Course Prerequisites: BIOC 5753 or BIOC 4113 or consent of the instructors. You need to refresh on your organic chemistry, amino acids, protein structures, and enzyme kinetics. This course is intended for graduate students in biochemistry or related disciplines.

Course Description: Properties of amino acids and the peptide bond and the forces that drive protein folding into their 3D and quaternary structure; methods to study protein structure and function; and kinetic analysis of enzyme reaction mechanisms.

Learning Objectives:

1. You will develop an appreciation for the properties of amino acids and the peptide bond and the forces that drive the folding of polypeptides into specific three dimensional structures. You will learn how proteins are organized into higher ordered structures, how proteins evolved and methods for predicting or determining protein structure and function.

2. You should be able to extrapolate knowledge that is presented in lectures, discussions, and primary papers. This does not mean that you must memorize every bit of information, but rather that you should understand the underlying logic of how protein structure and function is studied and how this knowledge can be applied to solve important scientific questions.

3. More generally, this course aims to prepare you to be a scientist. As a graduate student, you will develop skills in seeking more advanced information in the scientific literature and in your own lab work. For this course, this means that you should be able to appreciate the experimental foundations of the study of protein structure/function and the software/internet tools available to facilitate such studies. You should be able to critically assess the limits of this knowledge, and to creatively think about how you could gain further information through new experimentation and data mining. Finally, it is vital that you can communicate your own thoughts effectively, both in written and oral forms.

4. The enzyme kinetics section will give the skills to recognize and predict patterns in experimental data that will allow you to determine possible mechanisms of enzyme catalysis, and learn methods that are used to design and interpret experimental data from such studies.

Course Outline: (Instructors reserve the right to change the lecture and exam schedule at any time during course)

I. Introduction and review (Chapter 1)
   A. Chemistry of amino acids
   B. The peptide bond

II. Aspects of protein structure (Chapter 5 & 6.2)
   A. Secondary structure
   B. Domains
   C. Tertiary Structure
D. Quaternary Structure

III. Protein structure and evolution (Chapter 3)

IV. Physical forces determining structure (Chapter 4)
   A. Energetics and dynamics of interactions
      1. Covalent interactions
      2. Noncovalent interactions
      3. Entropic forces
   B. Molecular packing

V. Proteins in solution (Chapter 6 & 7)
   A. Protein folding \textit{in vitro}
      1. Folding models
      2. Experimental studies
   B. Protein conformational switching & intrinsically unstructured proteins
   C. Protein stability
   D. Protein folding \textit{in vivo}: (Molecular chaperones)

VI. Prediction of protein structure and function (Chapter 6.5)
   A. Prediction strategies
   B. Post-translational modifications and protein localization(Chapter 2.4)
   C. Protein Families
   D. Molecular Modeling
   E. Mass Spectroscopy & proteomics

VI. Strategies for structural analysis
   A. NMR analysis (Chapter 8.1 & 8.2)
   B. Fourier Transformed-Infrared Spectroscopy
   C. X-ray crystallography
   D. Mutagenesis and protein structure
   E. Protein-protein, protein-target interactions

VII. Enzyme Kinetics and Catalysis
   A. Introduction, Nomenclature
   B. Kinetics
      1. One-substrate (review) (1)
         a. Steady-state Assumption
         b. Michaelis-Menten Equation
         c. Plots
         d. Haldane Relation
      2. Multisubstrate (3)
         a. Nomenclature and diagrams
         b. General approach
            i. Primary plots
            ii. Replots
         c. Prediction of effects
            i. General rules
               -K/V effects
-1/V effects
-Combinations of effects
  ii. Substrates
  iii. Products
  iv. Dead-end inhibitors
  v. Multiple inhibition and substrate inhibition

3. Practical Considerations (2)
   a. Assays
   b. Choosing between models
   c. Finding constants
   d. Full time course analysis

4. Isotope exchange
   a. At equilibrium
   b. In ping pong mechanisms

5. Cooperativity (2)
   a. Models
   b. Analysis

6. Fast reactions and transient state kinetics (2)
   a. Methods
      i. Stop-Flow
      ii. Relaxation
   b. Analysis

C. Catalysis
   1. General
   2. Transition state
   3. Activation energy

Midterm Exam: (125 points) to be given Tuesday March 26, 6:30 PM on lecture material from first section of the class.

Class presentation (75 pts): 50 minute lecture on assigned protein’s structure and function

Final Exam, Wednesday 2:30-4:30 PM May 08: 85 points kinetics/ 15 points multiple choice and/or true-false on material covered by student presentations.

Each student should verify that they can receive email through their okstate.edu account, so that course material and notifications can be received.

Course Material: Power point presentations and manuscript.pdfs posted on D2L.

Reference Text: PROTEINS: Structures and Molecular principles 2nd Edition (Thomas E. Creighton) 1993 W. H. Freeman (Chapters listed after topics in the outline of material covered on Protein Structure are from this book).

Link to online Protein Structure course: http://www.cryst.bbk.ac.uk/PPS2/course/index.html
Link to Duke University Protein Structure material: http://kinemage.biochem.duke.edu/teaching/anatax/index.html
Link to Anneberg Learner: http://www.learner.org/courses/biology/textbook/proteo/index.html
Link to Washington University Protein structure Function course: http://dasher.wustl.edu/bio5325/

Other Texts in Biochemistry in the library

   Protein Structure and Function (Petsko and Ringe) 2004 Sinauer
   Structure and Mechanism in Protein Science (Alan Fersht) 1999 W. H. Freeman
   Conformations and Forces in Protein Folding (Nall and Dill, Ed.) 1991 AAAS
   Structure in Protein Chemistry 2nd Edition (Kyte) 2007 Garland Science

   Selected pdfs of papers from the current literature on D2L
IMPORTANT DATES
Last day to add a class (without instructor permission) 1/22/2019
Last day to drop a course with no grade and 100% refund 1/22/2019
Last day to add a class (requires instructor & advisor permission) 1/25/2019
Last day to drop a course or withdraw from the University with an automatic “W” and receive a partial refund (requires advisor signature) 1/25/2019
Last day to post 6 week grades 2/27/2019
Last day to file diploma application (for name to appear in Fall Commencement program) 4/1/2019
Last day to drop a class or withdraw from the University with an automatic “W” 4/12/2019
Last day to withdraw from all OSU classes with an assigned grade of “W” or “F” 4/26/2019
Final examinations 5/6/2019-5/10/2019
Final grades due from faculty 5/15/2019

Note: Outreach, Internet, and short courses have unique drop/add and refund deadlines; look up the specific deadlines for these courses on the Short, Internet, and Outreach Class Schedules page of the Registrar’s website http://registrar.okstate.edu/SIO-Schedule.

Fall Semester Holidays
University Holiday 1/21/2019
Student’s Spring Break 3/18/2019-3/22/2019

DROPPING A COURSE AND WITHDRAWING FROM THE UNIVERSITY. Students often confuse these terms.

Dropping a Course (or courses) may occur during the first twelve weeks of the semester. This means, however, that you are still enrolled in at least one other OSU course. Exceptions to the deadlines above may only be considered by petition due to documented extraordinary circumstances and committee approval. The Retroactive Drop/Withdraw Petition and the Petition for a Refund of Tuition and Fees are available on the Registrar’s website http://registrar.okstate.edu/Forms.

Withdrawing from the university means dropping all courses and you are no longer enrolled for the current semester. This may occur until the Friday before pre-finals week. The withdrawal process is initiated with your academic advisor. For additional information and dates, go to: http://academicaffairs.okstate.edu/content/adding-dropping-and-withdrawing-courses.

ALERTS AND RESCHEDULING
If the OSU campus officially closes due to inclement weather or other emergencies, alerts are provided to local news media and posted on the OSU website. Missed exams, classes, or assignments may be rescheduled at times outside the normal meeting schedule. If valid, documented circumstances prohibit students from attending the rescheduled classes, instructors should provide reasonable alternative means for makeup.

SEEK ANSWERS TO YOUR QUESTIONS
The OSU faculty and staff want you to be successful in your educational pursuits. If you have questions or concerns, seek help EARLY. We are here to assist you.

ACADEMIC INTEGRITY
101 Whitehurst/405-744-5627/http://academicintegrity.okstate.edu
OSU is committed to maintaining the highest standards of integrity and ethical conduct. This level of ethical behavior and integrity will be maintained in this course. Participating in a behavior that violates academic integrity (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information, helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, and altering academic records) will result in an official academic sanction. Violations may subject you to disciplinary action including the following: receiving a failing grade on an assignment, examination or course, receiving a notation of a violation of academic integrity on your transcript, and being suspended from the University. You have the right to appeal the charge.

COPYRIGHT & FAIR USE POLICY OF COURSE MATERIALS
Course materials may not be published, leased, sold to others, or used for any purpose other than appropriate OSU-related individual or group study without the written permission of the faculty member in charge of the course and other copyright holders. This paragraph grants you a limited license giving you access to materials for this course, including PowerPoint slides, audio/video recordings, written, or other materials, for appropriate OSU-related educational use only. Lectures should not be recorded without permission from the faculty member and must not be further disseminated or shared.

CLASS ATTENDANCE
Class attendance is a critical component of learning; therefore, you are expected to attend and participate fully in all scheduled class meetings. Many instructors consider attendance so essential that your grade may be affected by your absence. SOME DEPARTMENTS AND PROFESSORS HAVE MANDATORY ATTENDANCE POLICIES. If no written attendance policy is provided before the last day to add a class without instructor permission, no penalty may be assessed for class absences. Although you may not be permitted to make up certain in-class activities. If you are required to participate in official university-sponsored activities or military training, you should receive an excused absence unless the written course attendance policy indicates otherwise. If you will be absent from class for sponsored activities, you must provide prior notification of the planned absence to the instructor. You may be required to submit assignments or take examinations before the planned absence.

PRE-FINALS WEEK POLICY
Final examinations are scheduled at the end of each semester and are preceded by pre-finals week, which begins seven days prior to the first day of finals. During pre-finals week, all normal class activities will continue; however, no assignment, test, or examination accounting for more than 5% of the course grade may be given; and no activity or field trip may be scheduled that conflicts with another class. This excludes makeup and laboratory examinations, out-of-class assignments (or projects) made prior to pre-finals week and independent study courses. No student or campus organization may hold meetings, banquets, receptions, or may sponsor or participate in any activity, program, or related function that requires student participation. For additional information, contact the Office of Academic Affairs, 405-744-5627, 101 Whitehurst.
**FINAL EXAM OVERLOAD POLICY**
In the event you have three or more final exams scheduled for a single day, you are entitled to arrange with the instructor of the highest numbered course (4 digit course number) or two highest, if you have four finals on one day, to re-schedule that examination(s) at a time and place of mutual convenience during final exam week. If the final exam overload includes a common final exam, the common final exam is excluded from rescheduling unless multiple common exams are scheduled at the same time. You should submit this request in writing, with a copy of your class schedule, at least two weeks prior to the beginning of final exam week. The instructor has one week prior to the beginning of final exam week to arrange a mutually convenient time and place for administration of the final exam. After one week, if an agreement cannot be reached, take the request to the department head.

**INFORMATION TECHNOLOGY**

**Student Email** - OSU uses your OKSTATE.EDU email address as a primary form of communication. Students are expected to check their OSU email on a frequent and consistent basis to remain informed of their official university business. If you do not use the OSU email system you must redirect your okstate.edu email using the Orange-Key System (www.okey.okstate.edu). Failure to maintain an accurate email address may result in missed or lost university communications. For email assistance contact the IT Helpdesk at 405-744-HELP (4357).

**Computer Labs** - A complete description of computer labs and hours of operations are available at their website: [https://it.sharepoint.okstate.edu/TechnologySupport/DeskSide/default.aspx](https://it.sharepoint.okstate.edu/TechnologySupport/DeskSide/default.aspx). Lab information is also available by calling the Information Technology Help Desk at 405-744-HELP (4357).

**EQUAL OPPORTUNITY**
408 Whitehurst/405-744-9153/https://1is2many.okstate.edu/

OSU is committed to maintaining a learning environment that is free from discriminatory conduct based on race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age or protected veteran status. OSU does not discriminate on the basis of sex in its educational programs and activities. Examples of sexual misconduct and/or sex discrimination include: sexual violence, sexual harassment, sexual assault, domestic and intimate partner violence, stalking, or gender-based discrimination. OSU encourages any student who thinks that he or she may have been a victim of sexual misconduct or sexual discrimination to immediately report the incident to the Title IX Coordinator (405-744-9153) or Deputy Title IX Coordinator (405-744-5470). Students may also report incidents of sexual misconduct or sex discrimination to a faculty or staff member, who is then required by federal law (Title IX) to notify the Title IX or Deputy Title IX Coordinator. If a reporting student would like to keep the details confidential, the student may speak with staff in the Student Counseling Center (405-744-5472) or one of the University’s Sexual Assault Victim Advocates (Mon-Fri 8 AM-5 PM, 405-564-2129 or 24 Hour Help Line 405-624-3020).

**STUDENT DISABILITY SERVICES**
315 Student Union/405-744-7116/http://ads.okstate.edu/

According to the Americans with Disabilities Act, each student with a disability is responsible for notifying the University of his/her disability and requesting accommodations. If you think you have a qualified disability and need special accommodations, you should notify the instructor and request verification of eligibility for accommodations from Student Disability Services. Please advise the instructor of your disability as soon as possible, and contact Student Disability Services, to ensure timely implementation of appropriate accommodations. Faculty have an obligation to respond when they receive official notice of a disability but are under no obligation to provide retroactive accommodations. To receive services, you must submit appropriate documentation and complete an intake process to verify the existence of a qualified disability and identify reasonable accommodations.

**STUDENT CONDUCT EDUCATION AND ADMINISTRATION**
328 Student Union/405-744-5470/http://studentconduct.okstate.edu/

By enrolling at Oklahoma State University, you accept responsibility for complying with all University policies and contracts, and for local, state and federal laws on- or off-campus that relate to the University’s mission. **The Student Code of Conduct** educates students about their civic and social responsibilities including policies and procedures involving student misconduct.

In general, the University expects students to aspire to follow and promote the Cowboy Community Standards or integrity, community, social justice, respect, and responsibility.

**EDMON LOW LIBRARY HOURS**

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
<th>Contact</th>
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<tbody>
<tr>
<td>Sunday</td>
<td>Opens at 9:00 AM</td>
<td>Text 405-592-4128</td>
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<tr>
<td>Monday-Thursday</td>
<td>Open 24 hours</td>
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<tr>
<td>Friday</td>
<td>Closes at 10:00 PM</td>
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<tr>
<td>Saturday</td>
<td>9:00 AM-10:00 PM</td>
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*For holiday and intersession hours, check [http://library.okstate.edu/about/hours](http://library.okstate.edu/about/hours)*

**WHERE TO GO FOR HELP**

**ACADEMIC RELATED SERVICES**

**Instructor** - If you have questions regarding your class, talk to your instructor. Faculty members usually include their office hours and/or phone number in the class syllabus. If you cannot locate this information, set a time to meet with your instructor by speaking with him/her prior to or immediately following your class session or check with the departmental office on when the instructor may be available.

**Academic Advisor** - All students will benefit by conferring with an advisor on a regular basis. If you do not know your advisor or would like to learn more, talk to the Student Academic Services Director for your college.

**Bursar**
113 Student Union/405-744-5993
[http://bursar.okstate.edu/](http://bursar.okstate.edu/)

The Bursar Office bills and collects tuition, fees, campus housing, and other university related charges. The Bursar Office also processes and disburses all federal and campus-based funds to students’ bursar accounts and refunds any overpayments on students’ bursar accounts.

**Career Services**
360 Student Union/405-744-5253
[http://hireosugrads.com](http://hireosugrads.com)

Locate your College’s Career Consultant on the Career Services website. Use [http://hireosugrads.com](http://hireosugrads.com) to search for part-time jobs.

**Concurrent Student Services and Advising**
University College/040 Student Union/405-744-1389
[http://universitycollege.okstate.edu/concurrent/index.html](http://universitycollege.okstate.edu/concurrent/index.html)

Find out about academic services for concurrent students or to schedule your next advising appointment.

**Foreign Language Placement Test**
206 Gunderson Hall/405-744-9547
[http://languages.okstate.edu/](http://languages.okstate.edu/)

Students with prior foreign language experience in French, German, or Spanish who take the placement exam and then score a ‘B’ or higher in a more advanced class, will get up to 6 credit hours for the classes below it. Schedule your free test by emailing Nick Howland at nick.howland@okstate.edu.
Multicultural Affairs  
240 Student Union/405-744-5481  
http://oma.okstate.edu/  
Academic, career, and personal success programs are available. Student organizations representing diverse communities and annual events are offered.

Pre-Professional Student Services  
University College/040 Student Union/405-744-1389  
http://universitycollege.okstate.edu/  
Pre-professional services for students from any major on campus, including coordination of contacts with health care professional schools and student interview processes.

Registrar  
322 Student Union/405-744-6876  
http://registrar.okstate.edu/  
The Registrar’s Office provides services related to the creation and maintenance of student academic records, including assisting students with enrollment, official transcript requests, degree and enrollment verification, updating personal information in the Student Information System, graduation, and other services.

Scholarships & Financial Aid  
119 Student Union/405-744-6604  
http://financialaid.okstate.edu  
Over 80 percent of Oklahoma State University students received scholarships, grants, work, and low-interest loans totaling over $320 million last year. Contact the Office of Scholarships & Financial Aid to apply for financial aid or to meet with a financial aid counselor.

Transfer Students Services  
University College/104 North Classroom Building/405-744-1392  
http://universitycollege.okstate.edu/transfer/index.html  
This office provides undergraduate transfer students with a seamless transition to OSU by collaborating with various departments on campus, including the Undergraduate Admissions, the LASSO Center, the Registrar’s Office, and Scholarships & Financial Aid.

University Assessment and Testing  
107 University Assessment and Testing Building/405-744-5958  
http://uat.okstate.edu/  
Campus and national tests as well as testing accommodations are provided.

Veteran Benefit Services  
322 Student Union/405-744-6343  
http://registrar.okstate.edu/Veteran-Benefit-Services  
This office provides information and assistance in completing the appropriate forms to apply for educational benefits through the U.S. Department of Veterans Affairs and through the State of Oklahoma.

Veteran Student Academic Services  
University College/104 North Classroom Building/405-744-1390  
http://universitycollege.okstate.edu/veteran/index.html  
This office works with veteran and military-affiliated students to aid in their transition from military service to successful careers by ensuring they succeed academically through coordination of support services from both on- and off-campus entities.

HEALTH RELATED SERVICES  
Counseling Psychology Clinic  
107 Public Information Office/405-744-6980  
https://education.okstate.edu/cpsvc/clinic  
Faculty and graduate students offer high quality and cost efficient psychological and mental health services to students Monday through Friday.

University Counseling Services  
320 Student Union/405-744-5458  
http://www.okstate.edu/ucs/  
Services include personal counseling, the Alcohol & Substance Abuse Center, and stress management through the Reboot Center.

University Health Services  
1202 W. Farm Road/405-744-7665  
http://uhs.okstate.edu/  
An allergy clinic, lab services, x-ray, travel clinic, women’s clinic and pharmacy are among the services offered at this campus outpatient medical clinic.

Wellness Department  
405-744-5510  
http://wellness.okstate.edu/  
Intramurals, group fitness and sports clubs are among the many programs and services available through the Wellness Department.

CAMPUS LIFE RELATED SERVICES  
Fraternity & Sorority Affairs  
211J Student Union/405-744-5490  
http://gogreek.okstate.edu/  
For questions and comments about Greek life opportunities, contact Fraternity and Sorority Affairs.

Housing & Residential Life  
100 Iba Hall/405-744-5592  
http://reslife.okstate.edu/  
For questions and comments about housing and residential life, contact the Housing administration office.

Leadership and Campus Life  
211 Student Union/405-744-5488  
http://lcl.okstate.edu/  
Get involved through student organizations; the Center for Ethical Leadership; International Students & Scholars; Non-traditional Student Services; and Parent & Family Relations.

Service-Learning Volunteer Center  
211G Student Union/405-744-5145  
http://volunteer.okstate.edu/  
Find volunteer opportunities and earn the recognition C.O.R.D. to wear at graduation.

University Dining Services  
076 Student Union/405-744-4424  
http://ldining.okstate.edu/  
For questions and comments about meal plans or university dining operations, contact University Dining Services.

ACADEMIC SUPPORT RESOURCES AND TUTORING  
Learning and Student Success Opportunity (LASSO) Tutoring Center  
021 Classroom Building/405-744-3309  
https://lasso.okstate.edu/  
LASSO offers free individual and group tutoring for a variety of courses.

STUDENT ACADEMIC SERVICES CENTERS  
Agricultural Sciences & Natural Resources  
136 Agricultural Hall/405-744-5395  
Contact: Dr. Deb VanOverbeke  
http://casnr.okstate.edu/students/ssc  
Academic support and career guidance resources are available for CASNR students.
Art & Sciences  
213 Life Sciences East/405-744-5658  
Contact: Dr. Amy Martindale  
http://casstudents.okstate.edu/  
Academic support and career guidance resources are available for Arts & Sciences students.

Education, Health & Aviation  
106 Willard Hall/405-744-6350  
Contact: Ms. Amy Gazaway  
http://education.okstate.edu/watson  
Academic support, advisement and career counseling is available to all education majors.

Engineering, Architecture & Technology  
110 Engineering North/405-744-5276  
Contact: Mr. Lance Millis  
https://studentservices.okstate.edu/advising  
Academic advising and career services are available for all CEAT students. Tutoring is offered for general math, science, and engineering courses.

Human Sciences  
101 Human Sciences/405-744-2772  
Contact: Ms. Kristi Seab  
http://human sciences.okstate.edu/current-students  
Academic support and career guidance resources are available for Human Sciences students.

Spears School of Business  
155 Business Building/405-744-2772  
Contact: Ms. Marissa McIntyre  
http://spears.okstate.edu/ss/  
Academic advisement is provided for freshmen through seniors in all business major areas.

University College Advising  
214 Student Union/405-744-5333  
Contact: Ms. Missy Wikle  
https://uca.okstate.edu/  
University College Advising has academic advisors to help with your academic needs, whether planning your semester schedule, teaching your First-Year Seminar class, looking at degree options, or helping to bridge the gap between student life and academic success. Call or visit the office anytime Monday through Friday, between 8:00 a.m. and 5:00 p.m.

Discipline Specific Tutoring

Academic Development Center  
Kerr-Drummond Mezzanine/405-744-5905  
http://reslife.okstate.edu/vac  
Tutoring and supplemental instruction are available on select weekday, weekend, and evening hours.

Accounting  
416 Business Building/405-744-2863  
Walk-in tutoring is available for ACCT 2103, 2203, and 3103. See https://spears.okstate.edu/accounting/ace/ for hours.

Biology & Zoology  
303 Life Sciences West  
http://biol1114.okstate.edu  
Tutoring is provided for BIOL 1114.

Chemistry  
453 Physical Science/405-744-9046  
Tutoring for chemistry classes is available.

Civil & Environmental Engineering  
315 Engineering South/405-744-9308  
Tutoring for Statistics and Strength of Materials is available. Contact for more information.

Eta Kappa Nu Electrical and Computer Engineering Honor Society  
010 Engineering South/405-744-4910  
https://campuslink.okstate.edu/organization/eta-kappa-nu  
Tutoring is provided by Eta Kappa Nu membership for Circuits, Network Analysis, and Electronic Devices.

The Language Lab  
206 Gunderson Hall/405-744-9547  
http://languages.okstate.edu  
Two 28-user labs fully equipped with personal computers and listening/recording devices are available. Students may practice vocabulary building and grammar in the target language.

Graduate Research and Writing Lab  
Contact: Victor D. Baeza/victor.baeza@okstate.edu/405-744-1241  
http://info.library.okstate.edu/RLS/grads  
Tutoring is available evenings from 5:00 p.m.-8:00 p.m. on Monday and Tuesday for current OSU graduate students.

History  
101 S Murray Hall/405-744-5680  
http://history.okstate.edu/contact  
Tutoring is given for Survey of History and upper division courses.

Mathematics Learning Success Center  
5th Floor Edmon Low Library/405-744-5818  
http://www.math.okstate.edu/  
Tutors are available to answer questions for classes ranging from Beginning Algebra through Calculus II. Tutoring for Differential Equations and Linear Algebra is offered at specific times.

Writing Outpost  
102 Q, R, S Edmon Low/405-744-6671  
http://osuwritingcenter.okstate.edu  
30-minute walk-in consultations for writing projects are offered on a first come-first served basis on Monday-Thursday evenings 7:00 p.m.-10:00 p.m.

Writing Center  
440 Student Union/405-744-6671  
http://osuwritingcenter.okstate.edu  
The Writing Center helps writers throughout the composing process; plan to visit early and often throughout the semester, not just the day before an assignment is due. Tutors work with students to improve brainstorming, organizational, and composing techniques.

Writing Center West  
103 Ag Hall/405-744-6671  
http://osuwritingcenter.okstate.edu  
30-minute walk-in consultations for writing projects are available Monday-Friday from 11:30 a.m.-2:30 p.m.

For More Information

go.okstate.edu/apps  
The OSU app is your link to campus departments, OSU news, and maps. The Orange Shield app is the official safety app of OSU.

my.okstate.edu  
This portal connects students to a wide range of campus services including links to student email, the library, and the Online Classroom and Community (D2L).

For other comments and inquiries, please contact academics@okstate.edu.