GeoGebra Institute Application
to establish the

GeoGebra Institute of Miskolc
Miskolci GeoGebra Központ

A Miskolci Egyetem Analízis Tanszékének
Matematikadidaktikai Kutatócsoportja
a Európai Virtuális Matematikai Laboratórium keretében

Didactical Research Group of the Department of Analysis of the
University of Miskolc in the framework of the
European Virtual Laboratory of Mathematics

Miskolc, 2008-11-10

The International GeoGebra Institute (IGI, http://www.geogebra.org/igi) is a central, virtual organization that works together with independent regionally-based *GeoGebra Institutes*. These local organizations need to apply to the International GeoGebra Institute in order to become an officially accredited GeoGebra Institute. Please submit this application form directly to IGI (igi@geogebra.org).

Acceptance of IGI Vision, Goals and Procedures

The applying GeoGebra Institute declares with this application that it accepts and shares the vision, goals, non-commercial nature, licensing and following procedures with the International GeoGebra Institute and its other GeoGebra Institutes.

1.1 Vision of the International GeoGebra Institute

The International GeoGebra Institute (IGI) provides free dynamic mathematics software and shares expertise in training, support and the development of materials for all students and teachers to improve mathematics, science and technology education world-wide. It nurtures and promotes collaboration between practitioners and researchers, seeking to establish self-sustaining user communities.

1.2 Mission of IGI and GeoGebra Institutes

The International GeoGebra Institute and its local GeoGebra Institutes share the following three goals:

1. **Training and Support**: To coordinate and provide professional development opportunities and support for both pre-service and in-service teachers.

2. **Development and Sharing**: To develop and share workshop resources and classroom materials, and to continually improve and extend the dynamic mathematics software GeoGebra.

3. **Research and Collaboration**: To conduct and support GeoGebra-related research which focuses on the teaching and learning of mathematics in order to inform and improve training and development activities, and to promote collaboration between IGI and local GeoGebra Institutes and between international colleagues.
4.

1.3 Non-Commercial Nature

The applying GeoGebra Institute declares that it is (part of) a non-profit organization (e.g., university, teacher education college) with only non-commercial interests. Normally, services offered by a GeoGebra institute should be free of charge for teachers and students. If there are revenues created in connection with GeoGebra (e.g., books, online materials, workshops), it is expected that this money will be used to support and sustain the goals and activities of IGI or GeoGebra Institutes.

1.4 Licensing

The applying GeoGebra Institute declares that it will share all developed materials under a Creative Commons Attribution, Non-commercial, Share Alike license (see http://creativecommons.org/licenses/by-nc-sa/3.0/) or a similar license and that it will respect the license of the GeoGebra software itself (see http://www.geogebra.org/download/license.txt). The spirit of IGI and its GeoGebra Institutes is to share materials and be open for collaboration with everyone.

1.5 Annual Activity Report

The applying GeoGebra Institute states that it will submit an annual report regarding its activities to the IGI (igi@geogebra.org). The common and stated IGI goals can be used to structure this annual report.

The International GeoGebra Institute has the right to withdraw the accreditation of a GeoGebra Institute if it is in violation of any of the aforementioned common IGI goals.

Structure and Activities of applying GeoGebra Institute

1.6 Structure of GeoGebra Institute

Our Hungarian GeoGebra Didactical Research Group will function in the framework of the Hungarian Mathematics Learning Centre established through the European Virtual Laboratory of Mathematics Leonardo project, and will be hosted by the Department of Analysis of the University of Miskolc

1.7 People of GeoGebra Institute

Péter Körtesi (matkp@uni-miskolc.hu, pkortesi@gmail.com) chair, coordinator of the EVLM project, and founder of the series of European Computer Algebra Driving Licence Summer Universities in the CEEPUS Network HU- 0028 – leader of the Didactical research in using GeoGebra, organizer of workshops.
Jenő Szigeti (matjeno@uni-miskolc.hu, jenoszigeti@yahoo.com), chair of the Department of Analysis, expert in Algebra, developing materials in Discrete Mathematics.
Sándor Radeleczki (matradi@uni-miskolc.hu), expert in Ordered structures, developing materials in Analysis and Discrete Mathematics.
Imre Juhász (JuhaszI@abrg.uni-miskolc.hu)**,** chair of the Department of Descriptive Geometry of the University of Miskolc, expert in Geometric visualisation, developing the theoretical background of Geometry applets

Laura Veres (lauracicu@freemail.hu)**,** part time teaching assistant, PhD student, developing materials

External collaborators

László Daróczi, (daroczy4@freemail.hu) undergraduate student, developing and testing materials.
Attila Hajdú, (rawfl@freemail.hu) undergraduate student, developing and testing materials.
Péter Madarász, (pmadarasz@chello.hu) secondary school teacher, deputy director of the Herman Grammar School.
Pál Veres, (veres@ffg.sulinet.hu) secondary school teacher, director of the Földes Grammar School.

1.8 Activities and Goals of GeoGebra Institute

We plan to develop a student project data- base, available to all partners through the European Virtual Laboratory of Mathematics (**EVLM**) project, and even to a larger cooperation. The wise use of the available Internet based educational technology, computer based teaching materials and computer algebra software, without reducing the students' mental contribution is important to promote the good learning skills. Individual and group projects are meant to catalyse the usual didactical methods, and increase their efficiency.

In the EVLM project we have created a network including the 9 partners, and we offer a portal each university with teaching materials, and software description. The portal will last longer, and we plan to develop it.
One of the direction for developing is the more intensive use of GeoGebra, and this is the site where the files we produce will appear.

We will continue the international cooperation of educators in exchanging of experience in mathematical education to promote the recent methods in tutorials and lectures, due to CEEPUS (Central European Exchange Programme for University Studies) and Leonardo projects, and partners working in grammar schools, and vocational schools in the area of the University of Miskolc. Increasing the participation of teachers and students in meetings organized by the partners we will attract student communities in the use of GeoGebra and their teachers in research.

The European Computer Algebra Driving Licence (**ECADL**) is a future project, based on a series of summer universities with the same title. The idea was made up in international cooperation in the Active Methods in Teaching and Learning Mathematics CEEPUS Network (Hu- 028), coordinated by Péter Körtesi, University of Miskolc, and involving 18 partner universities from 13 countries. We do want to teach students the basic,

intermediate and professional level of using CAS. We plan to include the presentation of GeoGebra as part of curriculum in the basic level course. The ECADL activities end up with a certificate named Computer Algebra Driving Licence - which will be accepted as partial study form. We plan to elaborate the intermediate level and advanced level of the Computer Algebra Driving Licence, to be extended to a set of joint courses, involving the courses with appropriate content available at the partners. We plan to continue to organize the Intensive Course/ Summer University in the topic of the ECADL - Right use of computer algebra software in learning Mathematics, and we will include in it the GeoGebra software in more extent.

As concerning our plans, we plan to develop materials in teaching and learning mathematics for the university, to do didactical research on the methodology to apply in teaching, and collaborative learning the software. We do plan to offer teacher and student training for the use of the software We teach computer science students as well, and we plan to contribute in developing the software as well.

1.9 Certification (Optional)

Our GeoGebra Institute would like to certify local GeoGebra users and trainers, we will describe the requirements and procedures of this certification process. As only a GeoGebra Institute Trainer can approve applications for such certificates, which are then issued by her/his local GeoGebra Institute, we plan to apply for the accreditation of such trainers following the first period of our activity.

We plan 3 levels of certification:

1. **GeoGebra Users**: Demonstrate effective use of GeoGebra in their own classrooms
2. **GeoGebra Experts**: Demonstrate the ability to create and share innovative GeoGebra teaching materials. These individuals may offer GeoGebra workshops and support other teachers in their own schools or regions.
3. **GeoGebra Trainers**: Demonstrate innovative practices and have the ability to do practitioner research and to give presentations at the regional level..

GeoGebra Institutes can issue certificates for users and trainers (Levels 1-3) within their region of operation. Only *GeoGebra Institute Trainers* (Level 4) have the right to approve certificate applications on behalf of their GeoGebra Institute. Thus, every accredited GeoGebra Institute should have at least one *GeoGebra Institute Trainer* who can approve certificate applications within its region according to its guidelines of certification (see “accreditation” above). GeoGebra Institutes must then use the official template provided by IGI to issue certificates (Levels 1-3) which need to be signed by the president of IGI (currently Markus Hohenwarter) and the chair of the local GeoGebra Institute. Copies of all these certificates are kept by the local GeoGebra Institute and are also made available to the centralized IGI.

Signatures

The chair person of the applying GeoGebra Institute and a representative of its hosting institution declare with their signatures that all information in this application is correct to their best knowledge and that they support the establishment of a GeoGebra Institute at their institution as described in this application.

Representative of **GeoGebra Institute of Miskolc**
Name of the chairperson: **dr. Körtesi Péter**
Position: Associate professor – Hungarian partner-coordinator of the EVLM project
Tel/fax: 00-36-46-565146, e-mail: pkortesi@gmail.com
Institution: **Európai Virtuális Matematikai Laboratórium -**
European Virtual Laboratory of Mathematics Leonardo project
Address: Egyetem út 17, 3515 Miskolc, Hungary
e-mail: geogebramwg@gmail.com
http://www.uni-miskolc.hu/evml

Signature: _____
Date: 2008-11-10

MISKOLCI EGYETEM 2
Gépészmérnöki és Informatikai Kar
Analízis Tanszék
3515 Miskolc-Egyetemváros

Representative of hosting institution
Department of Analysis of the University of Miskolc.
Name of the representative of the hosting institution: **prof. Dr. Jenő Szigeti**
Position: Chair of the Department of Analysis of the University of Miskolc
Address: Egyetem út 17, 3515 Miskolc, Hungary
Tel/fax: 00-36-46-565146, e-mail: matjeno@uni-miskolc.hu

Signature: Szigeti Jenő
Date: 2008-11-10

Application approved by
Markus Hohenwarter (markus@geogebra.org)
President of the International GeoGebra Institute (http://www.geogebra.org/igi/)

Signature: Markus Hohenwarter

Date: 2008-11-26