Offering Graduate School Courses to 4th year students

Undergraduate students in 4th years may take a part of graduate courses regardless of whether they plan to go to the graduate school.

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❑ **Number of credits you can take**: Up to 4 credits
(10 credits for 4+1 program students)

❑ **Credits' type**: Optional credits (=not included in required credits for graduation)
After entering GS, students can apply for including those credits
into the required credits for the completion of Master's program.

❑ **Courses to be offered**: - Fundamental Core Courses (course codes end with "F")

- Application Core Courses (course codes end with "A")

(Timetable)   http://www.u-aizu.ac.jp/graduate/curriculum/classschedule/

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❑ **Registration Periods** (timing might vary depending on the year)

   Q1/Q2 courses: End of March

   Q3/Q4 courses: Middle of September

   *To be announced via email to eligible students

❖ If the course you apply exceeds its capacity or is cancelled and you are

   not allowed to register, Student Affairs Section will inform you by Friday,

   April 6.

   In such case, additional course registration will not be accepted.

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☐ **How to register**:
Submit "Application for registering Graduate School courses (for Undergraduate School Students) to Student Affairs Section

<Note>

- Up to 4 credits can be earned during the undergraduate school.

- Even it will not be able to register course(s) for exceeding capacity or not offering etc., additional course registration request will not be accepted.
Up to 4 credits can be earned during the undergraduate school.

- Students must read syllabus carefully. In case there is any requirements written in "Note for course registration" for registering the course, in principle, only students fulfilled the requirements can submit this form.

January, 2019

大学院科目履修願い（学部生用）

Application for registering Graduate School courses
(for Undergraduate School students)

Date: _____ yyyy 年 mm 月 dd 日

学籍番号　Student ID： _____

氏　　名　Student's Name： _____

私は、以下の大学院科目の履修を希望します。
I want to register for the following courses of the Graduate School.

科目コード Course Code	科目名 Course Name	単位数 Credits

以上について了承します。　I support above request.

Signature & seal by GT-supervisor

卒論指導教員　GT supervisor： _____ seal

＜注意/Note＞

✧ 学部を通して修得可能な単位数は 4 単位までです。
Up to 4 credits can be earned during the undergraduate school.

✧ 一度に申請できる科目は 2 科目までです。また、定員超過や不開講等で希望する科目の履修が認められなかった場合でも、追加履修登録は出来ません。
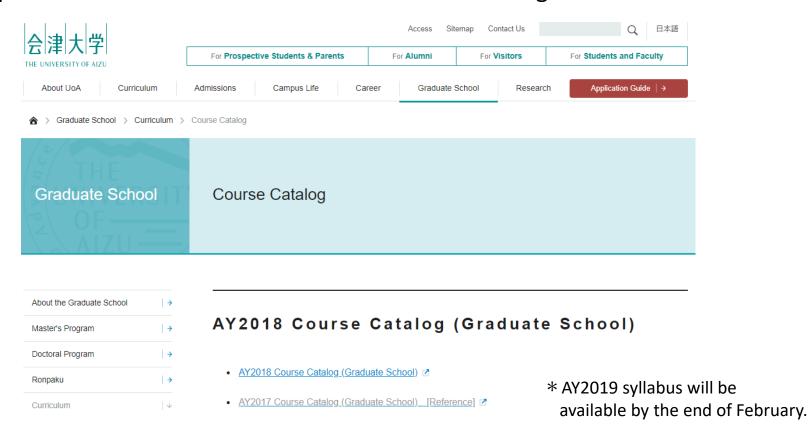Students can apply for the registration up to 2 courses. Even it will not be able to register course(s) for exceeding capacity or not offering etc., additional course registration request will not be accepted.

✧ 4+1 プログラムの学生はこの用紙は使えません。
4+1 program students cannot use this form.

✧ 必ずシラバスを良く読むこと。「履修上の留意点」に履修に際しての前提条件が書かれている場合は、原則として現時点でそれを満たしている学生のみが、本用紙を提出することが出来ます。
Students must read syllabus carefully. In case there is any requirements written in "Note for course registration" for registering the course, in principle, only students fulfilled the requirements can submit this form.

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Where can I check syllabus?

http://web-ext.u-aizu.ac.jp/official/curriculum/syllabus/2_E_000.html

Top > Graduate School > Curriculum > Course Catalog

＊AY2019 syllabus will be
available by the end of February.

（Ex）

開講学期／Semester	2018年度／Academic Year　1学期／First Quarter
対象学年／Course for;	1年, 2年
単位数／Credits	2.0
責任者／Coordinator	渡部　有隆
担当教員名／Instructor	渡部　有隆
推奨トラック／Recommended track	–
履修規程上の先修条件／Prerequisites	–

更新日／Last updated on	2017/12/15
授業の概要／Course outline	Data structures play a key role in computer science and engineering. They are essential components to implement many efficient algorithms. This graduate-level course covers advanced topics not studied in introductory courses on algorithms and data structures. This course focuses on not only theory but also on practice to implement the advanced data structures and algorithms.
授業の目的と到達目標／Objectives and attainment goals	The core course covers several advanced data structures related to balanced search trees, range queries, sets and persistent data structures as well as advanced algorithms for string, networks, computational geometry and artificial intelligence. Students should seek to develop a solid understanding of common and practical data structures as well as techniques used in their implementation to solve real world problems.
授業スケジュール／Class schedule	1. Introduction. Review of fundamental data structures and algorithms as well as theory and techniques to analyze algorithms. 2. Balanced Tree. Basic Binary Search Trees, Treap, Red-Black Trees, Splay Trees, etc. 3. Range Query. Segment Trees, Range Minimum Query, Lazy Evaluation, Heavy-Light Decomposition, etc. 4. Sets. Union Find Trees, Merge Techniques, Persistent Data Structures, etc. 5. String Matching. Suffix Arrays and Trees, Rolling Hash, Trie, etc. 6. Network Flow. Max-Flow, Min-Cost-Flow, Bipartite Matching, etc. 7. Computational Geometry. Closest Pairs, Range Search, Sweep Algorithms, Segment Intersections, Voronoi Diagrams, etc. 8. Heuristic Search. Search Pruning, A*, Iterative Deepening, IDA*, etc. It is subject to change, so some of these topics may be omitted and additional topics can be selected depending on the progress.
教科書／Textbook(s)	1. Introduction to Algorithms, Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein. 2. Algorithm Design Manual, Steven S Skiena.
成績評価の方法・基準／Grading method/criteria	Assignments 50 % Examinations 50 %
履修上の留意点／Note for course registration	• Reviewing undergraduate courses Algorithms and Dada Structures I and II is expected. • The students should have basic skill of programming in C++ or Java.

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❑ Course instructors may check the ability of UG students by test, interview or other method and students who could not pass it may be declined to register. This assessment will be conducted by the end of course deregistration period and the registration of declined students will be deleted.

It is not accepted for those students to register for another course. (courses offered in next semester can be registered)

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Q. If it exceeds the capacity, how the students will be selected?

A. The order of "GS students → Students eligible for 5 years Integrated Undergraduate-Master's Program → Students who have higher GSA" will be selected.

Q. I cannot come to the university to submit the registration form during the registration period. Can I still register GS courses?

A. You must ask your GT-supervisor to send the necessary information via email from himself/herself to SAD. If GT-supervisor cannot send the email for some reasons, you may request directly to SAD via email (you must include your GT-supervisor to "CC").