

# Contents MAT 5600: Directed Research in Mathematical Sciences

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## 1.1 Catalog Description

A research project will be chosen, formulated, and executed by the student under the guidance of a faculty member. The project may investigate a mathematical sciences or a mathematics pedagogy topic. A final written report and presentation are required. MAT 5600 must be taken for a total credit of three semester hours.

## 1.2 Activities, Learning Goals and Assessment

Russell is especially concerned about creating an inclusive classroom environment that encourages all students to engage with material and discover the inner autonomous learner.

### Activities

- Weekly meeting, possibly over Zoom videoconferencing if necessary
- Research, review and interpret literature relating to the intersection between standards-based education, stereotype-threat mitigation, and motivation/engagement
- Produce an action plan to implement in future classes
- Create a presentation
- Create a final written report

### Assessment

We'll be engaging in standards-based learning, where success is tied to meeting the learning goals, rather than a percentage correct or point system. This will allow you (and I) to identify strengths and weaknesses early in the class and you'll have multiple chances to revise work in order to succeed. We'll employ Star Wars terminology as a metaphor—Padawans are training to one day become a Jedi. Jedi Knight is a rank within the Jedi Order, referring to Jedi who complete their training and pass the Jedi Trials to become full members. A C grade means that at least half the work has been completed at the Jedi Knight level or higher\*\*\*\* and the rest a good-faith attempt. You can think of a Jedi Master as a leader who has demonstrated exceptional achievement by generally demonstrating all of the goals, and earned an A. To earn a B complete Jedi Knight (C) requirements plus half way to Jedi Master (A). A D is halfway to the C range.

Course Rubric and Learning Goals	missing	Padawan still training	Jedi Knight C	Jedi Master A
I can choose, formulate, and execute a quality research project to investigate motivation and standards-based engagement.				
I can produce publication-quality writing and presentations that demonstrates consideration of context, audience, and purpose in a logical, organized manner.				
I attend meetings regularly & positively participate.**				

\*\*Active listening as well as respectful and meaningful participation and a willingness to complete activities are some examples of positive participation.

\*\*\*Accommodations in the determination of the final grade will be made for extenuating circumstances, such as those that are documented to prevent you from turning in work early or on time, including the level of achievements in the learning targets.

### 1.3 Required Resources and Materials

- You will need regular online access to ASULearn and the library webpage. You can access these on and off campus (some require your ASU login).

### 1.4 Academic Affairs Policies

We adhere to the University-wide syllabus and policy statements:

<https://academicaffairs.appstate.edu/resources/syllabi-policy-and-statement-information>

### 1.5 Where to Get Help and Additional Policies

My office hours are in 326 on Monday 12:30-1:45, and Tuesday/Thursday 12-1:45. If there is some reason you must miss a deadline, then keep me informed, with any appropriate documentation, and turn the work in early or on time, if at all possible. I encourage you to talk to me often in office hours, and on the ASULearn forums and I am always happy to help. I also want you to be informed about your choices regarding what you tell me about certain types of sensitive information. In situations where students disclose experiencing an act of interpersonal violence to their instructor, faculty are required to report what students tell us to the campus Title IX Coordinator, who then reaches out to the student by email offering support services. I care about you and want you to get the resources you need. I'm happy to talk with you if you decide you want that, but please be aware that if instead you'd like to explore options with someone who can keep your information totally confidential, I highly recommend the Counseling Center at 828-262-3180. They offer walk-in hours as well as after-hours coverage: <http://counseling.appstate.edu>.

- Appalachian Cares is a place to find updates about matters of student health and safety. It also functions as the most up-to-date clearinghouse of information, resources and support available. <http://appcares.appstate.edu/>.
- The University Writing Center (UWC) offers free services to students, faculty, and staff of Appalachian State University and the Boone community: <http://writingcenter.appstate.edu/>
- The library offers Research Advisory Program (RAP) sessions. <http://library.appstate.edu/gethelp/rap>
- The Learning Assistance Program provides five core services. Two services, University Tutorial Services and Academic Strategy Instruction, are offered to all undergraduate students, and three services, ACCESS, Student Support Services, and Academic Services for Student Athletes, serve specific groups of students identified as needing comprehensive support. In Fall 2016, the ASU-R program joined the Learning Assistance Program. <http://lap.appstate.edu/welcome-learning-assistance-program-1>
- AppSync is your one-stop connection to engagement and leadership opportunities at Appalachian State. <https://appsync.appstate.edu/>

Academic integrity is a fundamental part of the course, which includes meeting deadlines, regular communication, and giving proper reference where it is due. These are essential to course integrity. Submitting someone else's work as your own (PLAGIARISM) is a serious violation of the University's Academic Integrity Code, which defines: "Plagiarism includes, but is not limited to, borrowing, downloading, cutting and pasting, and paraphrasing without acknowledgement, including from online sources, or allowing an individual's academic work to be submitted as another's work."

### 1.6 Acknowledgements

Star Wars <sup>TM</sup> and © Lucasfilm Ltd., Twentieth Century Fox, Walt Disney and its companies. For educational use only. I adapted the idea from my friend Amy Ksir at the Naval Academy.