**SYLLABUS AND COURSE INFORMATION**

**PLANT SCIENCE 8001/BIOLOGICAL SCIENCE 8002 – Plant Stress Biology Spring 2020**

**Course Name:** Plant Stress Biology

**Class Number:** PLNT\_S 8001, 01, 51329 or BIO\_SC 8002, 02, 65939

**Class Schedule:** Every Spring Semester, TR 11-12:15 (3 credits)

**Location:** 200 Waters (course available via live streaming to Danforth students)

**Pre-Requisite:** PLNT\_S 7315 or PLNT\_S 7320, or approval of instructors; PLNT\_S 4500/7500 is highly recommended

**Course Coordinator:** Dr. David G Mendoza Cozatl (Plant Nutrition)

**Office:** 271F Life Sciences Center

**E-mail:** [mendozad@missouri.edu](mailto:GoellnerM@missouri.edu)

**Phone:** 573-882-1892

**Participating Faculty Co-Instructors:** Ivan Baxter, Kaitlyn Bissonnette, Debbie Finke, Walter Gassmann, David Mendoza-Cozatl, Ron Mittler, Mel Oliver, Jim Schoelz, Robert Sharp, Patrick Shiu

**Division of Plant Sciences:** <https://plantsciences.missouri.edu/faculty/>

**Division of Biological Sciences:** <http://biology.missouri.edu/people/faculty/>

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| |  |  | | --- | --- | | **Dr. Ivan Baxter, Nutrients**  Office: Danforth Plant Sciences Center  E-mail: [ibaxter@danforthcenter.org](mailto:ibaxter@danforthcenter.org)  Phone: 314-587-1438 | **Dr. Kaitlyn Bissonnette, Fungi**  Office: 214G Waters Hall  E-mail: [bissonnetteK@missouri.edu](mailto:bissonnetteK@missouri.edu)  Phone: 573-882-9106 | | **Dr. Debbie Finke, Insects**  Office: 3-22C Agriculture Bldg  E-mail: [FinkeD@missouri.edu](mailto:FinkeD@missouri.edu)  Phone: 573-884-5125 | **Dr. Walter Gassmann, Nutrients, Bacteria**  Office: 371C Life Sciences Center  E-mail: [GassmannW@missouri.edu](mailto:GassmannW@missouri.edu)  Phone: 573-884-7703 | | **Dr. David Mendoza-Cozatl, Nutrients**  Office: 271F Life Sciences Center  E-mail: [mendozacozatld@missouri.edu](mailto:mendozacozatld@missouri.edu)  Phone: 573-882-1892 | **Dr. Ron Mittler, Heat, Stress Combinations**  Office: 371I Life Sciences Center  E-mail: [mittlerr@missouri.edu](mailto:mittlerr@missouri.edu)  Phone: 573-882-7077 | | **Dr. Mel Oliver, Desiccation**  Office: 204 Curtis Hall  E-mail: [OliverMJ@missouri.edu](mailto:OliverMJ@missouri.edu)  Phone: 573-882-9645 | **Dr. James Schoelz, Viruses**  Office: 106 Waters Hall  E-mail: [SchoelzJ@missouri.edu](mailto:SchoelzJ@missouri.edu)  Phone: 573-882-1185 | | **Dr. Robert Sharp, Drought**  Office: 3-5 Agriculture Bldg  E-mail: [SharpR@missouri.edu](mailto:SharpR@missouri.edu)  Phone: 573-882-1841 | **Dr. Patrick Shiu, Fungi**  Office: 103 Tucker Hall  Email: [shiup@missouri.edu](mailto:shiup@missouri.edu)  Phone: 573-884-0020 | |

**Office Hours:** If you have questions about lecture materials, or about the content of exams, you are welcome to contact us by email to arrange an appointment or drop by any of our offices.

**Textbooks**: 2nd Edition; Agrios: Plant Pathology, 5th edition; Taiz, Zeiger. Plant Physiology, 5th edition, Buchanan, Gruissem, Jones: Biochemistry and Mol. Biology of Plants; assigned readings

**Readings:** A reading list will be posted on blackboard that provides suggestions for foundation reading, as well as optional and/or required readings for each lecture.

**Course Format and Expectations**: This course will introduce the basic concepts of abiotic and biotic plant stress agents and discuss how to conduct research with plant stress agents alone or in combination. This a team-taught course with lectures taught by a professor with expertise in the subject matter. Take home exam questions will be given throughout the semester and cover the material presented on specific topics. You must work independently and will have one week to answer the questions. If you need to miss a class, as a professional courtesy, please provide advance notice of your absence. If you miss a lecture, you are responsible for obtaining the information from a classmate or any information posted on the class web site.

**Grades:** The course grade will be based on take home exam performance totaling 170 pts.

Grading will be on a +/- scale: ≥ 96% A+; 92-95% A; 90-91 A-; 87-89% B+; 82-86 B; 80-81 B-; 77-79% C+; 72-76 C; 70-71% C-. *No D grade may be awarded to a graduate student, and a grade of F means the work has not satisfied the minimum requirements of the course.*

**Course Website:** The Canvas course website can be accessed at <https://courses.missouri.edu/courses/> You can check the website for lecture presentations, course announcements and required readings.

**Policy on Cell Phones:** As a courtesy to fellow students and the instructors, all cell phones must be switched off or on vibrate mode during lecture and lab periods. If your phone rings, you must leave the room without disturbing others and conduct your personal business outside the classroom.

**University of Missouri Policy on Academic Integrity:** Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with serious consequences that range from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult the course instructor.

Academic Dishonesty includes but is not necessarily limited to the following:

1. Cheating or knowingly assisting another student in committing an act of cheating or other academic dishonesty.
2. Plagiarism which includes but is not necessarily limited to submitting examinations, themes, reports, drawings, laboratory notes, or other material as one's own work when such work has been prepared by another person or copied from another person.
3. Unauthorized possession of examinations or reserve library materials, or laboratory materials or experiments, or any other similar actions.
4. Unauthorized changing of grades or markings on an examination or in an instructor's grade book or such change of any grade report.

The University has specific academic dishonesty administrative procedures. Although policy states that cases of academic dishonesty must be reported to the Office of the Provost for possible action, the instructor may assign a failing grade for the assignment or a failing grade for the course, or may adjust the grade as deemed appropriate. The instructor also may require the student to repeat the assignment or to perform additional assignments. In instances where academic integrity is in question, faculty, staff and students should refer to [Article VI of the Faculty Handbook](http://facultycouncil.missouri.edu/handbook/article-6.html). Article VI provides further information regarding the process by which violations are handled and sets forth a standard of excellence in our community.

**Academic Integrity Pledge**: *"I strive to uphold the University values of respect, responsibility, discovery, and excellence. On my honor, I pledge that I have neither given nor received unauthorized assistance on this work."* Students are expected to adhere to this pledge on all graded work whether or not they are explicitly asked in advance to do so.

**Classroom Recordings:** University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in Section 200.015 of the Collected Rules and Regulations. In this class, students may not make audio or video recordings of course activity, except students permitted to record as an accommodation under Section 240.040 of the Collected Rules. All other students who record and/or distribute audio or video recordings of class activity are subject to discipline in accordance with provisions of Section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

Those students who are permitted to record are not permitted to redistribute audio or video recordings of statements or comments from the course to individuals who are not students in the course without the express permission of the faculty member and of any students who are recorded. Students found to have violated this policy are subject to discipline in accordance with provisions of Section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

**Assisting Students with Special Needs**: If you anticipate barriers related to the format or requirements of this course, if you have emergency medical information to share with us, or if you need to make arrangements in case the building must be evacuated, please let us know as soon as possible. You may see us after class or in our offices.

If disability related accommodations are necessary (for example, a note taker, extended time on exams, captioning), please register with the Disability Center (<http://disabilitycenter.missouri.edu>), S5 Memorial Union, 573- 882-4696, and then notify me of your eligibility for reasonable accommodations. For other MU resources for persons with disabilities, click on "Disability Resources" on the MU homepage.

**Intellectual Pluralism**: The University community welcomes intellectual diversity and respects student rights. Students who have questions concerning the quality of instruction in this class may address concerns to either the Divisional Director of the Office of Student Rights and Responsibilities (http://osrr.missouri.edu/). All students will have the opportunity to submit an anonymous evaluation of the instructors at the end of the course.

**Semester Schedule:**

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| **Lecture** | **Dates** | **Instructor** | **Topic** |
| 1 | January 21 | David Mendoza | Course Overview; Intro to Plant Stress |
| 2 | January 23 | Robert Sharp | Drought |
| 3 | January 28 | Robert Sharp | Drought |
| 4 | January 30 | Robert Sharp | Drought |
| 5 | February 4 | Robert Sharp | Drought |
| 6 | February 6**\*** | Mel Oliver | Desiccation |
| 7 | February 11 | Mel Oliver | Desiccation |
| 8 | February 13 | Ivan Baxter | Nutrient |
| 9 | February 18 | David Mendoza | Nutrient |
| 10 | February 20**\*** | David Mendoza | Nutrient |
| 11 | February 25 | Walter Gassmann | Nutrient |
| 12 | February 27 | Walter Gassmann | Bacteria |
| 13 | March 3**\*** | Walter Gassmann | Bacteria |
| 14 | March 6 | Walter Gassmann | Bacteria |
| 15 | March 10 | Jim Schoelz | Viruses |
| 16 | March 12**\*** | Jim Schoelz | Viruses |
| 17 | March 17 | Jim Schoelz | Viruses |
| 18 | March 19 | Jim Schoelz | Viruses |
| 19 | March 31**\*** | Debbie Finke | Insects |
| 20 | April 2 | Debbie Finke | Insects |
| 21 | April 7 | Debbie Finke | Insects |
| 22 | April 9**\*** | Patrick Shiu | Fungi |
| 23 | April 14 | Kaitlyn Bissonnette | Fungi |
| 24 | April 16 | Kaitlyn Bissonnette | Fungi |
| 25 | April 21 | Benjamin Spears | Nematodes |
| 26 | April 23**\*** | Benjamin Spears | Nematodes |
| 27 | April 28 | Ron Mittler | Heat |
| 28 | April 30 | Ron Mittler | Heat |
| 29 | May 5 | Ron Mittler | Stress Combinations |
| 30 | May 7**\*** | Ron Mittler | Stress Combinations |

**\*hand-out of take-home questions for preceding lectures**