**KINE 4600-001 Strength Development**

**Course Syllabus**

**Spring 2020**

**Instructors:** Christopher G. Vann, M.S., C.S.C.S.

**Teaching Assistant:** Casey L. Sexton, M.S., C.S.C.S.

**Office:** 260-D Kinesiology Bldg

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**Office hours:** By appointment

**Class schedule:** T-R 11:00am-12:15pm

**Classroom:** Student Activities Ctr 253

 **Course description**: The primary intention of this course is for students to learn the scientific principles underpinning human strength development to better prepare athletes, clients, or patients for requisite force production tasks. Briefly, a general biomechanical and physiological basis of human force production will be presented. This introductory series of lectures will lead to an advanced discussion of the physiology of human adaptation to resistance exercise and eventual presentation of basic methodology of resistance training programming to enhance human force production. Students are expected to possess a basic understanding of human anatomy and physiology. Further, previous courses in biology and chemistry are sure to enhance learning in this course but are not prerequisites. Some key outcomes of this course are described below.

1. To properly define strength and understand the general mechanisms by which humans produce force.
2. To possess a sufficient understanding of appropriate resistance exercises for specific situations and defend why those exercises should be employed.
3. To describe the scientific principles of the strength training process and be able to define and objectively apply them to training programming.
4. To understand the meaning of training periodization and integrate the scientific principles appropriately into a periodized model of resistance training.
5. To understand basic nutritional and supplemental strategies for enhancing the effects of resistance training in humans.

Below, you will find a link to the recommended textbook for this course. This text is not required but is highly encouraged for those who desire to possess a more comprehensive understanding of the training process.

***Scientific Principles of Strength Training, Israetel et al. , 2015***

 <http://store.jtsstrength.com/products/scientific-principles-of-strength-training>



**Additional recommended readings:**

* *Exercise Physiology: Theory and Application to Fitness and Performance.*Powers, S.; Howley, E. (2017, 10th Edition)*.*B & B Physical Education.
* *Essentials of Strength Training and Conditioning*. National Strength and Conditioning Association; Haff, G.; Triplett, T.; editors. (2016, 4th Edition). Champaign, IL; Human Kinetics.
* *Principles and practice of resistance training*. Stone, M. H.; Stone, M. E.; Sands, W. A. (2007). Champaign, IL; Human Kinetics.
* *Periodization: Theory and Methodology of Training* (5th ed.). Bompa, T. O.; Haff, G. G. (2009). Champaign, IL; Human Kinetics.
* *Science and Development of Muscle Hypertrophy.*Schoenfeld, B. (2016). Champaign, IL; Human Kinetics.
* *The Renaissance Diet 2.0.*Israetel, M. (2018). (can be purchased at: <https://renaissanceperiodization.com/shop/the-renaissance-diet/>)

**Advice from the Instructor**

* This course assumes that you have had the foundational kinesiology courses of Exercise Physiology, Motor Learning and Performance, and Biomechanics of human movement. If you have not, you should make arrangements to increase study time to understand the concepts that will be presented over the coming semester.
* Although attendance is not required, it is highly recommended that you attend every class. Reviewing the material, the evening prior to class will go a long way in helping to set the conceptual foundations for the course.
* I strongly desire for you to be a qualified professional and will expect you to possess the knowledge required to do so when you finish this course. My top priority is that you learn.
* It is not possible to do very well in this course without studying. Always feel free to ask questions during class and clarify any areas of confusion.

**Specific recommendations**

1.) Attend class.

2.) Review the previous class's lecture.

3.) Complete the recommended readings when mentioned in class and read each chapter in the recommended text, based on the course schedule.

4.) If assigned, actually read any posted articles for review assignments before completing any written review. That is, don't complete the written review without actually reading the material.

5.) Avoid cellphone and laptop use during class (except for using this technology for class purposes).

**Semester Grading Rubric**

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| --- | --- | --- |
| **Assignments** | **Description** | **Points** |
| **Exams****50% of grade** | **2 exams** | **25 point each****(50 Total Points)** |
| **Quizzes****30% of grade** | **2 quizzes** | **15 Points Each****(30 Total Points)** |
| **Final Project****20% of grade** | **Literature review and presentation** | **20 points** |
|   | **Total** | **100 points** |

**Exam/Quiz format:** Exams will be in essay, multiple choice, T/F, short answer, format. I will not lecture on exam days as these will likely take most of the class period.

**Final project:** You will work in groups of no more than 5 people and will read **5 articles** relevant to a topic of your choosing. From this you will write a 4-5-page double spaced paper where you will discuss the methods and results of these articles and how this can be applied to coaching an athlete. You will also give a brief presentation (15 minutes) on what you read. The paper is worth 15 points and the presentation is worth 5 points. Attendance during the presentations is required.

**Grading Scale**

|  |  |  |
| --- | --- | --- |
| **Letter Grade** | **Point Range** | **Percent Scale** |
| **A** | **90 - 100** | **90-100** |
| **B** | **80 - 89** | **80-89** |
| **C** | **70 - 79** | **70-79** |
| **D** | **60 - 69** | **60-69** |
| **F** | **< 60** | **<60** |

**NOTE:** The instructor will round grades that are .50 from the next highest letter grade (i.e. an 89.50 will round to an A). However, NO grades below this number will be rounded (i.e. an 89.49 will be given a B). Please do not ask the professor to round your grade at the end of the semester if it does not fit this criterion. Any requests for additional extra credit or special exceptions to these grading policies will be interpreted as an honor code violation (i.e., asking for preferential treatment) and will be handled accordingly.

**Attendance and late-work policies**

Attendance is not required but is highly encouraged given that ~25% of his/her grade is obtained through random, in-class quizzes. If he or she were to miss a class due to a foreseen circumstance (e.g., wedding, funeral, etc.), then make-up quizzes or exams can be re-scheduled, **per communication with the instructor**. However, these must be scheduled within **one week** of the absence or these cannot be made up. A legitimate, written excuse must be provided.

For unforeseen circumstances (flat tire, car accident, overslept, etc.), it is his or her responsibility to contact the instructor as soon as possible and explain why class was missed. Make-up exams for these absences will only be provided for medical-related issues or legitimate automobile issues. That is, make-up exams will not be provided for oversleeping or other illegitimate reasons. Again, these make-up exams can be scheduled within one week only. For any absences due to medical visits, a legitimate, written note from the medical institution is required for excuse.

**Disability Accommodations**

If you have not established learning accommodations through the Program for Students with Disabilities (PSD) office (1228 Haley Center, 844-2096), please contact me **as soon as possible** if accommodations need to be made due to learning and/or other disabilities. **This should be taken care of the first week of class**.

Also, please contact me for any accommodations necessary for class projects using Microsoft Office.

Finally, let me know if you have pertinent medical information that you need to share with me (e.g., cannot participate in weight-lifting laboratories due to prior injury, etc.).

**Academic Integrity Policy**

Students must adhere to the student academic honesty code Title XII found on the University Policies Page

(<http://www.business.auburn.edu/~yostkev/teaching/finc3610/images/SGAHonorCode.pdf>). Cheating will not be tolerated.

**Additional Notes**

While unlikely, note that the instructor reserves the right to modify this course syllabus at any time.  However, students will receive verbal notification of such modification.

 The flow of the lectures will determine exam dates. You will be given *at least*a one week notice to prepare for exams.

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| Date | Topic | Location | Style |
| Day 1 | Syllabus and Intro | STACT 253 | Lecture |
| Week 1 | Thoughts and Perspectives on Strength | STACT 253 | Lecture |
| Weeks 2  | Weight Room: 1. Squatting & Pressing 2. Pulling & Accessories | STACT WR | Tutorial |
| Week 3  | Fundamentals of Nutrition | STACT 253 | Lecture |
| Week 5-12 | Training Principles* 1. Specificity
	2. Overload
	3. Fatigue Management
	4. Stimulus Recovery Adaptation
	5. Phase Potentiation
 | STACT 253 | Lecture |
| Weeks 13-14 | Programming | STACT 253 | Lecture |
| Week 15 | Presentations | STACT 253 | Lecture |