

	<b>Course</b>	<b>BIOL 3V90 INDEPENDENT RESEARCH/ADVANCED WRITING IN BIOLOGY/BIOCHEMISTRY/MOLECULAR AND CELL BIOLOGY</b>
	<b>Professor</b>	<b>Mehmet Candas</b>
	<b>Term</b>	<b>FALL 2016</b>

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### Contact Information

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<b>Other Information</b>	Meetings are arranged by appointment only.

<b>Course Description</b>	<p>This is an interactive course carried out through individual instructions with the main objective of improving independent research skills and increasing ability to write with precision and style. It entails a semester-long project to produce a term paper by engaging students in perceptive reading and coherent writing activities. Assignments underline organization of scientific ideas and critical use of research papers and review articles. The theme of the term paper is determined in consultation and chosen from a broad range of biosciences topics including biochemistry, molecular and cell biology, medicine, pharmacology, neurosciences, biotechnology and bioengineering, among others). Topic preference is given to subject matters that are not included or not covered in sufficient depth in other courses.</p> <p>Student meets periodically with the instructor and communicates via e-mail to report activity and progress. Meetings are scheduled once a month, or more, depending on need. Guidance and instructions focus on application of effective writing strategies to communicate scientific facts and sophisticated theories. The overall aim is to clarify the fundamentals of thematic writing process through review of scientific literature, research design, organization of ideas, and writing with scientific description, comparison and arguments.</p> <p>Upon assignment of a topic, student analyzes scientific literature, collects and read material sources, and develops an outline to write a thematically-centered analytical essay in the form of an at least 15 pages long term paper. Student is expected to develop the ability to write the paper similar to an original research paper or an academic report in which the topic's or research project's background, objective, scope, motivations, techniques, results, significance, conclusions and related interpretations are described with proper reference citations. Draft papers are evaluated 2-3 weeks before the semester ends, and final reports are submitted electronically at the end of classes. The papers are judged by criteria including, originality, style, format, scientific content, clarity, completeness and organization of the work.</p>
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<p style="text-align: center;"><b>Course Objectives</b></p>	<p>Upon completion of the course, students will be experienced in:</p> <ul style="list-style-type: none"> <li>• Organizing ideas and developing outlines for scientific essays</li> <li>• Defining tasks, creating themes and research roadmaps (effective strategies for writing)</li> <li>• Constructing strong thesis statements</li> <li>• Defining objective, motivation, and scope of analytical essays</li> <li>• Writing abstract, introduction, and conclusion paragraphs for scientific papers</li> <li>• Developing effective search and information seeking strategies by utilizing internet, keywords and library resources</li> <li>• Rhetorical analysis of scientific literature to synthesize and evaluate scientific concepts and arguments</li> <li>• Citing references with appropriate format</li> </ul>
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<p style="text-align: center;"><b>Evaluation and Grading Criteria</b></p>	<p>Assessment and grading is based on strict criteria that underscores prompt communication with the instructor and submission of a set of documents in expected content, originality, style and format as well as in a given time frame.</p> <p>There are at least 3 required meetings that you need to show progress of your work:</p> <ul style="list-style-type: none"> <li>• <b>FIRST MEETING</b> – Either prior to the beginning of the semester or in the first 2 weeks of enrollment in the course, you need to arrange a meeting to discuss your ideas and how you will engage in the project and progress. Please bring a hard copy written document (does not have to be formal) that includes the following:             <ol style="list-style-type: none"> <li>1. <b>Tentative title</b> for the paper.</li> <li>2. <b>Research plan</b> (draft) that explicitly defines the following:                 <ul style="list-style-type: none"> <li>▪ A brief background of the topic</li> <li>▪ Significance of the topic</li> <li>▪ Objective of <u>your</u> paper</li> <li>▪ Scope of <u>your</u> paper</li> </ul> </li> <li>3. <b>A tentative outline</b> for the paper:                 <ul style="list-style-type: none"> <li>▪ 10 simple questions about the subject - you should ask questions that address specific concepts you may want to include in your paper.</li> <li>▪ Potential ideas (main sections, subtopics and section/subtopic titles) that you want to consider in the paper.</li> <li>▪ The sections and subtopics should be arranged in a logical sequence to provide a rational flow of ideas.</li> </ul> </li> <li>4. <b>Literature review</b> <ul style="list-style-type: none"> <li>▪ Material sources (review papers and/or original research articles, books) that will be used in the study.</li> </ul> </li> </ol> <p><u>The paper should be based on evaluation of several sources.</u></p> </li> </ul>
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	<ul style="list-style-type: none"> <li> <b>SECOND MEETING</b> – A month after the first meeting, you need to arrange a second meeting to show and discuss your progress. At this point, you should have started writing at least 30-50% of a draft version of your paper. Please bring a hard copy of your work, which should include the following:           <ol style="list-style-type: none"> <li><b>Title</b> for the paper.</li> <li><b>Final outline</b> for the paper.               <ul style="list-style-type: none"> <li>All subtopics with subtitles</li> <li>The subtopics have to be arranged in a logical sequence to provide a flow of ideas.</li> </ul> </li> <li><b>Abstract (draft)</b> <ul style="list-style-type: none"> <li>clear description of the topic</li> <li>brief background:                   <ul style="list-style-type: none"> <li>What is known about the subject?</li> <li>What is not known?</li> </ul> </li> <li>objective of the paper:                   <ul style="list-style-type: none"> <li>What do you want to explain in this paper?</li> </ul> </li> <li>scope of the paper:                   <ul style="list-style-type: none"> <li>What is the specific emphasis in this paper?</li> </ul> </li> <li>What is the broad implication of the subject covered in this paper?                   <ul style="list-style-type: none"> <li>Why it is important to know more about this particular topic?</li> </ul> </li> </ul> </li> <li><b>Introduction (draft)</b> <ul style="list-style-type: none"> <li>Clear introduction to the topic without details:                   <ul style="list-style-type: none"> <li>What is the subject you are covering in this paper?</li> <li>Why it is important?</li> <li>What is the broad implication of this topic?</li> <li>What do you want to achieve in exploring this topic?</li> <li>What aspects of the topic are you going to specifically discuss in your paper?</li> <li>Are there any specific comparisons and/or contrasts you want to do in this paper?</li> </ul> </li> </ul> </li> </ol> </li> <li> <b>THIRD MEETING</b> – In 1-2 weeks before the end of classes, a hard-copy penultimate draft of your term paper should be shown. The draft should incorporate the following components:           <ol style="list-style-type: none"> <li><b>TITLE</b> of the paper</li> <li><b>ABSTRACT</b> that explicitly summarizes the following points:               <ul style="list-style-type: none"> <li>The description of the main subject</li> <li>The importance of the subject</li> <li>What is known and what needs to be known?</li> <li>The objective of your paper (why are you conducting research on this topic?)</li> <li>The purpose of your approach (what are you exploring in your research and what are you trying to explain or convey to the reader?)</li> </ul> </li> </ol> </li> </ul>
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	<ul style="list-style-type: none"><li>▪ The scope of your paper (what are the main aspects and how much detail are you getting into in your paper?)</li></ul> <p><b>3. INTRODUCTION</b> – 1 or 2 paragraphs that describe the topic broadly and opens up the subject of the paper.</p> <p><b>4. BODY OF THE PAPER.</b></p> <ul style="list-style-type: none"><li>▪ Sections and subsections with titles</li><li>▪ Figures (with figure titles, legends, figure reference, and appropriately mentioned in the text).</li></ul> <p><b>5. CONCLUSION</b></p> <ul style="list-style-type: none"><li>▪ Redundantly but eloquently wrapping up the ideas:<ul style="list-style-type: none"><li>- what specific topic was covered in this paper?</li><li>- why it is important to know more about the this topic?</li><li>- what are new research directions on this area?</li><li>- what are the new developments in this area?</li><li>- how will these new research and understanding benefit us?</li></ul></li></ul> <p><b>6. REFERENCES</b></p> <ul style="list-style-type: none"><li>▪ Appropriate citation of ideas in the paper</li><li>▪ Acceptable reference style</li></ul> <ul style="list-style-type: none"><li>• <b>FINAL SUBMISSION</b> - the final version of the paper should be submitted as an electronic copy via Turnitin at the course eLearning site. Submission deadline is strictly enforced and late submission is not accepted. Work without an electronic copy submission in Turnitin is not considered for full grading.</li></ul> <p>The final grade is assigned based on the overall progress and timely submission of the requested documents as well as scientific content of the paper, innovation and synthesis of ideas, clear and concise presentation of the topic, independent work and quality of writing.</p> <p>All documents required for evaluation of work progress and final term paper must be submitted electronically via eLearning. The deadlines are as following:</p> <table><tr><td><b>1</b></td><td><b>PLAN AND OUTLINE SUBMISSION</b></td><td>March 2 12 pm</td></tr><tr><td><b>2</b></td><td><b>DRAFT PAPER SUBMISSION</b></td><td>April 27 12 pm</td></tr><tr><td><b>3</b></td><td><b>FINAL PAPER SUBMISSION</b></td><td>May 4 12 pm</td></tr></table>	<b>1</b>	<b>PLAN AND OUTLINE SUBMISSION</b>	March 2 12 pm	<b>2</b>	<b>DRAFT PAPER SUBMISSION</b>	April 27 12 pm	<b>3</b>	<b>FINAL PAPER SUBMISSION</b>	May 4 12 pm
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The evaluation and grading of the papers are based on the following criteria:		
1	RESEARCH PLAN AND OUTLINE	10%
2	ABSTRACT	10%
3	INTRODUCTION	10%
4	SCIENTIFIC CONTENT	10%
5	CLARITY/QUALITY OF WRITING	10%
6	ANALYTICAL WRITING	10%
7	DEPTH/QUALITY OF REFLECTIONS *	10%
8	SYNTHESIS OF IDEAS *	10%
9	INDEPENDENT WORK *	10%
10	USE OF LITERATURE *	10%

**\* Your paper must be written in your own words. You have to create your own version of arguments and descriptions and the composition must reflect your comprehension of the subject. Quoted sentences or paragraphs are not allowed even though reference(s) are cited. Copied and pasted sentences and paragraphs directly taken from other papers or Internet resources are not acceptable; inclusion of information in such format will result in a failing grade for the paper.**

**Also see the “Academic Integrity” and “Plagiarism” information section in the syllabus.**

<p><b>Specific Instructions</b></p>	<p>The following represents the minimum standards that must be met in order to obtain a passing grade in the course.</p> <ol style="list-style-type: none"> <li>1. The topic of the research and term paper assignment is chosen or agreed by the instructor. The topic can be within the context of biological, medical, biomedical, biotechnology and bioengineering applications. Fields and themes may vary.</li> <li>2. The paper must be at least 15 pages (<u>excluding figures and references</u>), and must meet the progress and content criteria indicated above.</li> <li>3. The paper must cite at least 10 articles from peer reviewed journals. For general background reading, textbooks, credible magazines, such as Scientific American, and web-site information are allowed in addition to the 10 papers required for the research and writing the paper.</li> <li>4. All papers should have: <ol style="list-style-type: none"> <li>a) A title (should reflect the general and/or specific subject)</li> <li>b) A summary that provides information about the premise of the subject, objective, and scope of the paper. Important findings and/or critical information should be emphasized briefly with a conclusion. There is no need to cite references in the summary section.</li> </ol> </li> </ol>
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	<p>c) An introduction section (1-3 paragraphs) that portrays the general aspects of the subject. This section should provide some background information leading the way to the issue discussed in the paper. It should inform the reader about the general aspects of the topic, address some problems, questions, and challenges related to the topic. References should be cited.</p> <p>d) After the introduction, subtitled subsections should be used in the body of the paper. These subsections should discuss specific aspects of the topic in a logical order. However, if an experiment or particular scientific approach is covered in the paper, the discussion must not be just a summary of results. Neither should it be a list of procedures. References should be cited.</p> <p>e) Inclusion of tables, figures &amp; illustrations can be included in the paper whenever they enhance the clarity of the text. Any figure or table should be numbered and referred in the main text. Figure legends should be concise and descriptive. Stand-alone figures and tables are not accepted. If a table or figure is taken from a source, references should be cited.</p> <p>f) Conclusion – Discussion of the significance of the subject and/or experimental findings relevant to the questions addressed in the introduction, and how these results lead us to a better understanding of some general biological concepts.</p> <p>g) References – All sources used in the project must be cited in an acceptable and established manner. References should be properly listed in the last section under the title “References”. Referenced items are listed numerically in the order they are cited in the text. Each reference must include authorship, title of papers, journal in which they were published, volumes, year of publication and page numbers.</p> <p><b>Example:</b> E.M. Ruszala et al. Land plants acquired active stomatal control early in their evolutionary history. <i>Curr. Biol.</i>, 21 (2011), pp. 1030–1035.</p> <ul style="list-style-type: none"> <li>• Authors: use initials of first and second names with no spaces.</li> <li>• Books: include the edition statement (ex: 3rd ed. or Rev ed.) between the title and place if it is not the first edition.</li> <li>• Place: use abbreviations of states, not postal codes.</li> <li>• Journals: abbreviate titles as shown in Index Medicus. If the journal does not paginate continuously through the volume, include the month (and day).</li> <li>• Websites: include the name of the webpage, the name of the entire website, the full date of the page (if available), and the date you looked at it.</li> </ul> <p>5. All term papers must be original work and written in your own words. Papers based on reports or papers presented previously in any other course in whatever form or shape will not accepted. Papers in which texts have</p>
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	<p>been substantially copied from the articles will not be accepted.</p> <p><b>6.</b> Deadlines are strictly enforced. Grades will be subtracted from late submissions unless student requests incomplete grade. Incomplete may be given if student has completed 70% of the work, or submitted a draft of his/her paper.</p> <p><b>7.</b> All papers should be typed, 1 ½ space on 8.5 x 11 inch paper. Fonts smaller than standard (12 characters per inch) should not be used. The text should be at least 15 type written pages long, including references, and should not exceed 20 type written pages.</p> <p><b>8.</b> The paper must be checked for grammar and spelling. Papers with significant grammatical and/or spelling mistakes will not receive an “A” grade.</p>
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<b>Incomplete grades</b>	<p>Incomplete grades will be granted only for work unavoidably missed at the end of semester and only if 70% of the course work has been completed or an acceptable draft paper submitted. An incomplete grade must be resolved within 8 weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of <u>F</u>.</p>
<b>Student Conduct and Discipline</b>	<p>The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, <i>A to Z Guide</i>, which is provided to all registered students each academic year.</p> <p>The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the <i>Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3</i>, and in Title V, Rules on Student Services and Activities of the university's <i>Handbook of Operating Procedures</i>. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).</p> <p>A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.</p>

<b>Academic Integrity</b>	<p>The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.</p> <p>Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings. Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism.</p> <p><b>Plagiarism</b></p> <p>You should acknowledge where ideas or knowledge not originally your own come from. The acknowledgment should be done even if you state your understanding of the idea in your own words.</p> <p>It is not appropriate to use extensive paragraphs from a text or web site without citation. Even the use of a phrase from a book, an article or the internet without quotation marks and citing the reference is considered plagiarism.</p> <p>Be especially careful in cases in which you work together with your lab partners. While you would have the same data, the ideas presented in your lab report must be your own.</p> <p>Any instance of plagiarism is handled by the Academic Judiciary.</p> <p><b>Avoiding Plagiarism</b></p> <p>[Adapted from Duke University's guidelines for writers]</p> <p>Take time to make careful choices among--and learn to use--the research tools available to you. You will probably find that your favorite web search engine is not adequate by itself for college-level research. Consult with your professor or a librarian. You may need to use specialized research tools, some of which may require learning new searching techniques.</p> <p>Expect to make trips to the library. While you can access many of the library's resources from your home computer, you may find that you need to make</p>



	<p>several trips to use materials or research tools that are not accessible remotely. Of course, you will be seeking the best information, not settling for sources simply because they happen to be available online.</p> <p>Allow time for gathering materials that are not available at UT Dallas. The InterLibrary Loan Office can borrow articles and books from other libraries, but this process takes additional time.</p> <p>Allow time for reading, rereading, absorbing information, taking notes, synthesizing, and revising your research strategy or conducting additional research as new questions arise.</p> <p>Sloppy note-taking increases the risk that you will unintentionally plagiarize. Unless you have taken note carefully, it may be hard to tell whether you copied certain passages exactly, paraphrased them, or wrote them yourself. This is especially problematic when using electronic source materials, since they can so easily be copied and pasted into your own document.</p> <p>Identify words that you copy directly from a source by placing quotation marks around them, typing them in a different color, or highlighting them. (Do this immediately as you are making your notes. Don't expect to remember days or weeks later what phrases you copied directly.) Make sure to indicate the exact beginning and end of the quoted passage. Copy the wording, punctuation and spelling exactly as it appears in the original.</p> <p>Jot down the page number and author or title of the source each time you make a note, even if you are not quoting directly but are only paraphrasing.</p> <p>Keep a working bibliography of your sources so that you can go back to them easily when it's time to double-check the accuracy of your notes. If you do this faithfully during the note-taking phase, you will have no trouble completing the "works cited" section of your paper later on.</p> <p>Keep a research log. As you search databases and consult reference books, keep track of what search terms and databases you used and the call numbers and URLs of information sources. This will help if you need to refine your research strategy, locate a source a second time, or show your professor what works you consulted in the process of completing the project.</p> <p>You must cite direct quotes.</p> <p>You must cite paraphrases. Paraphrasing is rewriting a passage or block of text in your own words. If you paraphrase, you must still cite the original source of the idea.</p> <p>You must cite ideas given to you in a conversation, in correspondence, or email.</p> <p>You must cite sayings or quotations that are not familiar, or facts that are not "common knowledge." However, it is not necessary to cite a source if you are</p>
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	<p>repeating a well-known quote or familiar proverb. Common knowledge is something that is widely known. For example, it is widely known that Bill Clinton served two terms as president; it would not be necessary to cite a source for this fact.</p> <p>These types of sources should be cited as well. Printed sources: Books, parts of books, magazine or journal articles, newspaper articles, letters, diaries, public or private documents; Electronic sources: Web pages, articles from e-journals, newsgroup postings, graphics, email messages, software, databases; Images: Works of art, illustrations, cartoons, tables, charts, graphs; Recorded or spoken material: Course lectures, films, videos, TV or radio broadcasts, interviews, public speeches, conversations.</p>
<b>Email Use</b>	<p>The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.</p>
<b>Withdrawal from Class</b>	<p>The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.</p>
<b>Student Grievance Procedures</b>	<p>Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's <i>Handbook of Operating Procedures</i>.</p> <p>In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean</p>

	<p>of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.</p> <p>Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.</p>
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***These descriptions and timelines are subject to change at the discretion of the Professor.***