

T: 10:05 - 11:30 DL

Instructor: Dr. Hung P. Tong-Viet  
Office: WH 108  
Office Hours: T 4 : 30 – 05 : 30 pm and W 2 : 00 – 04 : 00 pm  
and by appointment.  
E-mail: htongvie@binghamton.edu  
Course webpage: <http://people.math.binghamton.edu/tongviet/Math480A.html>

**Course description** Each student will pick a topic from a list of possible seminar topics and will prepare one or more talks to be delivered to the whole class via zoom. Student will submit a written report on the topic which is the written version of the talk with additional information and references.

**Course expectations** Class attendance is required and active participation is expected.

**Course evaluation** Your course grade will be based on:

- Class attendance and active participation
- Talk presentation
- Written report

### **Important Dates**

- Add/Drop deadline: **Wednesday, February 24, 2021** at 11:59 pm
- Grade option change deadline: **Tuesday, April 13, 2021** at 4:30 pm
- Withdrawal deadline: **Tuesday, May 18, 2021** at 4:30 pm

### **Disability-related Equal Access Accommodations**

Students needing accommodations to ensure their equitable access and participation in this course should register with Services for Students with Disabilities (SSD) office as soon as they're aware of their need for such arrangements. Please visit the SSD website ([www.binghamton.edu/ssd](http://www.binghamton.edu/ssd)) for more detailed information. The office is located in the University Union, room 119.

For students already registered with SSD, please make an appointment to meet and discuss the implementation of your authorized accommodations.

### Possible seminar topics

- (1) R. Brauer, On a Theorem of Frobenius, *Amer. Math. Monthly* **76** (1970), no. 1, 12–15.
- (2) M. Bruckheimer, A. C. Bryan and A. Muir, Groups which are the union of three subgroups, *Amer. Math. Monthly* **77** (1970), 52–57.
- (3) J. Gallian, M. Reid, Abelian forcing sets, *Amer. Math. Monthly* **100** (1993), no. 6, 580–582.
- (4) S. Geller, Simply not a simple group, *Amer. Math. Monthly* **127** (2020), no. 4, 352–353.
- (5) A. Goyal, H. Kalra and D. Gumber, On the probability that an automorphism fixes a group element, *Amer. Math. Monthly* **126** (2019), no. 8, 748–753.
- (6) J. Greene, Principal Ideal Domains are Almost Euclidean, *Amer. Math. Monthly* **104** (1997), 154–156.
- (7) W. H. Gustafson, What is the probability that two group elements commute?, *Amer. Math. Monthly* **80** (1973), 1031–1034.
- (8) I. M. Isaacs, M. Pournaki, Generalizations of Fermat’s Little Theorem via Group Theory, *Amer. Math. Monthly* **112** (2005), 734–740.
- (9) I. M. Isaacs and G. R. Robinson, On a theorem of Frobenius: solutions of  $x^n = 1$  in finite groups, *Amer. Math. Monthly* **99** (1992), no. 4, 352–354.
- (10) N. Lichiardopol, A new proof of Wedderburn’s Theorem, *Amer. Math. Monthly* **110** (2003), 736–737.
- (11) G. Navarro, On the fundamental theorem of finite abelian groups, *Amer. Math. Monthly* **110** (2003), no. 2, 153–154.
- (12) N. Levine, The anticenter of a group, *Amer. Math. Monthly* **67** (1960), 61–63.
- (13) B. Sambale, Pseudo Sylow numbers, *Amer. Math. Monthly* **126** (2019), no. 1, 60–65.
- (14) O. A. Campoli, A principal ideal domain that is not a Euclidean domain, *Amer. Math. Monthly* **95** (1988), no. 9, 868–871.
- (15) S. M. Buckley and D. MacHale, Variations on a theme: rings satisfying  $x^3 = x$  are commutative, *Amer. Math. Monthly* **120** (2013), no. 5, 430–440.
- (16) E. Deskins, A characterization of finite supersolvable groups, *Amer. Math. Monthly* **75** (1968), 180–182.
- (17) K. S. Kedlaya, Product-free subsets of groups, *Amer. Math. Monthly* **105** (1998), no. 10, 900–906.
- (18) D. S. Passman, What is a group ring?, *Amer. Math. Monthly* **83** (1976), no. 3, 173–185.
- (19) Any other topics suggested by the students and approved by the instructor.