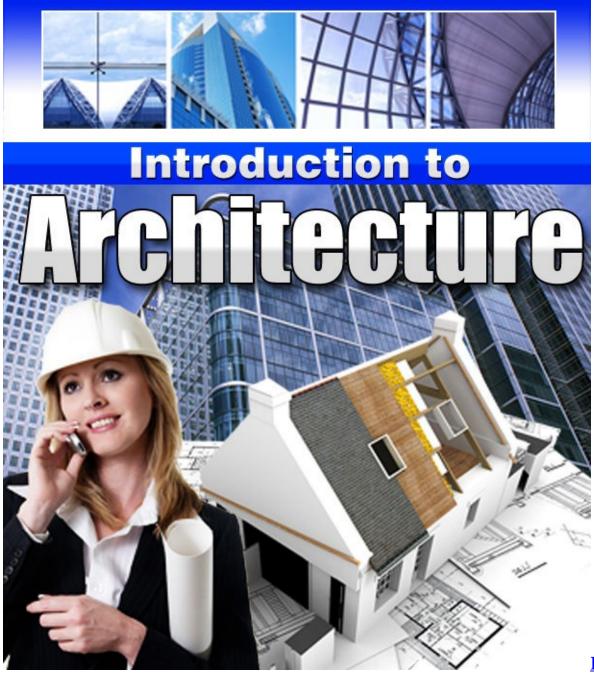
AN INTRODUCTION TO ARCHITECTURE

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Page 1

Introduction to

Architecture

TABLE OF CONTENTS

Introduction Chapter
1
What is Architecture?
Benefits of the Architectural
Profession
Becoming an
Architect
Preparing for an Architectural Career in High
School Necessary Skills for an
Architectural Career
Chapter
2
Paths to Becoming an
Architect
Pre-Professional Architecture Degree
Professional
Architecture Degree
Post-
professional Architecture Degree
Graduate Architecture Degree
year Undergraduate Associate of Applied Science
Degree Paths to Obtaining the Professional
Degree
Accredited
Degrees
Chapter
3
Choosing a School of
Architecture
Gaining Admission to a School of
Architecture
the Right Architectural
Program Options for Practicing
as an Architect
Interior Design
•••••••••••••••••••••••••••••••••••••••

Landscape Architecture
Chapter 4
Architectural
Coursework Chapter 5
Internship and Experience
Getting Hired as an Intern
Creating a Portfolio Layout/Design/Graphics
Architect Registration Examination (ARE)
Exam
Chapter
6 Maintaining Licensure
Professional Registration
Employment as an
Architect School of Architecture Programs
Conclusion

INTrOduCTION

Architecture is an imaginative and creative blend of science and art in the design of different environments for people. Around the world, people need not only places to live, but also to work, eat and play.

Architects transform these environments into concepts and then develop those concepts into images for buildings that others can construct based on those ideas. Architectural projects can be as small and restricted as an entryway or as large as an entire university campus. They can also span the possibility of everything in between.

Architects are not only responsible for designing concepts, but they also serve in a leadership role that brings together budgetary and design requirements established by a client. These requirements can include the site where the building is to be constructed, needs of the individuals who will use the building and limitations regarding materials. Creativity, team leadership and decision making are also critical elements of successful architecture.

Overall, an architect is a licensed professional who has developed specialized skills for the purpose of designing buildings and making the visions of their clients a reality. This guide will introduce you to the architectural profession, including the various practice areas and help you to understand how to best prepare for a lucrative and exciting career as an architect.

CHAPTER 1

What is Architecture?

Architecture is a blend of both science and art, used in the design of structures and buildings. In a much wider scope, architecture includes the design of a complete environment, from landscape architecture to the complete planning of a town. Decision making, problem solving, team leadership and creativity are all extremely important in the process of taking a design idea and developing it into a physical reality.

Architects are responsible for the design of buildings. Part of that activity includes the creation of drawings, scale models, writing specifications, letters and other documents. Architects may also manage or supervise architectural projects as well.

Generally, architects do not have a role in the construction of the buildings they design. That task is typically handled by construction contractors. In some cases architects may perform construction if they are employed in a design-build company. Architects may also develop projects on their own or sometimes in conjunction with real estate developers or other professionals.

While architects are commonly associated with the design of buildings, in reality they do much more than this. Some architects may act as consultants in the fields of relocation planning, business planning, interior design, space-use planning, human resources, facility maintenance programming and much more.

Numerous other professions also work with architects on building projects, including civil engineers, structural engineers, mechanical engineers, landscape architects, acoustical specialists, cost experts, interior designers, lighting designers, photographers, artists, facility managers, city planners, land developers, regional planners, sociologists, real estate firms and many more.

In most cases, architects respond to requests for proposals that are published by public and private clients. This is one way in which clients can advise professionals that a project is pending so they can join the selection process.

In other instances, architects may be invited to present their qualifications for a pending project. This may be followed up by interviews as well as a presentation of prior work through the architect's portfolio.

Also, some architects choose to participate in design competitions. They may then be hired to handle a project with a group of people that has been gathered by the client to evaluate architects, known as a jury, likes their preliminary design and selects that architect.

In addition, architects may also make what are known as 'cold calls' to potential clients as they seek out work. They may also choose to initiate projects on their own. There can be many reasons why someone chooses to become an architect. Many people enter this field because they have a desire to make the world a better place. Others enjoy the ability of being a beneficial part of their community. This type of involvement can assist clients in making a positive change.

Benefits of the Architectural Profession

For many architects, the excitement of the work comes from a blend of technical challenges, intellectual stimulation and creating designs. For others, it is the ability to be their own boss and to earn a living doing what they love that inspires them to enter this field.

Architectural practice options can cover a broad range of different possibilities. For instances, architects may also choose to teach, write, supervise and manage. As a result, it is possible for architects to discover their own niche within this profession.

Regardless of their initialreason for entering this field, most architects find they love it. This is a profession where many people find they are actually surprised to be paid for doing something they love so much. Although there are always routine tasks, as is the case with any profession, the benefits usually far outweigh the negatives.

Becoming an Architect

In order to become a licensed architect within the United States, you will first need to meet three requirements. They are education, experience and passing an exam. The first step requires interested individuals to obtain a degree in architecture from an architectural program in college. Following graduation, it is necessary to complete an internship while working for an architectural firm. This will make it possible to obtain experience within 16 different practice areas.

Finally, it is necessary to pass a 9 division national Architect Registration Exam. After completing these three requirements, you then become eligible to apply for licensure or registration within any state. After that state has issued a license to you, you may then refer to yourself as an architect. At this point you can choose to open your own firm. From start to finish, the process of becoming a licensed architect typically involves between eight to ten years.

Preparing for an Architectural Career in High School

Students in high school who are interested in a career in the architectural profession, should know that it is important to begin preparing early. The environment in which you live is an excellent place to begin studying spaces, buildings and their relationships.

Make an effort to notice the effects of texture, color, shape and light. These are all tools that are used in architecture. Consider the way in which spaces feel when you are in them. Analyze your reactions and try to determine if you can connect those reactions to design elements. **Necessary Skills for an Architectural Career**

While in high school, it is important to plan a college prep program that is strong in history, English, math, social studies, physics and foreign languages. When possible, try to add courses in computer science and business. You might be surprised to learn that freehand drawing skills can actually be more beneficial in an architectural career than drafting ability. In addition, computer literacy is also essential to this field. Some of the most important characteristics you can have as an architect are the ability to speak and write effectively, listen well and organize your thoughts and activities.

While in high school, it is a good idea to visit the design studios of architecture schools as well as tour the offices of local architectural firms. You should also read magazines and books on architecture, to help you gain a good understanding of the nature of this type of work. In addition, you might also consider attending a summer program. Many colleges offer programs that are specifically designed for high school students interested in entering the architectural profession.

CHAPTER 2

Paths to Becoming an Architect

There are five different educational paths that can be taken in order to become a professional and licensed architect. All degrees that are outside the field of architecture are known as non-architecture degrees. This generally refers to degrees in fields such as biology, philosophy and engineering as well as any undesignated Bachelor of Arts or Bachelor of Science degrees. Such undesignated BS or BA degrees can offer opportunities for a minor or major in architectural studies.

Pre-Professional Architecture Degree This term refers to a four year degree that is architecturally focused but is not a professional degree. Therefore, it cannot be accredited. Such degrees include:

- BS in Architecture
- BS in Architectural Studies
- BA in Architecture
- Bachelor of Environmental Design
- Bachelor of Architectural Studies

The amount of architectural work in the program varies and will the amount of time that will be required for completing any further professional architectural studies.

Professional Architecture Degree

A professional architecture degree may be accredited by NAAB. Accredited degrees are required by most areas for licensure as an architect. These degrees may be either a Bachelor of Architecture or Master of Architecture. A minimum of five years of study is typically required for the completion of the Bachelor of Architecture degree, while the Master of Architecture degree usually requires between one and five years for completion, depending on the student's prior education.

When the master's degree follows a four-year, pre-professional architecture degree, it represents a four plus two program.

Post-professional Architecture Degree

This degree is a graduate degree that is only offered to students who have already completed a professional degree in architecture. These degree programs are not accredited by NAAB. Degrees may be highly specialized in areas of study such as health care facilities, design theory, solar design, interior design, preservation, etc. This type of degree can be either a master's degree or in some cases a PhD or doctorate.

Non-professional Graduate Architecture Degree

This type of degree is a graduate degree in architecture that is offered to students who do not have a professional degree and would like to pursue non-professional graduate work in architecture. Such programs vary in degree title and duration.

2-year Undergraduate Associate of Applied Science Degree

In most states, students with this degree are not allowed to become registered to practice architecture; however, this degree can lead to employment within architectural firm. Numerous 2-year schools have development agreements with 4-year schools to allow for the seamless transfer following the first two years into the junior year at a 4-year school.

Paths to Obtaining the Professional Degree There are three typical paths to obtaining the professional degree in architecture.

1. Obtaining a Bachelor of Architecture degree

2. Obtaining a pre-professional degree along with a professional Master of Architecture degree. This program is usually referred to as the 'four plus two' route.

3. Obtaining a four year non-architecture degree along with a three or four year professional Master of Architecture degree.

Most students enter the field of architecture through one of the first two routes.

The professional bachelor of architecture degree is the fastest method for obtaining the professional degree that is required for licensure. This path typically requires at least five years of study followed up by a three year internship.

While the five year track provides the fastest path for satisfying the academic requirements for licensure, speed is not always best for everyone. Also, programs vary. For instance, some Bachelor of Architecture programs start out with a concentration in architectural courses in a manner that is fairly prescribed. Others elect to begin with a general course. Electives are often not very numerous and as a result, exposure to other fields can be limited. Consequently, about 50% of students who enter this program and who do not complete it experience difficulty in transferring into another area without the loss of credit.

Many Bachelor of Architecture programs have created curriculum structures that make it possible for students to enjoy some flexibility. One of the benefits of this type of program is that it allows for logical entry and exit points from different phases of the full five-year program. Generally, the work of a student will be carefully reviewed prior to a advancing to the next phase. These points make it fairly easy for students to transfer into an architecture program as well as transfer to other institutions.

In the early phases, pre-professional design courses may be mixed with liberal arts courses and provide a common base for different disciplines including landscape architecture, graphic design, industrial design, etc.

For the most part, professional degree programs accept transfer students at designated break points. Transfer credit is typically evaluated on a case by case basis; however.

The pre-professional degree along with the professional master's degree is the other most common path for obtaining a professional architecture degree. This path typically requires an average of six years to complete. It is followed by a three year internship. The main benefit of this program is the flexibility it provides. At the conclusion of four years, the student will have a college degree and can choose to continue within architecture and obtain the professional master's degree or they may choose to spend a year or so working for an architect. They might also elect to change disciplines entirely and pursue study within another design related field or completely change careers and possibly even seek an advanced degree outside the design field.

Pre-professional programs are not accredited. They can vary widely in terms of emphasis, title, requirements, electives and even the types of architectural study features that are offered. They do; however, provide an excellent preparatory path for advanced design or architectural fields.

The four year pre-professional program can actually be divided into two different phases. The prearchitecture program may often contain basic introductory courses while the majority of the coursework is focused on the sciences, humanities and the arts. As such, it provides time for students to experience a broader array of subject and also helps to produce a more mature and well-rounded student that is capable of making better informed career choices.

The NAAB has also recognized a 5 ½ year Master of Architecture program that can be entered into directly from high school. With this program, students are able to enroll in a program that will directly lead to a Master of Architecture degree while following a curriculum that is similar in nature to the Bachelor of Architecture program. It should be noted that students must be accepted into the graduate school of the university in order to pursue the final phases of this specific degree.

The non-architecture degree plus the professional master's degree program is the third path that is available to students. It is the least common route used. This is primarily because it requires 7 ½ years of study, comprised of a four year undergraduate degree along with a 3 ½ year Master of Architecture degree. This is followed by a 3 year internship. Most people who take this path are those who have embarked on a non-architecture career and decided at some point later to study architecture.

Understanding Accredited Degrees

One important element that should be understood before you begin the final selection process of school relates to the issue of accredited professional degree programs. The NAAB, as the national architecture accrediting body within the United States, determines whether a school of architecture meets certain minimum educational criteria. It should also be noted that schools of architecture are not actually accredited. Only the specific professional degree program is accredited. Most school offer only one or two architectural degrees that are accredited. At the same time, they may also offer other related degrees. The coursework may be much the same, but if you are planning to pursue licensure, you might face difficulties with registration later on unless the program in which you are enrolled is NAAB accredited.

Ensuring that your degree is accredited is also important for meeting the educational qualifications to take architectural licensing exams in most states. Requirements can vary from one state to another. It is a good idea to check with the registration board in area in which you live to obtain the most up to date requirements.

Accreditation does not mean that all schools are equal. Each program has its own special set of features and philosophies. Some schools offer a more defined program while others

offer a number of options.

Keep in mind that a new school of architecture is not able to have a program that is accredited by NAAB until the first professional class has graduated. If the program is accredited at that time, most state registration boards will consider the accreditation being retroactive for a period of two years so that the first class is able to then benefit from accreditation.

If you do consider a school that is not accredited, be sure to check with the registration board in the area in which you live or plan to practice regarding their rules.

By committing to the profession early, the total number of years of education required can be greatly reduced. If you choose to pursue a non-architecture undergraduate degree and then go on to graduate schools, you may spend between eight and ten years in school.

Most students in the United States who are interested in pursuing a career as an architect choose to obtain a professional degree from an architectural program that is accredited by the National Architectural Accrediting Board or NAAB. Students may also choose to attend a two year college or earn an undergraduate degree in other subjects. As we have seen; however, students that choose these paths will need to obtain an accredited degree in order to meet the educational requirements.

For the most part, a person can become an architect by earning an accredited degree in architecture, participating in the Intern Development Program (IDP) and passing the Architect Registration Exam (ARE).

There are more than 100 architecture programs that are accredited by the National Architectural Accrediting Board within the United States. NAAB accredited professional programs in architecture can lead to the Doctor of Architecture, Master of Architecture or Bachelor of Architecture degrees. Students may choose to graduate from a preprofessional architectural degree or an undergraduate degree within another discipline and then subsequently complete an accredited Master of Architecture program.

NAAB is the only agency in the United States that is authorized for the accreditation of architecture programs.

CHAPTER 3

Choosing a School of Architecture Gaining Admission to a School of Architecture

It should be kept in mind that each university and college has its own specific requirements regarding admission. Below are some general guidelines to help you understand what most schools look for in candidates.

Abeginning architecture student should have a solid background in the physical sciences as well as in math. They should also be able to conceptualize at a level that is above average and have strong proficiency in written and oral communication. They should demonstrate a strong interest in the humanities and be able to sketch and draw easily.

Of all these skills, drawingis usually the skill that is most easily acquired. Math is usually considered to be the most difficult skill to acquire. Architecture is a field that is multi-faceted, highly diverse and represents numerous opportunities for specialization. Remember that even if you do not excel in drawing or writing or math, you can still

become an excellent architect.

Prospective students should also have a solid background in the humanities and English. Acourse in freehand drawing is often considered to be more valuable than CAD or drafting. Courses in history, geography, government and philosophy can also be helpful.

In most architectural programs, foreign languages are not required, but they are often accepted as an elective. Due to the fact that many schools offer opportunities to study abroad, an appropriate language can provide excellent practical use even before the student graduates.

Courses in industrial arts can be beneficial as well, although they are not essential. Other helpful courses can include speech and debate classes. Finally, students should consider a summer job within the building and construction industry. This can provide excellent experience. It is also a good idea to become involved with the Architecture, Engineering and Construction Mentor Program (ACE). The mission of this program is to provide enlightenment and awareness for high school students who are interested in entering the fields of construction, engineering and architecture.

While in high school, students should also consider becoming involved in pre-professional organizations. The largest such organization is the American Institute of Architecture Students. Membership is open to both high school and college students.

How to Choose the Right Architectural Program

Choosing a university or college for studying architecture can be somewhat daunting and overwhelming. This is especially true when you consider the fact that there are 100 schools that offer architecture degree programs in the United States and Canada. Developing an understanding of the criteria that is most important to you will help you to select that best school for your needs.

Elements to consider include:

- Your own level of confident
- Your personality type
- Distance of the school from home
- Your college budget
- Location of the school. Do you prefer rural or urban?
- Size of the school
- Public vs. private
- Opportunities for scholarships
- Available enrichment programs
- School facilities
- School reputation
- School philosophy

• Post-graduate jobs There are numerous resources for information that can assist you in choosing a school, including former and current students, faculty and promotional materials provided by the school, such as websites, career days and campus visits.

It is imperative that you consider a broad array of personal variables when choosing the right program. For instance, not all students who study architecture will eventually go on

to become registered architects. Some students might decide during the course of their studies they would rather go into landscape architecture or another related field. The benefit of considering other variables is that by choosing a career in architecture you are not selecting just a single track. There are many career options that are available. Schools of architecture often encourage diversity.

Options for Practicing as an Architect

One important area you need to consider is whether you wish to specialize in a particular practice area. Most architectural firms do perform a variety of different types of work; however, they often have certain areas of expertise. Other firms specialize in one specific type of work, such as complex areas like airports, hospitals or housing.

Along with the traditional architectural careers, you might also consider entering one of a number of related careers. Some of these possible career options include: Environmental Design

- Architecture
- Landscape Architecture
- Interior Design
- Interior Decorating
- City Planning
- Historic Preservation
- Conservation
- Civil Engineering
- Structural Engineering
- Mechanical Engineering
- Acoustical Engineering
- Plumbing Engineering
- Fire Protection Engineering
- Construction

Computer Aided Drafting in the following industries/companies:

- Architecture firm
- City planner
- Facilities manager
- Interior design firm
- Engineering firm
- Construction contractor
- Steel fabricator
- Product manufacturer
- Model Builder
- Building Researcher
- Teacher
- Multi-Media Specialist
- Architectural Photographer
- Product Designer
- Product Manufacturer's Representative
- Acoustical Specialist

- Lighting Designer
- Landscape Architect
- Construction Contractor
- Construction Manager
- Developer
- Housing Designer
- Housing Rehab Specialist
- Accessibility Designer
- Building Department Plan Examiner
- Building Inspector
- Energy Conservation Specialist
- City Planner
- Asbestos Abatement Specialist
- Traffic Planner
- Material Testing Specialist
- Land Surveyor
- Geotechnical Specialist
- Interior Decorator
- Interior Showroom Salesperson
- Kitchen and Bath Designer
- Furniture Designer

Information Design

- Typography
- Photography
- Graphic Design
- Advertising Design
- Publishing
- Illustration (editorial, scientific, medical)
- Package design
- Information architecture
- Web design
- Animation (cell, stop motion, claymation)
- Motion graphics, Film, TV, and Video
- Cartooning, comics, and caricature
- Object Design
- Product design
- Industrial design
- Furniture design
- Fashion design
- Transportation engineering
- Industrial design
- Ergonomics
- Universal design
- Experience Design
- Games/ Toys
- Theme parks

- Interactive museum exhibits
- Robotics and animatronics
- Movement, Lighting, and Sound
- Virtual reality
- Computer Human Interface (CHI) design
- Video games
- Interactive Interface Design

Interior Design

Interior design can also be closely related to the field of architecture. Interior designers plan as well as design and furnish the interiors of private homes, commercial establishments and public buildings. This can include restaurants, offices, hotels, hospitals and theaters. The work may involve new construction or renovation. The interior designer must keep the tastes, budget and needs of the client in mind while developing designs and preparing working drawings and specifications.

Landscape Architecture

Landscape architects design the layout as well as the topography and plant materials for public parks, residential areas, college campuses, playgrounds, golf courses, shopping centers, industrial parks and parkways. This work can include the selection of gardens, lawns, hedges, ground covers and trees. They may also plan the location of roads, buildings and walkways in addition to the arrangement of plants to provide character to the project. Landscape architects often collaborate with surveyors, architects, engineers, foresters, environmental scientists and other professionals.

Architectural Coursework

Now that you have a good understanding of the different degrees and paths available to becoming an architect, it is time to develop an understanding of the types of courses you will be taking as you prepare to enter this field. Just as there are numerous types of architectural programs, there are many different curricula.

In the Bachelor of Architecture program and to some degree, in the four year nonprofessional degree programs, the primary focus is on design. Design courses are sometimes required every semester in some schools. The student, either as an individual or as part of team, will work with a faculty critic to complete a project of preliminary design. The project will then be presented. The process of using juries of professionals and faculties has been used for many years for discussing and evaluating solutions to design problems.

In most cases, several non-architectural disciplines will also play important roles and may include structural and mechanical engineering, behavioral sciences and economics, along with others.

Atypical architecture program explores various media, including pencil, color, ink and computer graphics. Most schools include an introductory course in architecture, which might include a variety of aspects of the profession, such as historical development, etc.

Programs may also include a heavy concentration in math as the solution for designing a structure must be able to withstand the forces of wind, gravity and earthquakes. Students

may begin with algebra, trigonometry and physics. Most schools also require at least once course in descriptive geometry and calculus. Additional courses on structural materials may also be required. In addition, most programs include a series of courses in architectural history, which might also include theory.

Communication is also essential to this field. As a result, some schools may require a speech or writing course along with native language requirements.

Electives are also often included in the program. Some schools may require students to select from a directed sequence of in an attempt to offer the student a diverse array of exposure to studies that are relevant to architecture, such as philosophy, psychology, geography, history, urban studies, economics, sociology, literature and political science.

The first two years within an undergraduate architecture program usually has a greater emphasis in the elective areas in order to establish the student's academic scope. In fact, there are many programs that offer relatively few architecture courses during the first two years.

Internship and Experience

Internships are essential to the progression of development within this field. Interns are able to gain experience by working with both large and small architectural firms as well as with contractors, engineers and other professionals. Many interns also choose to personalize their internship experience in order to gain a richer professional development.

The Intern Development Program or IDP is a comprehensive training program that was established to ensure that interns are able to gain the skills and knowledge necessary to practice independently as architects upon completion of the program. The typical internship can last between three and five years.

In order to become a licensed architect, students must complete the educational and training requirements. This training is fulfilled by the completion of the IDP in the United States. The program is designed to last for approximately three years, although it can last longer, can commence prior to graduate, provided that the appropriate requirements are fulfilled in advance.

The IDP was established in the 1970s by the American Institute of Architects and the National Council of Architectural Registration Boards. It is administered by the NCARB.

Two purposes are served by this supplementary education. First, it serves to expand upon the skills and knowledge that are gained through training. Second, it helps individuals remain updated on new information that can affect architectural practice.

It should be kept in mind that supplementary education is not designed to act as a substitute for training. Instead, it is meant to enrich day to day experience.

Students can begin gaining experience by working in architecture firms even while they are in high school. By working in high school, as well as in college, students can develop a solid understanding of design in order to better prepare them for their future career. Although internships do provide an opportunity for learning, it is critical that interns receive payment; regardless of their experience and/or age.

The number of hours that a person can work as an intern can vary greatly. The amount of

working hours should ideally be appropriate in order to still allow for ample time for studying.

Experience in an architecture firm can be counted by students following their third year in an architecture program. The internship experience can continue even beyond graduation. Gaining experience while working under the supervision of an architect following graduation is, in fact, required in order to become a fully licensed architect. Students are also advised to become involved in a professional organization while they are still in college or high school. The American Institute of Architecture Students is the largest organization. Even after graduation, it is possible to maintain your membership in

this organization. Interns are high encouraged to join as associate members.

Getting Hired as an Intern

Locating employment as an intern is much like obtaining any other job. You can locate opportunities for internships through newspaper ads, online job banks, high school and college career centers and through personal connections.

In most cases, an intern will need to submit a portfolio that represents their design work, along with a resume. They will also usually be interviewed. As is the case when hiring anyone, most firms are looking for someone who has the proper experience. Due to the fact that internship is so critical to becoming an architect, it is fairly common for firms to hire individuals who do not have a lot of experience, in order to provide them with a starting point.

Salaries are typically commensurate with experience. The beginning salaries for working in an architectural firm can vary based on region as well as the number of applicants and the abilities of the applicant.

Creating a Portfolio

Designing an effective portfolio is one of the most important activities you can undertake. Not only will you need a portfolio in order to be hired as an intern, but a portfolio will also be beneficial in being hired for projects by clients in your future career.

There are several elements that should be included in a successful portfolio. **Layout/Design/Graphics**

A portfolio should highlight the interests and abilities. There should also be a focus on content quality. The basic considerations include color, layout, paper and font. The overall graphics and layout should complement the work contained within the portfolio, rather than compete with it.

Large, clear images should be used. Work should generally be placed in chronological order so that viewers are able to see the progress the individual has made over the years. The very best work should be placed on the last page.

Construction documents should also be included if you have had experience in developing them either while you were in school or in the workplace. It is also important to demonstrate a working knowledge of CAD or BIM, if you possess it. You might also wish to include hand-drawn sketches as well. Final renderings can be a nice touch to your portfolio. Your portfolio should also include a resume. Make certain that you do not simply state where you have worked, but also include what you did while there. If you do not have a lot of work experience, you might include personal interests to make it possible for the employer to learn more about you. All relevant experience should be included, even if it is not professional experience. For instance, if you have volunteered for Habitat for Humanity, that should be included as well.

The way in which your portfolio is presented can be just as important as the content of the portfolio. Prospective employers will certainly assess your verbal communication skills throughout the interview and during your presentation. A successful and effective presentation should progress at the pace preferred by the interviewer. Remember that you can add interest to your images by telling the stories of the corresponding projects as you present them.

Keep in mind that most employers do not prefer portfolios that are highly technical, such as online portfolios or online portfolios. This is because such portfolios often lack the artistic, personal quality that can be achieved through a paper portfolio.

In some cases, a portfolio can be too over-designed and complex. This should be avoided. Remember that the focus should be on the design content. The packaging of the portfolio should never overpower the content. Make an effort to keep text to an absolute minimum.

You should also strive to create portfolios of a standard size. Your portfolio should be a minimum of 8.5" x 11". Text should be kept to a normal reading scale. **The Architect Registration Examination (ARE)**

The Architect Registration Examination (ARE) is administered by the NCARB. It is offered in an electronic format at various testing centers around the country. Each division of the exam can be taken within any order at any time. Candidates must be deemed eligible to test by the local jurisdiction. In some cases, some jurisdictions may have additional requirements, such as taking an oral exam or an interview.

Interns must pass each division of the ARE in order to satisfy the exam requirement. The ARE is administered yearly. The divisions for the exam are as follows: .Programming Planning & Practice .Site Planning & Design .Building Design & Construction Systems .Schematic Design .Structural Systems .Building Systems .Construction Documents & Services

The content of the exam is based on the skills and knowledge required for newly registered architects who will be practicing independently. The purpose of the ARE is to evaluate the competence of an applicant in the provision of architectural services in order to protect the safety, welfare and health of the public.

How to Prepare for the Exam

Preparing for the ARE can be quite serious. Keep in mind that you must pass all divisions of the examination in order to become a fully licensed architect. There are several study

tools that are available which can make the process of studying easier. There are also many AIA chapters that organize study groups and also offer mentors to assist in the process of preparing to take the exam.

Remember that the purpose of the exam is to test your cumulative knowledge of architecture as well as your professional judgment in subjects that would have been covered in your degree program. These topics might include architectural history, structural engineering, etc.

In addition, the test will cover your direct experience that was gained while working as an intern in a professional setting and as such may include questions that relate to materials and methods, construction documents, etc.

Not all divisions of the ARE are taken at once. As a result, it is not necessary to prepare for all of the divisions at once. Many interns take the exam of a period of several years.

The first step in preparing for the exam is to make certain you are fully aware of the exam basics. You can learn more about the basic components of the exam by visiting the NCARB webs site at http://www.ncarb.org/en/ARE.aspx.

You should also have a good understanding of your own strengths and weaknesses. Try to gauge your own reading speed and comprehension and then work toward improving it.

Keep in mind that you will be expected to have a basic knowledge of numerous areas with engineering and architecture. Determine which areas will require the most work and focus on those while preparing for the exam.

You should also work toward collecting a variety of resources to assist you in preparing for the exam. Your local AIA chapter may be able to provide you with a reading list and/or ARE preparation book that can assist you.

A study plan is also essential. Ask yourself how you study best. Is it in a group setting or on your own? Do you do better studying one component at a time or in a holistic manner? Work with other candidates who are preparing to take the exam.

In addition, it is a good idea to establish a timetable for taking the exam. Given that the exam is administered one division at a time, it can be easy to procrastinate and that can prevent you from completing the examination. Create a time frame for studying and taking the exam that is realistic.

CHAPTER 6 Maintaining Licensure

Requirements for initial registration as well as maintaining a license and corporate practice are established by each jurisdiction; the U.S. States and territories. Due to the fact that each jurisdiction can change its rules and regulations at any given time, it is always important to make certain you verify registration requirements. No national requirements exist.

Most jurisdictions require continuing education in order to maintain licensure as an architect. Requirements can vary, but in most cases involve the completion of a certain number of credits every one to two years through workshops, seminars, conferences, formal university classes, self-study courses and other resources.

Continuing education is important because it ensures that architects remain up to date on construction materials, building codes, design techniques, health issues and business management practices. In addition, continuing education assists architects in understanding the constantly changing and evolving needs of their clients.

Perhaps most importantly, continuing education requirements focus on topics that directly relate to the safety, welfare and health of the public.

Being a successful architect is about much more than simply obtaining strong academic background and experience though internship. Architects must continually strive to develop their skills as well as learn new technologies as they become available.

The NCARB estimates that today there are approximately 105,000 licensed architects working in the United States. The NAAB estimates there are approximately 29,000 students who are enrolled in accredited architecture programs in the United States.

The demand for new architects can be quite complicated and can be affected by a variety of factors. One of those factors is the cyclical nature of the construction industry. The unpredictability of economics around the country as well as the world can also impact the demand for new architects. Even so, the National Bureau of Labor Statistics has estimated that there will be an 18% increase in this occupation over the course of the next decade.

As is the case within other professions, the top graduates from professional programs will find they have little difficulty in locating employment. This is particularly true for individuals who have obtained experience in an office or if they are willing to relocate for employment. It is often the case that certain parts of the country will be booming while others are not.

Professional Registration

Licensing and registration as a professional architect involves successfully completing a degree in architectural studies, completing an internship period while working within the field and passing the national Architect Registration Examination (ARE). Before taking the ARE you must have a degree in architecture and must have completed an internship lasting between three and five years.

Once you have passed the national exam you will then become eligible to be licensed or registered to practice architecture in the state in which you have chosen to practice. This allows you to sign as well as seal drawings that are prepared by you for the construction of a building. All states require architects to sign and seal drawings they prepare. This is necessary for obtaining a permit for the construction of a building.

While the Intern Development Program and the Architect Registration Examination are administered on a national basis, there is no national license or registration. Each state does have its own registration powers. After you are registered to practice architecture in one state, you will then need to apply for registration in other states if you wish to practice elsewhere. This practice involves paying a fee. You usually do not need to take another exam.

Owners as well as partners in architectural firms are registered to practice architecture in a minimum of one state, although many are registered to practice in multiple states. You must be registered in each state in which you design a building.

Most states do not require architects to sign and seal drawings for the construction of homes. Most homes are not designed by architects or even architectural school graduates. **Employment as an Architect**

Approximately 80% of the architectural firms in the United States employ six or less employees. While larger firms are more likely to handle the largest projects, most firms are quite capable of handles projects of a broad range of sizes. Through the increased use of computers, an increasing number of small and medium size firms are able to handle even larger projects.

Employment in this field is usually connected to the amount of construction taking place. This is particularly true in shopping centers, office buildings, schools and healthcare facilities.

You can improve your chances of being hired as an architect by gaining experience while you are still in college. Many schools will assist students in locating employment. Job openings can change based on the state of the local and national economy. When the economy is good, there will be more jobs. There can also be a significant amount of variation from one region to another.

Entry-level jobs within this field can pay within the range of \$12 to \$20 per hour. This type of work typically involves model-building and drafting. Rate of pay will obviously depend upon experience and skills.

Within six to ten years after graduate school, architects may earn a salary of \$45,000 per year. Typically, the best way to earn more money is to open your own firm or become a partner within a large firm. The average income for partners is between \$70,000 and \$100,000 per year.

Architects can also receive a wide range of benefits that can include health plans, insurance and in some cases, profit-sharing. They may also be eligible to receive sick-time, holidays and vacation. Typically, the larger the firm; the better the benefits.

Graduates of architectural schools may change employers three or more times during the early years of their career. The advantage to this is that it allows new architects to be exposed to a variety of different firms and the various ways of running projects, designing, making presentations, etc.

Advancement within this field can be somewhat slow. As is the case with other fields, your willingness to learn, to be exposed to a wide range of tasks, motivation and aggressiveness can all affect the rate at which you advance within this field.

SCHOOL OF ARCHITECTURE PROGRAmS

ALABAmA

Auburn University College of Architecture, Design & Construction School of Architecture Auburn University, AL www.cadc.auburn.edu/soa/

Tuskegee University College of Engineering, Architecture and Physical Sciences Department of Architecture Tuskegee, AL

www.tuskegee.edu/ceaps/

ArIZONA

Arizona State University College of Design School of Architecture + Landscape Architecture Tempe, AZ www.design.asu.edu

Arizona, University of College of Architecture and Landscape Architecture School of Architecture Tuscon, AZ www.architecture.arizona.edu

Frank Lloyd Wright School of Architecture Scottsdale, AZ www.taliesin.edu

ArKANSAS

Arkansas, University of School of Architecture Fayetteville, AR www.architecture.uark.edu

CALIFOrNIA

Academy of Art University School of Architecture San Francisco, CA www.academyart.edu/architecture-school

California at Berkeley, University of College of Environmental Design Department of Architecture Berkeley, CA www.arch.ced.berkeley.edu

California at Los Angeles, University of (UCLA) Department of Architecture and Urban Design Los Angeles, CA www.aud.ucla.edu

California College of the Arts School of Architectural Studies San Francisco, CA www.cca.edu/

California Polytechnic State University – San Luis Obispo College of Architecture & Environmental Design Architecture Department San Luis Obispo, CA www.arch.calpoly.edu/

California State Polytechnic University - Pomona College of Environmental Design Department of Architecture Pomona, CA www.csupomona.edu/~arc

NewSchool of Architecture & Design San Diego, CA www.newschoolarch.edu Southern California Institute of Architecture (SCI-ARC) Los Angeles, CA www.sciarc.edu Southern California, University of School of Architecture Los Angeles, CA www.arch.usc.edu/ Woodbury University School of Architecture and Design Burbank and San Diego, CA

Woodbury University School of Architecture and Design Burbank and San Diego, CA www.woodbury.edu

COLOrAdO

Colorado at Denver/Boulder, University of and Health Sciences Center College of Architecture and Planning Denver, CO

www.cudenver.edu/aandp

CONNECTICuT

Hartford, University of College of Engineering, Technology, and Architecture Department of Architecture www.uhaweb.hartford.edu/architect/

Yale University School of Architecture New Haven, CT www.architecture.yale.edu

DISTRICT Of COLUmBIA

The Catholic University of America School of Architecture and Planning Washington, DC www.architecture.cua.edu

Howard University College of Engineering, Architecture, and Computer Science School of Architecture & Planning Washington, DC www.howard.edu/ceacs/departments/architecture/

FLOrIdA

Florida A&M University School of Architecture Tallahassee, FL www.famusoa.net/

Florida Atlantic University College of Architecture, Urban and Public Affairs School of Architecture Ft Lauderdale, FL www.fau.edu/arch

Florida International University College of Architecture + The Arts School of Architecture Miami, FL www.soa.fiu.edu

Florida, University of College of Design, Construction and Planning School of Architecture Gainesville, FL www.arch.ufl.edu

Miami, University of School of Architecture Coral Gables, FL www.arc.miami.edu South Florida, University of School of Architecture & Community Design Tampa, FL www.arch.usf.edu

GEORGIA

Georgia Institute of Technology College of Architecture Architecture Program Atlanta, GA

www.coa.gatech.edu/arch/

Savannah College of Arts & Design Department of Architecture Savannah, GA www.scad.edu/architecture/

Southern Polytechnic State University College of Architecture, Civil Engineering Technology and Construction Architecture Department Marietta, GA www.architecture.spsu.edu/

HAWAII

Hawaii at Manoa, University of School of Architecture Honolulu, HI www.arch.hawaii.edu

IDAHO

Idaho, University of College of Art and Architecture Department of Architecture & Interior Design Moscow, ID www.caa.uidaho.edu/arch/

ILLINOIS

Illinois Institute of Technology College of Architecture Chicago, IL www.iit.arch.edu

Illinois at Chicago, University of College of Architecture and the Arts School of Architecture Chicago, IL www.arch.uic.edu/

Illinois at Urbana-Champaign, University of College of Fine and Applied Arts School of Architecture Champaign, IL www.arch.illinois.edu

Judson University School of Art, Design, and Architecture Department of Architecture Elgin, IL www.judsonu.edu

The School of the Art Institute of Chicago Department of Architecture, Interior Design, and Designed Objects Chicago, IL www.saic.edu/degrees_resources/departments/aiado/

Southern Illinois University Carbondale College of Applied Sciences and Arts School of Architecture Carbondale, IL www.architecture.siuc.edu

INdIANA

Ball State University College of Architecture and Planning Department of Architecture Muncie, IN www.bsu.edu/architecture/

Notre Dame, University of School of Architecture Notre Dame, IN www.architecture.nd.edu

IOWA

Iowa State University College of Design Department of Architecture Ames, IA www.arch.iastate.edu

KANSAS

Kansas State University College of Architecture, Planning, and Design Department of Architecture Manhattan, KS www.capd.ksu.edu/arch

Kansas, University of School of Architecture & Urban Planning Architecture Program Lawrence, KS www.saup.ku.edu

KENTuCKY

Kentucky, University of College of Design School of Architecture Lexington, KY www.uky.edu/Design/

LOuISIANA

Louisiana at Lafayette, University of College of the Arts School of Architecture and Design Lafayette, LA www.soad.louisiana.edu

Louisiana State University College of Art and Design School of Architecture Baton Rouge, LA www.design.lsu.edu/Architecture/index.html

Louisiana Tech University College of Liberal Arts School of Architecture Ruston, LA www.arch.latech.edu

Southern University and A&M College School of Architecture Baton Rouge, LA www.susa.subr.edu/

Tulane University School of Architecture New Orleans, LA www.architecture.tulane.edu/

mARYLAND

Maryland, University of School of Architecture, Planning & Preservation Architecture Program College Park, MD www.arch.umd.edu/architecture

Morgan State University Institute of Architecture & Planning Baltimore, MD www.morgan.edu/academics/IAP/index.html mASSACHUSETTS

Boston Architectural College School of Architecture Boston, MA www.the-bac.edu

Harvard University Graduate School of Design Department of Architecture Cambridge, MA www.gsd.harvard.edu

Massachusetts Amherst, University of Department of Art, Architecture & Art History Architecture + Design Program Amherst, MA www.umass.edu/architecture/

Massachusetts College of Art and Design Department of Art/Art History Boston, MA www.massart.edu

Massachusetts Institute of Technology School of Architecture and Planning Department of Architecture Cambridge, MA www.architecture.mit.edu/

Northeastern University College of Arts and Sciences School of Architecture Boston, MA www.architecture.neu.edu/

Wentworth Institute of Technology Department of Architecture Boston, MA www.wit.edu/arch

mICHIGAN

Andrews University School of Architecture Berrien Springs, MI www.andrews.edu/arch/

Detroit Mercy, University of School of Architecture Detroit, MI www.arch.udmercy.edu Michigan, University of Taubman College of Architecture & Urban Planning Ann Arbor, MI www.taubmancollege.umich.edu/

mISSISSIPPI

Mississippi State University College of Architecture, Art, and Design School of Architecture Mississippi State, MS www.caad.msstate.edu/sarc/

mISSOURI

Drury College Hammons School of Architecture Springfield, MO www.drury.edu

Washington University in St. Louis Sam Fox School of Design & Visual Arts College of Architecture St. Louis, MO www.arch.wustl.edu

mONTANA

Montana State University College of Arts and Architecture School of Architecture Bozeman, MT www.arch.montana.edu/

NEBrASKA

Nebraska-Lincoln, University of College of Architecture Department of Architecture Lincoln, NE www.architecture.unl.edu/programs/arch/

NEVAdA

Nevada - Las Vegas, University of College of Fine Arts School of Architecture Las Vegas, NV www.architecture.unlv.edu

NEW JErSEY

New Jersey Institute of Technology School of Architecture Newark, NJ www.njit.edu/Directory/Academic/SOA

Princeton University School of Architecture Princeton, NJ www.soa.princeton.edu/

NEW mEXICO

New Mexico, University of School of Architecture & Planning Architecture Program Albuquerque, NM www.saap.unm.edu/

NEW YOrK

City College of The City University of New York School of Architecture, Urban Design, and Landscape Architecture Architecture Program New York, NY www1.ccny.cuny.edu/prospective/architecture/

Columbia University Graduate School of Architecture, Planning and Preservation New York, NY www.arch.columbia.edu

The Cooper Union Irwin S. Chanin School Of Architecture New York, NY www.cooper.edu

Cornell University College of Architecture, Art, and Planning Department of Architecture Ithaca, NY

www.aap.cornell.edu/arch/

New York Institute of Technology School of Architecture & Design Old Westbury, NY www.iris.nyit.edu/architecture

Parsons School of Design School of Constructed Environments New York, NY www.parsons.newschool.edu/sce

Pratt Institute School of Architecture Brooklyn, NY www.pratt.edu/arch Rensselaer Polytechnic Institute School of Architecture Troy, NY www.arch.rpi.edu

State University of New York at Buffalo School of Architecture and Planning Department of Architecture Buffalo, NY www.ap.buffalo.edu/architecture/

NORTH CAROLINA

North Carolina at Charlotte, University of College of Arts + Architecture School of Architecture Charlotte, NC www.soa.uncc.edu

North Carolina State University College of Design School of Architecture Raleigh, NC www.ncsudesign.org/

NORTH DAKOTA

North Dakota State University College of Engineering and Architecture Department of Architecture and Landscape Architecture Fargo, ND www.ala.ndsu.edu

OHIO

Cincinnati, University of College of Design, Architecture, Art, and Planning School of Architecture & Interior Design Cincinnati, OH www.daap.uc.edu/said/

Kent State University College of Architecture & Environmental Design Architecture Program Kent, OH www.caed.kent.edu

Miami University School of Fine Arts Department of Architecture and Interior Design Oxford, OH www.muohio.edu/architecture

Ohio State University Knowlton School of Architecture Columbus, OH www.knowlton.osu.edu

OKLAHOmA Oklahoma State University College of Engineering, Architecture and Technology School of Architecture Stillwater, OK www.architecture.ceat.okstate.edu

Oklahoma, University of College of Architecture Division of Architecture Norman, OK www.arch.ou.edu/

OREGON

Oregon, University of School of Architecture and Allied Arts Department of Architecture Eugene, OR www.architecture.uoregon.edu/

Portland State University School of Fine and Performing Arts Department of Architecture Portland, OR www.pdx.edu/architecture/

PENNSYLVANIA

Carnegie Mellon University School of Fine Arts School of Architecture Pittsburgh, PA www.cmu.edu/architecture

Drexel University Antoinette Westphal College Media Arts and Design Department of Architecture and Interiors Philadelphia, PA www.drexel.edu/westphal/architecture/

Pennsylvania State University College of Arts and Architecture School of Architecture and Landscape Architecture Department of Architecture University Park, PA www.arch.psu.edu

Pennsylvania, University of School of Design Department of Architecture Philadelphia, PA www.upenn.edu/gsfa/arch

Philadelphia University School of Architecture Philadelphia, PA www.philau.edu/schools/add/

Temple University Tyler School of Art Architecture Program Philadelphia, PA www.temple.edu/architecture

PuErTO rICO

Polytechnic University of Puerto Rico The New School of Architecture San Juan, PR www.pupr.edu/arqpoli/homepage.htm

Puerto Rico, Universidad de Escuela De Arquitectura San Juan, PR www.arquitectura.uprrp.edu/

RHODE ISLAND

Rhode Island School of Design Architecture + Design Department of Architecture Providence, RI www.risd.edu

Roger Williams University School of Architecture, Art, and Historic Preservation Bristol, RI www.rwu.edu/academics/schools/saahp/

SOUTH CAROLINA

Clemson University College of Architecture, Arts and Humanities School of Architecture

Clemson, SC virtual.clemson.edu/caah/architecture/

TENNESSEE

Memphis, University of Department of Architecture Memphis, TN www.architecture.memphis.edu

Tennessee-Knoxville, University of College of Architecture and Design School of Architecture Knoxville, TN www.arch.utk.edu/

TEXAS

Houston, University of Gerald D. Hines College of Architecture Houston, TX www.arch.uh.edu

Prairie View A&M University School of Architecture Prairie View, TX www.pvamu.edu/architecture Rice University School of Architecture Houston, TX www.arch.rice.edu

Texas A&M University College of Architecture Department of Architecture College Station, TX www.archone.tamu.edu/college/

Texas at Arlington, University of Architecture Program Arlington, TX www.uta.edu/architecture Texas at Austin, University of School of Architecture Austin, TX www.soa.utexas.edu/

Texas at San Antonio, University of College of Architecture Architecture Program San Antonio, TX www.utsa.edu/architecture/

Texas Tech University College of Architecture Lubbock, TX www.arch.ttu.edu/architecture

UTAH

Utah, University of College of Architecture and Planning School of Architecture Salt Lake City, UT www.arch.utah.edu

VERmONT

Norwich University School of Architecture and Art Northfield, VT www.norwich.edu

VIRGINIA

Hampton University School of Engineering and Technology Department of Architecture Hampton, VA www.hamptonu.edu/academics/schools/engineering/

Virginia Tech College of Architecture & Urban Studies School of Architecture + Design Blacksburg, VA www.archdesign.vt.edu/

Virginia, University of School of Architecture Charlottesville, VA www.arch.virginia.edu/architecture/ WASHINGTON Washington, University of College of Architecture and Urban Planning Department of Architecture Seattle, WA www.arch.washington.edu

Washington State University College of Architecture and Engineering School of Architecture and Construction Management Pullman, WA www.arch.wsu.edu

WISCONSIN

Wisconsin-Milwaukee, University of School of Architecture & Urban Planning Department of Architecture Milwaukee, WI www.uwm.edu/SARUP//architecture/

CONCLUSION

The architectural field is one that is extremely diverse and far ranging. By taking an early start you can prepare yourself to enter this exciting and rewarding career field. There are numerous paths that can result in a successful architectural career.

By educating yourself about the many different options available within this career field and learning what you can expect from the field of architecture you will be better prepared to make the most well informed career decisions possible.

To your success!