

# HOS 5555 TROPICAL FRUIT PRODUCTION AND RESEARCH 2022 CLASS SYLLABUS

Instructor: Dr. Jonathan H. Crane, Tropical Fruit Crop Specialist

Dates: Monday, June 28<sup>th</sup>, 2022, to Friday, August 5<sup>th</sup>, 2022 (class is Mon. through Fri.)

Location: Tropical Research and Education Center  
18905 S.W. 280 St.

Homestead, FL 33031-3314

Dr. Crane, tell (786) 217-9271 and cell (786-255-5878)

Email (Dr. Crane): [jhcr@ufl.edu](mailto:jhcr@ufl.edu) Faculty page: <https://trec.ifas.ufl.edu/faculty/jcrane/>

Course information on-line: <https://trec.ifas.ufl.edu/teaching/tropical-fruit-production-and-research-hos5555/>

Instructors office hours: At my office (Bldg. 8223, Rm. 2; phone, 786-217-9271), Monday through Friday before class (7:30 AM to 8:15 AM) and after class (usually after 4:00 PM). Saturdays and Sundays please call my cellphone at 786-255-5878.

Target audience: This course offers graduate students, qualified undergraduate students (e.g., horticulture or agronomy majors), scientists, extension faculty, and other professionals (including experienced producers) an opportunity to increase their knowledge of tropical fruit crop horticulture and plant physiology.

Class: Class begins at 8:30 AM each day. Lecture is usually until 12:00 PM (noon) and then we break for lunch from 12:00 PM (noon) to 1:00 PM or 1:30 PM. In the afternoons after lunch, we are generally in the field up to 4:00 PM to 7:00 PM depending upon what is happening and the distance traveled.

The class will take two trips to other production areas, one with an overnight stay and one slightly long day. Students will be more comfortable in the field if they wear comfortable shoes or sneakers and a hat. You may want to bring water too. Sunscreen is always a good idea as is bug spray on some occasions.

## Objectives of the class:

- To emphasize horticultural practices of commercial tropical fruit crop management in Florida, the applied aspects of research, and explore the physiological basis for horticultural practices used in crop production of: avocado, mango, carambola, banana, papaya, pitaya, lychee, longan, mamey sapote, passion fruit, sugar apple, guava and others.
- To expose students to various aspects of fruit production from other tropical areas of the world through presentations.
- To expose students to production practices through field visits to working orchards, nurseries, packinghouses, botanical gardens, and research/education institutions. Guest lectures will be offered in tissue culture, genetics-plant breeding, soils-nutrient and water management,

plant physiology, economics, biotechnology, insect and disease management, hydrology, agricultural economics, and postharvest handling.

- To have students understand and be able to apply the principles, concepts, and information from the class to their own situations in production, research, and teaching.

## Methods for teaching:

- Formal lecture, as well as, informal open discussion and questioning.
- Reading of books and papers, PPT, videos.
- Field visits to interact with production managers, orchardists, researchers, and extension faculty.
- Potential of one or two assignments may be used to demonstrate useful production and research concepts.

## Recommended course texts (not required):

- Paull, R.E. and O. Duarte. 2011. Tropical Fruits, 2<sup>nd</sup> Edition, Volume 1. CABI International, Cambridge, MA. (estimated cost \$60 to \$100)\*
- Paull, R.E. and O. Duarte. 2012. Tropical Fruits, 1<sup>st</sup> Edition, Volume 2. CABI International, Cambridge, MA. (estimated cost \$60 to \$100)\*

\* Available on-line:

- Amazon <http://amazon.com>
- CABI <https://www.cabi.org/>

- nhbs <http://www.nhbs.com>
- Google ebook <http://books.google.com>
- Others...

Optional texts: These texts are not required; may be of interest and students are responsible for ordering them. They may be available locally at several bookshops or through the Internet (on-line prices vary).

- Verheij, E.W.M. and R.E. Coronel (eds.). 1992. Plant Resources of South-East Asia 2: Edible Fruits and Nuts. Backhuys Publishers B.V., Leiden, The Netherlands. (Estimated soft-cover \$85.00/ CD estimated \$110.00)\*
- Nakasone, H.Y. and R.E. Paull. 1998. Tropical Fruits. CAB International, Wallingford, UK. (Estimated cost \$70.00)\*
- Schaffer, B., B.N. Wolstenholme, and A.W. Whiley. 2013. The avocado: botany, production and uses. Second edition. CABI International, Boston, MA. (Estimated cost \$200.00)
- Campbell, R.J. 1992. Mangos: A guide to mangos in Florida. Fairchild Tropical Garden, Miami, Florida. (Estimated cost \$140.00)
- Janick, J. and R.E. Paull. 2008. The Encyclopedia of Fruits and Nuts. CABI, Cambridge, MA. (Estimated cost \$300.00).
- Litz, R.E. (editor). 2009. The Mango: Botany, Production and Uses. CAB International, NY, NY. (Estimated cost \$230.00)
- Menzel, C. et al. 2005. Litchi and longan: botany, cultivation and uses. CABI International, NY, NY. (Estimated cost \$50.00).
- Morton, J.F. 1987. Fruits of warm climates. Creative Resource Systems, Inc., Winterville, NC. (Estimated cost \$65.00)
- Peña, J.E., J.L. Sharp, and M. Wysoki. 2002. Tropical Fruit Pests and Pollinators. CABI Publishing, NY, NY. (Estimated cost \$80.00)
- Ploetz, R.C. 2003. Diseases of Tropical Fruit Crops. CAB International, NY, NY. (Estimated cost \$220.00)
- Sisir, M. and B.C.K.V. Alaya, K. 1997. Postharvest Physiology and Storage of Tropical and Subtropical Fruits. CAB International, NY, NY. (Estimated cost \$270.00)
- Whiley, A.W., B. Schaffer, and B.N. Wolstenholme. 2002. The avocado: botany, production and uses. CABI Publishing, NY, NY. (Estimated cost \$270.00)

Numerous handouts will also be provided. Daily reading is expected from texts and handouts on pertinent class subjects.

Course attendance:

Students are expected to attend every day of class. Special arrangements may be made ahead of time for specific issues and reasons. See <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/> for more details.

Exams: There are three to four exams. Exams are not cumulative with respect to the crop species but is expected that concepts and strategies that are applied throughout the course are fair game for exams. Exams usually last 1-2 hours. The final grade is an average of all exams and student presentations. If you miss an exam, make-up exams will be offered. Test questions on exams consist of primarily short answer and essay.

Grading scale - <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/#gradestext>

Letter	Exam scale	GPA
A	91-100	4.0
B	81-90	3.0
C	71-80	2.0
D	61-70	1.0
E	≤ 60	0.0

*The weekly schedule of lectures and field visits will be finalized prior to the start of the course but subject to change.*

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Academic honesty statement: UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://sccr.dso.ufl.edu/process/student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Students with disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/> or call 352-392-8565 or 877-983-3326; DRCAccessUF@ufsa.ufl.edu. Once registered, students will receive an accommodation letter, which must be presented to the instructor when requesting accommodation. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

UF counseling services: Resources are available on the main campus in Gainesville for students with physical and mental medical issues. These resources include - 1) Univ. Counseling & Wellness Center, (352) 392-1575, (<https://counseling.ufl.edu/>), personal and career counseling; 2) GatorWell, (352) 273-4450 (<https://gatorwell.ufsa.ufl.edu/>); 3) Sexual Assault contact Counseling and Wellness

Center and/or U Matter, We Care (352) 294-2273 (<https://www.umatter.ufl.edu/>); 4) Univ. of Fla. Office of Victim Services (352) 392-5648/352-392-1111 (<http://www.police.ufl.edu>) and 5) Career Resource Center, (352) 392-1601 (<https://career.ufl.edu/>), career counseling. They can all be reached by Internet at <https://www.counseling.ufl.edu/cwc/>.

Online course evaluation: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email, they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

#### Accommodations and Transportation to Homestead

Students must arrange their own transportation to and from Homestead, Florida at the beginning and end of the course. If there is space, registered, degree-seeking UF students may stay on the TREC campus in student housing. Unfortunately, no rooms will be available for non-UF students. There are many motels in the Homestead area, with a wide range in prices. To view, web-search 'hotels homestead florida' or 'hotels florida city florida'. You may wish to share a room with another student - those arrangements can be made during the first day of class. There are also accommodations at the Hoosville Hostel (<https://www.hoosvillehostel.com/>) in Florida City – 5.2 miles from TREC. You must contact the hostel directly and inform them of your arrival and departure dates. Make arrangements ahead of your arrival. The email address is [michaelhoo@hoosvillehostel.com](mailto:michaelhoo@hoosvillehostel.com) and phone 305-363-4644. Please contact me if you will be staying at the hostel.

*TRANSPORATION* Transport to and from your local hotel or the hostel may be provided. Please contact me if you will be staying at the hostel or a local hotel and need transport to and from class.

*ALL STUDENTS - FRONT OFFICE POLICY* The Administration Building is generally off limits to the students. This is because the office staff is very busy serving the needs of the faculty at TREC. Those students who may need to make a phone call and/or send/receive a fax please speak with Dr. Crane. You must pay for long distance phone calls by calling card. The photocopying machine is not for student use.

*MAIL* Students may receive mail at TREC. However, Dr. Crane will pick up the mail from the front office for distribution. Dr. Crane will also be glad to have mail forwarded (you pay postage) from the front office.

Health care: Students are advised that no University health-care services are available in Homestead. Students needing medical care must obtain it from private sources and pay for it themselves or by private insurance.

- *U Matter, We Care:* If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit <https://umatter.ufl.edu/> to refer or report a concern and a team member will reach out to the student in distress.
- *Counseling and Wellness Center:* Visit <https://counseling.ufl.edu/> or call 352-392-1575 for information on crisis services as well as non-crisis services.
- *Student Health Care Center:* Call 352-392-1161 for 24/7 information to help you find the care you need or visit <https://shcc.ufl.edu/>.

#### **UNIVERSITY OF FLORIDA COMPLAINTS POLICY**

The University of Florida believes strongly in the ability of students to express concerns regarding their experiences at the University. The University encourages its students who wish to file a written complaint to submit that complaint directly to the department that manages that policy. A student who is unsure as to the official responsible for handling his or her particular complaint may contact the Ombuds office or the Dean of Students Office. For complaints that are not satisfactorily resolved at the department level or which seem to be broader than one department, students are encouraged to submit those complaints to one of the following locations:

Ombuds: <http://www.ombuds.ufl.edu/> or <https://distance.ufl.edu/student-complaint-process/> or 352-392-1308

The purpose of the Ombuds Office is to assist students in resolving problems and conflicts that arise in the course of interacting with the University of Florida. By considering problems in an unbiased way, the Ombuds works to achieve a fair resolution and works to protect the rights of all parties involved.

Dean of Students Office: <http://www.dso.ufl.edu/>

202 Peabody Hall, 352-392-1261

The Dean of Students Office works with students, faculty, and families to address a broad range of complaints either through directly assisting the student involved to resolve the issue, working with the student to contact the appropriate personnel,

or referring the student to resources or offices that can directly address the issue. Follow up is provided to the student until the situation is resolved.

Additionally, the University of Florida regulations provide a procedure for filing a formal grievance in Regulation 4.012: <http://regulations.ufl.edu/regulations/uf-4-student-affairs/>

**Tentative HOS 5555 Tropical Fruit Production and Research - 2022 Class Schedule (June 28 to 5 August)**

<b>Date</b>	<b>Morning</b>	<b>Afternoon</b>
Tuesday, June 28 <sup>th</sup>	Jonathan Crane – Registration and introduction to tropical fruit industry and TREC and climate and environment	Tour TREC and sugar apple pollination exercise
Wednesday, June 29 <sup>th</sup>	Jonathan Crane – Phenology and classification, lychee/longan production	Lychee-longan field tour
Thursday, June 30 <sup>th</sup>	Alan Chambers – Vanilla in Florida, from wild species to potential markets; shade house visit	Annona production and field tour
Friday, July 1 <sup>st</sup>	Carambola production and research	Carambola field tour
Tuesday, July 5 <sup>th</sup>	Yuncong Li – Soils and water management	Soils field tour and Fruit and Spice Park field tour
Wednesday, July 6 <sup>th</sup>	Romina Gazis – Diseases/management of tropical fruits	TREC Plant Diagnostic Clinic/Path field tour
Thursday, July 7 <sup>th</sup>	Leave for Ft. Myers	ECHO tour
Friday, July 8 <sup>th</sup>	Pine Island trip	Return to Homestead
Monday, July 11 <sup>th</sup>	Jonathan Crane – Mango production and research	Mango field tour
Tuesday, July 12 <sup>th</sup>	Bruce Schaffer - Ecophysiology of subtropical and tropical fruit crops and Responses of subtropical and tropical fruit crops to flooding	USDA ARS field tour
Wednesday, July 13 <sup>th</sup>	Jonathan Crane – Lime production and research and lime (fingerlime) field tour	Jonathan Crane – environmental stresses
Thursday, July 14 <sup>th</sup>	Zachary Brym - Agroecology	Organic farm tour (LNB Farms, Bee Heaven Farm, H&H Farm, Muni Farms)
Friday, July 15 <sup>th</sup>	Young Gu Her – Climate change, sea level rise, saltwater intrusion	View canal infrastructure
Monday, July 18 <sup>th</sup>	Jonathan Crane – Avocado production and research	Avocado field tour
Tuesday, July 19 <sup>th</sup>	Jonathan Crane – Mamey sapote production and research	Mamey sapote field tour
Wednesday, July 20 <sup>th</sup>	Palm Beach County tour	Palm Beach County tour
Thursday, July 21 <sup>st</sup>	Jonathan Crane – Dragonfruit production and research	Dragonfruit field tour
Friday, July 22 <sup>nd</sup>	Steve Sargent – Postharvest of tropical fruit crops	Packinghouse field tour
Monday, July 25 <sup>th</sup>	Jonathan Crane – Passionfruit production and research	Passionfruit field tour
Tuesday, July 26 <sup>th</sup>	Jonathan Crane – Guava production and research	Guava field tour
Wednesday, July 27 <sup>th</sup>	Broward County tour	Broward County tour
Thursday, July 28 <sup>th</sup>	Jeff Wasielewski - Food safety and Jonathan Crane - BMPs for tropical fruit crops	The Kampong visit
Friday, July 29 <sup>th</sup>	Jonathan Crane – Papaya and banana production and research	Papaya and banana field tour
Monday, August 1 <sup>st</sup>	Haimanote Bayabil – Irrigation scheduling techniques; soil moisture measurements lab	Field tour of irrigation systems
Tuesday, August 2 <sup>nd</sup>	Daniel Carrillo - Tropical fruit pests and pollinators	Entomology grove visits
Wednesday, August 3 <sup>rd</sup>	Trent Blare - Are tropical fruits profitable? Analysis of costs and market potential for Floridan tropical fruits	Graduate student presentations
Thursday, August 4 <sup>th</sup>	Jonathan Crane – Sapodilla production and research	Sapodilla field tour
Friday, August 5 <sup>th</sup>	Last day - open	Last day - open

OD://teaching/hos5555/HOS5555 class schedule 2022.doc and (c://teaching/HOS5555/syllabus 2022.doc)