Transfer Level (CB21)**

Y - Not Applicable

**Course Noncredit Category (CB22)**

Y - Credit Course

**Funding Agency Category (CB23)**

Y - Not Applicable (Funding Not Used)

**Course Program Status (CB24)**

1 - Program Applicable

**General Education Status (CB25)**

Y - Not Applicable

**Support Course Status (CB26)**

N - Course is not a support course

**Field trips**

Will not be required

**Grading method**

Letter Graded

**Alternate grading methods**

Credit by exam, license, etc.

**Does this course require an instructional materials fee?**

No

**Repeatable for Credit**

No

**Is this course part of a family?**

No

**Units and Hours**

**Carnegie Unit Override**

No

**In-Class**

**Lecture**

**Minimum Contact/In-Class Lecture Hours**

52.5

**Maximum Contact/In-Class Lecture Hours**

52.5

**Activity****Laboratory****Total in-Class****Total in-Class****Total Minimum Contact/In-Class Hours**

52.5

**Total Maximum Contact/In-Class Hours**

52.5

**Outside-of-Class****Internship/Cooperative Work Experience****Paid****Unpaid****Total Outside-of-Class****Total Outside-of-Class****Minimum Outside-of-Class Hours**

105

**Maximum Outside-of-Class Hours**

105

**Total Student Learning****Total Student Learning****Total Minimum Student Learning Hours**

157.5

**Total Maximum Student Learning Hours**

157.5

**Minimum Units (CB07)**

3

**Maximum Units (CB06)**

3

**Prerequisites**

EATM M120, EATM M120L

**Advisories on Recommended Preparation**

Understanding of the metric system, and basic math skills; anatomy and physiology of the various digestive systems

**Limitations on Enrollment**

Criminal background clearance

Drug and alcohol clearance

Fingerprint clearance

Current negative TB test or chest x-ray

Others (specify)

No visible tattoos or visible body piercings except single studs in earlobes

**Other Limitations on Enrollment**

1. Admission to either the Moorpark College Registered Veterinary Technology or EATM Programs

2. Current tetanus vaccination

**Entrance Skills****Entrance Skills**

EATM M120

1. identify and describe the basic anatomical structures of mammals.
2. identify and utilize basic nomenclature related to anatomy and physiology.
3. explain the relationship between the various anatomical and physiological systems found in normal mammal, avian, and reptile species.
4. discuss in terms of structure and function, the unique anatomical and physiological adaptations of certain groups of mammal, avian, and reptile species.
5. distinguish between the major components of the nervous system and describe the structure and function of the neuron and process of nerve transmission.
6. distinguish between the major components of the reproductive system and describe the structure and function of the ovary.
7. compare the effects of hormones on follicle development.
8. describe the structure and function of the nephron and the effects of hormones on urine formation.
9. distinguish between the different organs that contribute to digestion.
10. compare and contrast the digestive process for major macro-molecules.

EATM M120L

1. distinguish the parts of the brain and major nerves and describe their functions.
2. utilize microscopes and photographs to identify and describe the location and function of epithelial, muscular, nervous, and connective tissues.
3. distinguish the three layers of the skin, the associated structures found within the skin layers, and the structures derived from the skin.
4. differentiate individual bones of the axial and appendicular skeleton using articulated and disarticulated skeletons from common domesticated species.
5. distinguish the surface features of bones of the axial and appendicular skeleton.
6. identify the major joints using articulated and disarticulated skeletons.
7. distinguish the major skeletal muscles and describe their actions.
8. differentiate and describe the functions of the major organs of the respiratory, cardiovascular, digestive, and genitourinary systems.
9. differentiate the major internal organs on radiographs.
10. identify the individual bones and major joints on radiographs.
11. identify on various radiographs anatomical differences between species, gender and age.
12. identify histological differences of the four basic animal tissues and relate normal from abnormal cells.

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## Requisite Justification

### Requisite Type

Prerequisite

### Requisite

EATM M120, EATM M120L

### Requisite Description

Course in a sequence

### Level of Scrutiny/Justification

Required by statute or regulation

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### Requisite Type

Enrollment Limitation

### Requisite

1. Criminal background clearance; 2. Current negative TB test or chest x-ray; 3. Drug and alcohol clearance; 4. Fingerprint clearance; 5. No visible tattoos or visible body piercings except single studs in earlobes. Other: 1. Admission to the Moorpark College Registered Veterinary Program; 2. Current tetanus vaccination

### Requisite Description

Credit program requisite (credit only)

### Level of Scrutiny/Justification

Required by statute or regulation

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**Student Learning Outcomes (CSLOs)**

Upon satisfactory completion of the course, students will be able to:	
1	describe proper sanitation and food preparation that meet regulatory standards.
2	explain the nutritional requirements of a balanced diet for mammals, birds and herptiles.
3	present diets in a psychologically appropriate way.
4	outline nutritional disorders caused by deficiencies, toxicities or interactions with various feeds or feed nutrients.

**Course Objectives**

Upon satisfactory completion of the course, students will be able to:	
1	identify and calculate a balanced diet that meets the nutritional and psychological needs of mammals, birds, and herptiles. and herptiles.
2	explain the essential information to be documented in order to monitor the effectiveness of the nourishment program for mammals, birds, and heptiles.
3	describe preparation and presentation of diets in a psychologically appropriate way for animals.
4	explain the proper steps in food sanitation and handling.
5	describe the important properties of each nutrient: carbohydrates, fats, proteins, vitamins, minerals and water.
6	explain the relationship of digestive tract structure to the nutritional needs of animals.
7	identify toxic types of foods for a variety of mammals, birds and herptiles.
8	outline nutritional disorders caused by deficiencies, toxicities, or interactions with various feeds or feed nutrients.
9	describe the preventative measures for nutritional-based diseases such as metabolic bone disease and iron storage disease.
10	discuss the U.S. Department of Agriculture (USDA) regulations regarding food sanitation, preparation and feeding.
11	discuss the nutritional value of the food product based on the information written on the nutritional product label.

**Course Content****Lecture/Course Content**

1. (3.8%) Introduction and Digestive Systems
2. (9.5%) Feed Nutrients .
3. (9.5%) Feeds and Feed Processing
4. (9.5%) Mechanics of Ration Formulation (including Pearson Square)
5. (9.5%) Horse Feeding and Nutrition
6. (4.8%) Sheep Nutrition and Feeding
7. (4.8%) Swine Nutrition and Feeding
8. (4.8%) Dairy Cattle Nutrition and Feeding
9. (4.8%) Beef Cattle Nutrition and Feeding
10. (4%) Dog and Cat Nutrition and Feeding
11. (4.8%) Poultry (Avian) Nutrition
12. (4%) Zoo Nutritional Program the Art and Science of Feeding: Includes Diet Presentation and Record Keeping
13. (9.5%) Feeding of Various Species: Carnivores, Herbivores and Omnivores, including Evaluating Commercial Diets and Hay, United States Department of Agriculture (USDA) Commissary Sanitation Regulations, Handling of Meat and Fish
14. (12.9%) Nutritionally-Induced Medical Problems
15. (3.8%) Nutritional Significance of Digestive Tract Structure Nutrients: Carbohydrates, Fats, Proteins, Minerals, Vitamins and Water

**Laboratory or Activity Content**

n/a (lecture class)

**Methods of Evaluation**

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

- Problem solving exercises
- Skills demonstrations
- Written expression

**Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):**

Computational homework  
Essay exams  
Group projects  
Individual projects  
Mathematical proofs  
Objective exams  
Problem-solving exams  
Quizzes  
Reports/papers  
Research papers

## **Instructional Methodology**

**Specify the methods of instruction that may be employed in this course**

Audio-visual presentations  
Computer-aided presentations  
Collaborative group work  
Class activities  
Class discussions  
Case studies  
Demonstrations  
Group discussions  
Guest speakers  
Internet research  
Lecture  
Small group activities

**Describe specific examples of the methods the instructor will use:**

PowerPoint presentation of exercises on analyzing diet requirements and appropriate feeds for a diverse group of animals, based on the animal's nutritional needs (carnivore, herbivore, omnivore, age related, health related).

Show mathematical calculation on quantifying the amounts of each nutrient and feed required for animals based on the animal's nutritional needs (carnivore, herbivore, omnivore, age related, health related).

Feed identification presentations.

Ration formulations.

## **Representative Course Assignments**

### **Writing Assignments**

Research and write a paper on specific dietary requirements for various animal species.

Write short essays on examinations of given animals to determine nutritional status and recommendations for dietary supplements.

### **Critical Thinking Assignments**

Analyze diet requirements and appropriate feeds for a diverse group of animals, based on the animal's nutritional needs.

Critique advertisements for nutritional products.

Analyze and evaluate articles relating to animal nutrition and compare various diets commonly fed to domestic animals.

### **Reading Assignments**

Read assigned textbook, current journal articles, nutritional recommendations from veterinary and other professional animal related courses.

Read journal articles posted to the online learning management system related to course lecture material on concepts related to animal nutrition.

Read scientific articles in order to share in class.

### **Skills Demonstrations**

Identify common animal feeds and poisonous plants.

Formulate a balanced simple feed ration for various animal species.

## **Outside Assignments**

### **Representative Outside Assignments**

Complete worksheets on mathematical proofs in preparation to calculate food rations appropriate to the nutritional needs of animals.

Collect nutritional product labels from animal food products to prepare for class discussions.

## Articulation

### Equivalent Courses at 4 year institutions

University	Course ID	Course Title	Units
Cal Poly Pomona	AVS 2101	Fundamentals of Animal Nutrition	4
CSU Chico	ANSC 230	Animal Feeds and Nutrition	3
Cal Poly San Luis Obispo	ASCI 220	Introductory Animal Nutrition and Feeding	4

### Equivalent Courses at other CCCs

College	Course ID	Course Title	Units
Los Angeles Pierce College	ANML SC 505	Animal Nutrition	3
Mount San Antonio College	AGAN 2	Elements of Animal Nutrition	3
Reedley College	AS 5	Animal Nutrition	3

## District General Education

### A. Natural Sciences

### B. Social and Behavioral Sciences

### C. Humanities

### D. Language and Rationality

### E. Health and Physical Education/Kinesiology

### F. Ethnic Studies/Gender Studies

Course is CSU transferable

Yes

CSU Baccalaureate List effective term:

Fall 2020

## CSU GE-Breadth

**Area A: English Language Communication and Critical Thinking**

**Area B: Scientific Inquiry and Quantitative Reasoning**

**Area C: Arts and Humanities**

**Area D: Social Sciences**

**Area E: Lifelong Learning and Self-Development**

**CSU Graduation Requirement in U.S. History, Constitution and American Ideals:**

## IGETC

**Area 1: English Communication**

**Area 2A: Mathematical Concepts & Quantitative Reasoning**

**Area 3: Arts and Humanities**

**Area 4: Social and Behavioral Sciences**

**Area 5: Physical and Biological Sciences**

**Area 6: Languages Other than English (LOTE)**

## Textbooks and Lab Manuals

### Resource Type

Textbook

### Classic Textbook

Yes

### Description

Cheeke, Peter R., and Ellen S. Dierenfeld. *Comparative Animal Nutrition and Metabolism*. Centre for Agriculture and Bioscience International (CABI), 2010.

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### Resource Type

Textbook

### Classic Textbook

No

### Description

Wortinger, Ann, and Kara Burns. *Nutrition and Disease Management for Veterinary Technicians and Nurses*. 2nd ed., Wiley-Blackwell, 2015.

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### Resource Type

Textbook

### Classic Textbook

No

### Description

Case, Linda, et al. *Canine and Feline Nutrition: A Resource for Companion Animal Professionals*. 3rd ed., Mosby, 2010.

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## Library Resources

### Assignments requiring library resources

Peer reviewed journal articles on nutritional-based animal diseases.

### Sufficient Library Resources exist

Yes

### Example of Assignments Requiring Library Resources

Utilize library print and online resources to research topics such as the management of nutritional-based diseases of metabolic bone disease and iron storage disease in animals.

### Primary Minimum Qualification

ANIMAL TRAINING & MANAGEMENT

### Additional Minimum Qualifications

#### Minimum Qualifications

Biological Sciences

### Additional local certifications required

RVT or DVM or PhD in related field preferred

## Review and Approval Dates

### Department Chair

02/03/2020

### Dean

02/03/2020

### Technical Review

01/31/2020

### Curriculum Committee

02/04/2020

### DTRW-I

02/13/2020

### Curriculum Committee

MM/DD/YYYY

### Board

03/10/2020

### CCCCO

MM/DD/YYYY

### DOE/accreditation approval date

MM/DD/YYYY