

## **2017 SYLLABUS FOR SEMBA'S ADVANCED BEEKEEPING COURSE**

### **General Overview of Course:**

This course is designed for experienced beekeepers (non- experienced are encouraged to sign-up for SEMBA's Beekeeping Course for Beginners). This Advanced Beekeeping Course will be limited to no more than 35, and no less than 20, students (with Application and payment needed by April 1, 2017). This course will consist of several sessions that will cover more advanced beekeeping topics such as alternative methods of raising queens, making splits and nuc's, maximizing honey production, etc. See the following pages for an overview of the course sessions and activities.

**Classes held:** 10:00 a.m. – Noon, Sundays, **except as noted**

**Location:** M.S.U. Tollgate Education Center, 28115 Meadowbrook Road, Novi, MI 48377-3128

### **Anticipated Instructors:**

Bill Sirr	(248) 544-8619
Clay E. Ottoni <a href="mailto:ceottoni@gmail.com">ceottoni@gmail.com</a>	(248) 454-9800
Don Schram <a href="mailto:don.schram@gmail.com">don.schram@gmail.com</a>	(248) 310-8205
Paul Mazur <a href="mailto:mann0213@aol.com">mann0213@aol.com</a>	(810) 686-9882
Rich Wieske <a href="mailto:rich@greentogardens.com">rich@greentogardens.com</a>	(248) 705-5181
Winn Harless <a href="mailto:winnsbees@gmail.com">winnsbees@gmail.com</a>	(734) 453-2914

**Tuition (all in U.S. funds):** Tuition for the entire course is either:

\$140 per student, payable in advance, if you are a current SEMBA member; or

\$160 per student, payable in advance, if you are NOT a current SEMBA member.

[Per session charge for each non-student is \$20 per session with: (a) prior approval from the Instructors and (b) payment in advance or, provided there is sufficient space (determined in the sole and absolute discretion of the Instructors), is \$30 per session without: (a) prior approval from the Instructors or (b) payment in advance.]

Tuition for the entire course includes at least one queen cell. Tuition does not include any other bees, equipment, supplies, etc., nor does it include the following items required for the course: wood ware, protective clothing, bee veil, hive tool, and smoker.

### **Requirements:**

Either (a) satisfactory completion of SEMBA's Beekeeping Course for Beginners (or similar "year-long" course) or (b) at least four (4) years of successful experience in beekeeping. At least one strong hive (preferably 3 or more hives) at your location and the legal right to add at least one additional hive (2 preferred). Equipment to make at least two (2) nucs (more recommended). Two (2) nuc boxes and your own queen-marking equipment. Cup with paper towels to move queen cell. Students required to wear proper hive inspection attire (i.e., bee suit with attaching veil and helmet or hood, bee gloves, work boots or protective ankle wraps, etc.) and possess hive tool, smoker, and new woodware equipment. Attendance at each session is important, since it is difficult to duplicate hive conditions for non-attendees and classes often build upon prior classes.

**Optional:** Students that indicate an interest will have the option to join Winn Harless on a field trip to catch a swarm, conditions permitting (e.g., swarms being available as well as the availability of the interested student and Winn Harless).

## ADVANCED BEEKEEPING COURSE OVERVIEW

### **SESSION 1, APRIL 2**, at Activity Center, **except as noted**

- Introduction to Tollgate.
- Introduction of instructors.
- Brief overview of safety and goals -- raising queens, making splits and nuc's, over wintering nuc's & hives and honey production.
- Discuss small scale pollination, pollination contracts and possibilities (e.g., taking bees to Florida).
- Discuss going commercial.
- Discuss setting up a honey house.
- Discuss honey maximizing strategies such as early spring build-up vs. equalizing hives.
- Discuss benefits of nucs and different kinds of nucs.
- Discuss required woodware, supplies and equipment (e.g., nucs, Cloake board, queen marking cage, and comb honey supers and frames).
- TO DO: At your location, if desired, build 5 Frame nuc(s).
- TO DO: At your location, if desired, identify future nuc placement.
- TO DO: At your location, if desired, build Cloake board.
- TO DO: At your location, if desired, build queen marking cage.

### **SESSION 2, APRIL 23**

- Discuss combining hives/nucs in the spring.
- Discuss benefits of splits.
- Discuss making splits and calculating days.
- Discuss combining hives/nucs in the spring.
- Discuss benefits of raising queens, banking queens, and two-queen systems.
- Discuss desired breeding traits and outstanding genes.
- Discuss importance of, and methods of, producing drones.
- Discuss flying drones and mating areas.
- Discuss swarm catching (& bee-vac).
- Discuss taking bees out of walls and other confined areas.
- Discuss items to keep in your vehicle and smoker fuel.
- TO DO: **Bring** hive inspection attire.
- TO DO: Weather permitting, consider possibly splitting hives.
- \_\_\_\_\_ • *TO DO FOR QUEENS: Weather permitting, inspect overwintered hives to determine hive within which to raise queens.*
- \_\_\_\_\_ • *TO DO FOR QUEENS: Weather permitting, select second hive for supplying additional eggs.*
- \_\_\_\_\_ • *(OPTIONALLY) TO DO FOR QUEENS: Weather permitting, select 1 or 2 hives to produce drones.*
- \_\_\_\_\_ • *(OPTIONALLY) TO DO FOR QUEENS: Weather permitting, install a drone cell frame in each drone mother hive.*

### **SESSION 3, MAY 7**

- Discuss conditions required for successful queen rearing.
- Discuss tips for locating queens.
- Discuss marking queens (using the international color code – 2017 Yellow) and clipping queens.
- Discuss quick queen introduction.

- Discuss Mel Disselkoe's method of OTS queen rearing (including the "Notch" method).
- Discuss using the Cloake board method to raise queens.
- Discuss cut comb options.
- Discuss production of cut comb honey and installing foundation for cut comb honey.
- Discuss situation of a hive with drone only brood.
- TO DO: **Bring** hive inspection attire.
- TO DO: Weather permitting, consider possibly splitting hives.
- TO DO: Weather permitting, install cut comb super.

\_\_\_\_\_ • *TO DO FOR QUEENS: In a vigorous colony with at least two brood boxes, separate brood boxes by installing Cloake board frame with entrance reducer (& open lowest entrance, if not open).*

\_\_\_\_\_ • *TO DO FOR QUEENS: Weather permitting, install, if not present, wax foundation frames in brood area, of two vigorous colonies for cell punches.*

\_\_\_\_\_ • *(OPTIONALLY) TO DO FOR QUEENS: Weather permitting, install, if not present, black plastic frames in brood area of two vigorous colonies, for grafting.*

#### **SESSION 4, MAY 21**

- Discuss correcting a laying worker hive.
- Discuss making nucs.
- Discuss possibly combining hives/nucs in the summer.
- Discuss grafting.
- Discuss cell punch.
- Discuss shook swarm (or shakedown) method for queen rearing (as well as swarm prevention and replace diseased equipment).
- Discuss queenless starter with queen right finisher.
- TO DO: If still desired, install cut comb super.

#### **MAY 31, WEDNESDAY at 10:00 a.m., weather permitting (to be done at your location)**

Student attendance **NOT** required, done at Tollgate, weather permitting.

\_\_\_\_\_ • *TO DO FOR QUEENS: Install queen excluders between all boxes in two hives (with the same depth supers and hive bodies) to aid in finding queen (in both the future Cloake board hive and the second hive that in the future will supply eggs/larvae).*

#### **JUNE 4, SUNDAY at 10:00 a.m., weather permitting (done at your location)**

Student attendance **NOT** required, done at Tollgate, weather permitting.

\_\_\_\_\_ • *TO DO FOR QUEENS: In Cloake board hive, find queen and place her in lowest box (1 deep, or two mediums, with open brood to ensure adequate number of nurse bees), add a box with honey, pollen and open drawn-out cells ready for new eggs, and place queen excluder below Cloake board FRAME, (optionally, it has worked for us without) completely close the lowest entrance, place the Cloake board FRAME over the queen excluder without the reducer, install remaining box(es) over Cloake board FRAME (making sure some frames of uncapped brood are in the box above the queen excluder) and then replace inner and outer covers and objects (e.g., bricks, rocks, etc.) to hold down covers.*

\_\_\_\_\_ • *TO DO FOR QUEENS: In non-Cloake board hive (i.e., egg supply hive), be sure to have, else install, open drawn out wax foundation frames (as well as open brood to ensure adequate number of nurse bees) in brood area from which to pull frames to cut out cell punches. Wise to confine*

queen in egg supply hive(s) in box with all wax foundation frames for cell punching. (Do not marker her, at this time.)

- \_\_\_\_\_ • (OPTIONALLY) TO DO FOR QUEENS: In non-Cloake board hive (i.e., egg supply hive), have, else install, open drawn out black plastic foundation frames (as well as open broad to ensure adequate number of nurse bees) in brood area from which to pull frames for ease of grafting. Wise to confine queen in egg supply hive(s) in box with all black plastic foundation frames for grafting. (Do not marker her, at this time.)

**JUNE 9, FRIDAY at 10:00 a.m. (done at your location)**

Student attendance **NOT** required, done at Tollgate, weather permitting.

- \_\_\_\_\_ • TO DO FOR QUEENS: Install Cloake board's isolator board, wedge Cloake board open with three wedges, and open lowest entrance, if closed. If available, add brood frame(s) with nurse bees BUT WITHOUT QUEEN. Installing grafting frame with grafting queen cups in upper part of Cloake Board hive to allow bees to "polish" it helps with acceptance.

**SESSION 5, JUNE 11, AT CONFERENCE CENTER**

• Discuss different types of queen cells -- location (top, middle and bottom of frame) and sizes (better or longer feed).

• Discuss method of moving queen cells.

• Discuss introducing queen cells.

• **TO DO:** Confirm existence of flying drones.

• **TO DO:** Inspect hive (have 2 nuc boxes one each for pulled frames of broad on wax and black plastic frames).

\_\_\_\_\_ • **TO DO FOR QUEENS: Graft frame.**

\_\_\_\_\_ • **TO DO FOR QUEENS: Cell punch -- using small double boiler to melt wax, keep cutter in hot water, wax wood piece to bar, place bar in frame, find 1 day old larva (eggs straight-up, larva slight curve and on bottom), cut out, and wax to wood piece on bar.**

• **TO DO:** Shook swarm (or shakedown) method for queen rearing.

**JUNE 12, MONDAY at 12:30 p.m. (done at your location)**

Student attendance **NOT** required, done at Tollgate, weather permitting.

\_\_\_\_\_ • **TO DO FOR QUEENS: Remove Cloake board wedges & separator (leaving queen excluder in place).**

**JUNE 18, SUNDAY at NOON, weather permitting (done at your location)**

Student attendance **NOT** required, done at Tollgate, weather permitting.

\_\_\_\_\_ • **TO DO FOR QUEENS: Inspect upper part of Cloake Board hive and remove any queen cells not on grafting/cell-punch frame(s) to avoid destruction of desired queen cells. Use removed queen cell(s) in nuc(s)/hive(s) needing a queen.**

**SESSION 6, JUNE 20, TUESDAY 6:00 p.m. (DONE AT TOLLGATE BY CLAY'S HIVES AND, ONCE YOU HAVE YOUR QUEEN CELL, AT YOUR LOCATION).**

• **TO DO: Bring** hive inspection attire.

• **TO DO: Bring** equipment (e.g., cup and paper towel) to safely transport queen cell.

\_\_\_\_\_ • **TO DO FOR QUEENS: Pull queen cells and make nucs.**

\_\_\_\_\_ • **TO DO FOR QUEENS: Rearrange Cloake board hive to original configuration without Cloake broad.**

\_\_\_\_\_ • **TO DO FOR QUEENS: Take home queen cell.**

\_\_\_\_\_ • *TO DO FOR QUEENS: Make nuc at your location.*

### **SESSION 7, JULY 9, AT CONFERENCE CENTER**

- Discuss what we did.
- Discuss queen cells found.
- Discuss why in an emergency (without a queen) use the Cloake brood.
- Discuss pests including mites, small hive beetle, skunks, raccoons, ants, bears, etc.
- Discuss small hive beetle avoidance strategies and treatment options.
- Discuss pathogens, diseases, viruses, bacteria.
- Discuss other problems with your bees/hives.
- TO DO: **Bring** hive inspection attire.

\_\_\_\_\_ • *TO DO FOR QUEENS: Check for laying queen both at Tollgate and your location.*

### **SESSION 8, JULY 30, AT CONFERENCE CENTER**

- Discuss what was done to the hive and nucs, and what we found.
- Discuss Health Benefits of Honey and other Hive Products.
- Discuss propolis (Uses and How to gather, clean and sell it).
- Discuss Integrated Pest Management ("IPM").
- Discuss going medication/chemically free (or natural).
- Discuss proper use of medications/chemicals.
- TO DO: **Bring** hive inspection attire.
- TO DO: Inspect nuc for laying queen.
- TO DO: Inspect hives for Small Hive Beetle, other pests and diseases.
- TO DO: Prepare marking queen by practicing on drones.

### **SESSION 9, AUGUST 13, AT CONFERENCE CENTER**

- Discuss combining hives and/or nucs in the fall.
- Discuss honey labeling.
- Discuss rendering wax.
- Discuss queen excluders not just for finding your queen.
- Discuss Langstroth alternatives such as top bar hives, Warre hives and skeps.
- Discuss basic mead making.

### **SESSION 10, SEPTEMBER 10, AT CONFERENCE CENTER**

- Discuss various ways to overwintering hives.
- Discuss various ways to overwintering nucs.
- Discuss the many uses of Imirie Shims ("spacers" with opening).
- Discuss making of specialty and more advanced equipment.
- Discuss applying your knowledge such as mentoring, teaching classes, becoming part of a board, helping to organize a bee club or conference, etc.
- TO DO: **Bring** hive inspection attire.
- TO DO: Inspect nucs.
- TO DO: IPM, monitor hives for pests such as varroa mites and SHB.