**Syllabus**

**EEB 3895 – 007**

**Introduction to Genome Science**

**Instructors**

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**Class Meetings**

**Time:** Fridays, 230-320 pm

**Location:** PBB 303

**Course Description**

Changes in the sequence, size, and structure of genomes are critical to understanding patterns and processes of evolution. This course will cover key concepts underlying genome evolution with a focus on plant lineages. Coursework will include lecture attendance as well as reading primary literature in preparation for discussion. Students will learn **principles of genome** **evolution** as well as approaches to reading and understanding primary literature. **This course is intended to be an interactive learning environment**, and participation and **discussion will be facilitated and encouraged**.

**Evaluation**

Students will be evaluated based on two elements: attendance and participation. Students should notify the instructors with regards to planned absences.

**Text Book & Reading**

There is no assigned textbook for this course. Passages from textbook reading that are required will be provided in pdf from. Primary literature will be provided as pdfs as well.

**Schedule**

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| Date | Topic | Reading |
| Jan 24 | Lecture: Introduction to genomes Part 1 | The Origins of Genome Architecture, pgs 2-27 |
| Jan 31 | Lecture: Introduction to genomes Part 2 | The Origins of Genome Architecture pgs 29-30 |
| Feb 7 | Lecture: Genome Duplication | Paper: Soltis, 2014 |
| Feb 14 | Discussion: Soltis 2014 | None |
| Feb 21 | Lecture: Duplication and Phylogent | Paper: Clark, 2016 |
| Feb 28 | Discussion: Clark, 2016 | None |
| March 6 | Lecture: new genes and gene loss | Paper: Guo et al., 2019 |
| March 13 | Discussion: Guo et al. 2019 | None |
| March 27 | Lecture: Genome Environment Response | Reading: Pandey et al. 2019 |
| April 3 | Discussion: Pandey et al. 2019 | None |
| April 10 | Lecture: Horizontal Gene Transfer | Reading: Li et al. 2014 |
| April 17 | Discussion: Li et al. 2014 | Student Chosen Paper |
| April 24 | Discussion: Student Chosen Paper | Student Chosen Paper |
| May 1 | Discussion: Student Chosen Paper | None |