**Aquaculture / Aquaponics 101 Teacher Workshop**

July 10-14, 2023 – Auburn, Alabama



Aquaponics is being utilized in classrooms across the country to excite and engage students and teachers. Aquaponics is the art/science of growing fish and plants in a symbiotic relationship in a single system. It is a combination of aquaculture and hydroponics. The fish are fed a high quality prepared diet and their waste is used as fertilizer to grow plants. The plants in turn act as a filter to clean the water that can be returned to the fish tank. There is tremendous interest in Aquaponics and aquaculture as a platform to teach real world applications of biology, chemistry, math and science. Working with an aquaponics system also requires technical skills in plumbing, carpentry and sometimes masonry. It is an excellent tool to examine the different elements of business management and marketing.

The trouble is that most teachers don’t have any training in aquaponics. The **Aquaculture/Aquaponics 101 Workshop** provides hands-on training and expert advice on how to start and operate an aquaponics system and provides resource materials to help integrate the knowledge into existing curriculum. Teachers will design and build a complete aquaponics system that they can take back to their school. Faculty from Auburn University, the Alabama Cooperative Extension System and the Alabama, Mississippi Sea Grant Consortium provides expert instruction.

The workshop will be held at the E.W. Shell Fisheries Center, 2101 N. Collage St. July 10-14, 2023 in Auburn, Alabama. The cost for the workshop is $295 and 32 hours of continuing education credit is available.



The AU Fisheries and Aquaculture program world renowned for its teaching, research and Extension efforts. The facility is the largest of its kind in the world with over 1800 acres, 350 ponds, and nearly 2,000 aquaria.

For more information contact David Cline 334-844-2874 or PJ Waters 251-438-5690

[Photos from the 2019 Aquaponics 101](https://youtu.be/uxwG9VwDo6M) [Teacher reactions to the workshop](https://youtu.be/qEe5jIhrYgA)

**Aquaponics 101 Teacher Training Workshop**



When: July 10-14, 2023 8:00am to 4:30 pm daily (8-12 on Friday)

Where: (Physical) (Mailing)

Auburn University 203 Swingle Hall

E.W. Shell Fisheries Center Auburn University, AL 36849

2101 North College St.

 Auburn, AL 36830

Cost: $295 to attend the workshop

 This includes resources that previous teachers felt were worth $400+

 (Travel and living expenses not included)

**CEUs: 32 hours of continuing education credits**

Capacity: Due to the **hands-on** nature of the workshop, seating is **limited to 30 participants** Please [Register Online](https://secure.touchnet.net/C20021_ustores/web/product_detail.jsp?PRODUCTID=5374&SINGLESTORE=true)

 Or Call David Cline 334-844-2874 / 334-744-2688

Information: David Cline (AU) 334-844-2874 - clinedj@auburn.edu

 P.J. Waters (AU-Sea Grant) 251-438-5690 - Waterph@auburn.edu

 Stan Arington (AU Fisheries Learning Center) 334-844-4630 sca0028@auburn.edu

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| **Topics Addressed Include** |
| **Biology** | **Chemistry**  | **Math** |
| Aquaponics – Integrating plant and fish culture | Nitrogen cycle – ammonia, nitrite, nitrate | Nutrient input vs. grow bed capacity |
| Catfish and tilapia morphology | Dissolved oxygen | Volumetric displacement  |
| Fish culture techniques | Alkalinity | Feeding rates |
| Pond dynamics | PH | Feed conversion and growth rate |
| Diseases of warm water fish | Hardness | Tank and system volumes |
| Fish hatchery operations | Temperature effects | Surface area of biofilter material |
| Components and functions of a recirculating aquaculture system | Water quality relationships | How to correctly size a biofilter |
| Fish genetics (super male tilapia) | **And Many Other Topics** | Average weights |

Aquaponics 101 - Registration Form

Teacher Workshop July 10-14, 2023

Seating limited to first 30 people

**Register Online at**[**: HERE**](https://secure.touchnet.net/C20021_ustores/web/product_detail.jsp?PRODUCTID=5374&SINGLESTORE=true) Or <https://www.aces.edu/go/Aquaponics101>

If you mail in your registration and payment, be sure to notify and/or email a copy to clinedj@auburn.edu so we can be on the lookout for it.

Mail this form with your $295 check to : David Cline

Payable to Auburn University 203 Swingle Hall

Auburn University, AL 36849

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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School: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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School phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

E-mail address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Grades taught: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Courses taught: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Briefly describe the current aquaculture facilities available at your school. \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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If you have questions contact David Cline 334-844-2874, 334-744-2688 cell

Technical Info: David Cline, 334-844-2874 (AU, ACES) - clinedj@auburn.edu

PJ Waters, 251-438-5690 (Sea Grant, ACES, AU) Waterph@auburn.edu

 Stan Arington (Fisheries Learning Center) 334-844-4630 sca0028@auburn.edu

Workshop sponsored by Alabama Cooperative Extension System, Auburn University School of Fisheries, Aquaculture and Aquatic Sciences, Auburn Marine Extension and Research Center and the Mississippi-Alabama Sea Grant Consortium.