**Harriet L. Wilkes Honors College Course Syllabus**

1. **Chm 3292,** Chemistry of Natural Products**, 3 Credit hours**
2. **Prerequisite:** Minimum grade of “C” in CHM 2211, or permission of the instructor.
3. **Spring 2017; on line course**
4. **Professor:** Veljko Dragojlovic, Associate Professor, Phone: 561-799-8012; email: vdragojl@fau.edu; Office: RF 212;

**Office hours: by appointments in Jupiter campus (RF 212), Boca campus (SE 247), or on line.**

1. **TA Information:** There are no TAs in this course.
2. **Course Description**

Study of natural products whose molecules are synthesized by living organisms and that consequently are of interest as possible pharmaceuticals themselves or lead to compounds for the development of new pharmaceuticals. Uses and abuses of natural products and their derivatives will be explored.

1. **Course objectives/student learning outcomes**

It is expected that upon the completion of the course, students will be able to:

* define the primary and the secondary metabolites and explain the difference between the two. Tested by a Mid-Term and Final exams.
* explain the role of secondary metabolites in living organisms. Tested by a Mid-Term and Final exams.
* define topics such as the chemical ecology of natural products, chemical ecology of invertebrates: predators and prey, allies and competitors, ecological and evolutionary perspectives. Tested by a Mid-Term and Final exams.
* identify potential targets for bioprospecting (drug discovery). Tested by a Mid-Term and Final exams.
* explain the relationship between chemical structure and biological function (structure-activity relationship, SAR). Tested by a Mid-Term and Final exams.
1. **Course evaluation method**

Test 1 22% (220 points)

Test 2 22% (220 points)

Test 3 22% (220 points)

Multiple Choice Quizzes 12% (40 points each, total 120 points)

Final Exam 22% (220 points)

1. **Course grading scale**

A 90.0-100%

A- 83.0-89.9%

B+ 78.0-82.9%

B 74.0-73.9%

B- 70.0-73.9%

C+ 66.0-69.9%

C 62.0-65.9%

C- 58.0-61.9

D+ 53.0-57.9%

D 50.0-52.9%

F 0-49.9%

1. **Class Policies**

***Please read the following policies carefully. Students are expected to be familiar with and to adhere to the course policies. Ignorance of the course policies is not an excuse for not following them.***

**Important note: Work or personal travel are not valid reasons to postpone, or be excused, from any of the class related activities.**

**Attendance:**

It is the student’s responsibility to monitor, read and understand all announcements and course documents that are posted on the course Blackboard site (accessible at <https://blackboard.fau.edu/> or [http://bb.fau.edu](https://exchange.fau.edu/owa/redir.aspx?C=4e69ede38b654241a5dd4886076a805b&URL=http%3a%2f%2fbb.fau.edu)). Any corrections or additions to this syllabus will be posted at the course Blackboard site and are understood to be part of the syllabus.

A student is required to keep up with the course load. The student is responsible for informing me ***in advance*** of any unavoidable absences, other than illness. Missed assignments must be completed.

Student who misses course work with a valid excuse should contact me immediately upon return to school. Students who miss course work without a valid reason will be accommodated on “best effort” basis (if time permits).

**Exams:**

A student has to wait for at least 24 hours after receiving the graded exam before he/she can discuss it with me. It is the students’ responsibility to make clear whether the purpose of the consultation is to discuss the course material covered by the test, or to appeal the test grade. A deadline to appeal a test grade is two weeks after that grade was received, but no later than one week after the final exam.

There will be no make-up exams. In the case of an excused absence, the final grade will be computed based on the remaining course assignments. Examples of excused absences are:

1. Medical emergency or problem

2. Death in the immediate family

3. Participation in an FAU-sponsored academic or athletic activity/event

4. Required appearance in a civil or criminal court

5. Religious Holiday

If a mid-term test is missed it ***will not*** be rescheduled. Students who miss a test without a valid reason will receive a grade of zero on that test. If a test is missed for a valid reason (e.g. illness) than the grade from the final exam will be factored in to compensate for the missed exam (e.g. if the missed exam contributed 20% and the final exam 20% to the overall grade, than the final exam will be worth 40%).

**Cheating:** Student cheating on ***any*** of the tests or assignments will receive an F ***for the course***.

**Last Day to Withdraw from the Course:** In order to withdraw from a course, it is NOT sufficient simply to stop attending class or to inform the professor of your intention to withdraw. To determine the last day for withdrawal from this course please view the online schedule.

1. **Special Course Requirements**

Students must check the course on the Blackboard at least twice a week for additional class materials, announcements and updates to the course syllabus.

1. **Other Class policies**

In the online environment, there is always a possibility of technical issues (e.g., lost connection, hardware or software failure). Many of these can be resolved relatively quickly, but if you wait to the last minute before due dates, the chances of these glitches affecting your success are greatly increased. Please plan appropriately. Should a problem occur, it is essential you take immediate action to document the issue so your instructors can verify and take appropriate action regarding a resolution. Please take the following steps should a problem occur:

If you can, make a Print Screen of the monitor when the problem occurred. Save the Print Screen as a .jpg file. If you are unfamiliar with creating a Print Screen file, click the appropriate links below.

For PC users ([video](http://www.fau.edu/cel/PrintScreenTutorialPC.swf) or [script](https://blackboard.fau.edu/bbcswebdav/pid-248670-dt-content-rid-2722287_1/xid-2722287_1))

For MAC users

Complete a Help Desk ticket at <http://www.fau.edu/helpdesk>. Make sure you complete the form entirely and give a full description of your problem so the Help Desk staff will have the pertinent information in order to assist you properly. This includes:

Select “Blackboard (Student)” for the Ticket Type.

Input the Course ID.

In the Summary/Additional Details section, include your operating system, internet browser, and internet service provider (ISP).

Attach the Print Screen file, if available.

Send a message within Blackboard to your instructor to notify him/her of the problem. Include all pertinent information of the incident.

If you do not have access to Blackboard, send an email to your instructor with all pertinent information of the incident.

If you do not have access to a computer, call your instructor with all pertinent information of the incident. If he/she is not available, make sure you leave a detailed message.

If you do not hear back from the Help Desk or your instructor within a timely manner (48 hours), it is your responsibility to follow up with the appropriate person until a resolution is obtained.

1. **Disability policy statement**

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS)—in Boca Raton, SU 133 (561-297-3880); in Davie, LA 203 (954-236-1222); or in Jupiter, SR 110 (561-799-8585) —and follow all SAS procedures.

1. **Code of Academic Integrity policy statement**

*Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see the Code of Academic Integrity in the University Regulations at* [*http://www.fau.edu/regulations/chapter4/4.001\_Code\_of\_Academic\_Integrity.pdf*](http://www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf)*.*

*In addition, students taking courses at the Wilkes Honors College agree to adhere to the honor code, available at* [*http://www.fau.edu/divdept/honcol/academics\_honor\_code.htm*](http://www.fau.edu/divdept/honcol/academics_honor_code.htm)

1. **Required Course Materials**

V. Dragojlovic, 2014. Chemistry of Medicinal and Natural Products – course handouts (free PDF posted on BlackBoard)

A molecular model set. ChemSketch (free download) is an acceptable alternative.

1. **Supplementary Course Materials**

Additional materials, including practice exams, will be posted on the Blackboard. It is student’s responsibility to check the course on the Blackboard at least twice a week.

1. **Course Content**

Dates are approximate and subject to change.

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| Week | Topic |
| **Module I** (four weeks) – 1 MC quiz |
| 1 | Review of Organic Chemistry. Role of intermolecular interactions in biological systems |
| 2 | Introduction to Chemistry of Natural Products |
| 3 | Biosynthesis of Natural Products |
| 4 | Introduction to Chemical Ecology, **Exam 1** |
| **Module II** (four weeks) – 1 MC quiz |
| 5 | Antifeedants |
| 6 | Pheromones |
| 7 | Toxins, Venoms |
| 8 | Camouflage, **Exam 2** |
| **Module III** (four weeks) – 1 MC quiz |
| 9 | Luminescence in Nature, Luminescence and Drug Development |
| 10 | Bioprospecting and Drug Discovery |
| 11 | Molecular Modeling, Structure-Activity Relationship and Drug Discovery, **Exam 3** |
| 12 | **Final Exam** |