



MAA 4103/5105 Advanced Calculus (E and PS) 2

MAA 5105 & 4103 Introduction to Advanced Calculus E&PS 2 (Sections 4522 & 16AA)

Instructor: Sergei S. Pilyugin https://people.clas.ufl.edu/pilyugin/courses/maa5105_s2020/

Announcements:

Quizzes: January 24, February 14, March 13, March 27, April 08. Midterms: February 07, March 20, April 17.

Homeworks: List of HW problems.

Prerequisites: MAA 4102/5104 (Advanced Calculus 1).

Time and Room: MWF 5 (11:45 a.m – 12:35 p.m.), LIT 233.

Final Exam Time and Room: April 30, 10:00 am – 12:00 noon in LIT 233.

Literature: Witold A. J. Kosmala, *A Friendly Introduction to Analysis*, Pearson, Prentice Hall, Upper Saddle River, NJ 07458.

Critical dates: Jan. 6 (classes begin), Apr. 22 (classes end). Quizzes: January 24, February 14, March 13, March 27, April 08. Midterms: February 07, March 20, April 17.

Holidays: Jan. 20 (MLK Day), Fe. 29 – Mar. 7 (Spring Break).

Office Hours: MWF 6 (10:40-11:30 a.m.) in LIT 458, or by appointment. Please, call me at 352-294-2326 or use e-mail: pilyugin@ufl.edu for communication. For more details, see my [schedule](#).

Description and Objectives of the Course:

This course is continuation of MAA 4102/5104 covering the topics of Riemann integral, numerical and functional series, as well as multivariate calculus.

Weekly Schedule:

- W1: Differentiation and properties of differentiable functions;
- W2: Review of mean value theorems and Taylor's theorem;
- W3: Riemann integral, introduction;
- W4-5: Properties of integrable functions;
- W6: Antiderivatives, improper integrals;

W7: Infinite series, convergence tests;
W8: Absolute vs. conditional convergence;
W9: Sequences and series of functions, point wise vs. uniform convergence;
W10: Power series, Taylor series;
W11: Vectors in \mathbb{R}^n , dot and cross product;
W12: Analytic geometry, parametric equations;
W13: Basic topology in \mathbb{R}^n , limits and continuity;
W14: Differentiation in \mathbb{R}^n , directional derivatives, chain rule;

Grading System:

3 midterms (20% each); 5 quizzes (10% each) based on homework assignments, the best 4 count towards the grade. There will be no make-up exams, rather a replacement for any one midterm can be taken at the time scheduled for the final.

The resulting score determines the letter grade according to the following table

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D
Score	≥ 92	≥ 89	≥ 85	≥ 81	≥ 77	≥ 72	≥ 67	≥ 62	≥ 56	≥ 50

Course policies:

Closed-book policy: No use of calculators, or books will be allowed during any in-class tests/quizzes.

Policy related to make-up exams or other work: There will be no opportunities to make up for work not submitted. However, if a student provides a legitimate excuse well in advance, scores will be prorated. Work with due date should be turned in at the beginning of class on the stated due date. Late work will not be accepted and will be deemed work not submitted.

Policy on class attendance: Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

University's honesty policy: 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 (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-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.

For students with disabilities: Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

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Online evaluations: 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.bluer.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Contact information for the Counseling and Wellness Center: <https://counseling.ufl.edu/>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Disclaimer: I reserve the right to change the above policies if situations warrant.



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